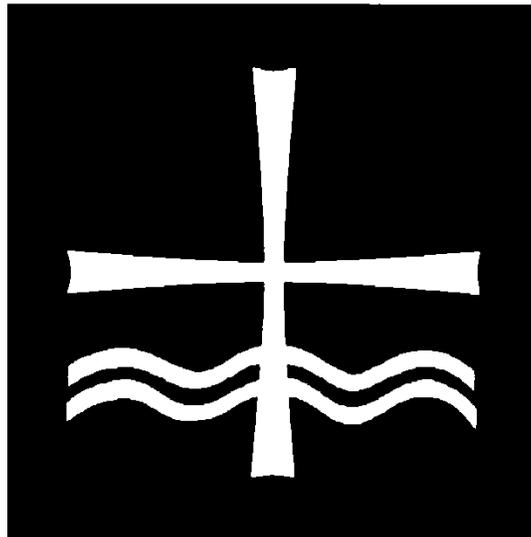


# **Archdiocese of Louisville**

## **Curriculum Guide**



**Office of Lifelong Formation and Education**  
Curriculum Office

Flaget Center  
1935 Lewiston Drive  
Louisville, Kentucky 40216  
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# ARCHDIOCESE OF LOUISVILLE

Office of Lifelong Formation and Education

FLAGET CENTER • 1935 LEWISTON DRIVE • LOUISVILLE, KENTUCKY 40216-2569

Dear Principals and Teachers,

The purpose of Catholic education is to draw or lead people of all ages out of isolation and into communion with God and others through a deeper understanding, experience, and practice of one's faith. Formation and education are both essential aspects of our teaching ministry in the Archdiocese of Louisville. Our vision is that all schools in the Archdiocese of Louisville are professional learning communities grounded in Catholic faith formation.

The information contained within the Archdiocese of Louisville Curriculum Guide gives schools the framework in which to design, implement, and assess curriculum. This handbook contains the archdiocesan curriculum framework which represents many hours of conscientious planning and the collective wisdom of archdiocesan consultants, principals, and teachers.

The charge for schools is to use the curriculum framework and other handbook information to identify desired results, develop collaborative strategies to achieve their goals, and create systems to assess student learning.

The integration of religious values with knowledge and life experiences places Catholic schools in an excellent position to help us realize our vision of proclaiming the Gospel, bringing all learners to their full potential, leading persons to prayer and worship, building community, and transforming the world.

Sincerely,

Leisa Schulz  
Superintendent of Schools

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The collaborative model is an essential part of the curriculum framework development process within the Archdiocese of Louisville. Sincere gratitude is extended to the curriculum framework writing teams, Archdiocese of Louisville staff, and school personnel involved in the process.

Very special thanks and recognition go to the members of the writing teams for their perseverance and dedication to Catholic education. They are as follows:

## Curriculum Framework Writing Teams

### Religion

June 2001

Name	School/Parish
Brenda Clark	St. Margaret Mary
Julie Davis	St. Barnabas
Terri Lear	St. Patrick
Debbie McMurray	Most Blessed Sacrament
Missy Oakes	St. Nicholas
Patrice Payton	St. James
Colleen Pittman	St. Raphael
Kathy Shannon	St. Augustine

### Language Arts

July 2013

Grade Level	Name	School
Kindergarten	Amy Hall	St. Agnes
	Kathy Hoon	St. Nicholas
Grade One	Cindy Chevalier	St. Edward
	Elizabeth Furlong	Holy Spirit
Grade Two	Jennifer Miller	St. Gabriel
	Anne Perryman	St. Patrick
Grade Three	Paula Do	St. Francis of Assisi
	Carolyn Gnau	St. Margaret Mary
Grade Four	Kathleen Harren	Holy Spirit
	Julia Wright	St. Mary
Grade Five	Tracy Law	St. Martha
	Meredith Scherr	St. Gabriel
Grade Six	Amy Nguyen	St. Mary
	Karla Spencer	St. Raphael
Grade Seven	Amanda Brown	St. Athanasius
	Joyce Wicke	St. Margaret Mary
Grade Eight	Jessica Farrell	Nativity Academy
	Maureen Miller	John Paul II

**Mathematics****July 2009**

<b>Grade Level</b>	<b>Name</b>	<b>School</b>
Primary	Anne Bahr	St. Martha
	Cindy Chevalier	St. Edward
	Heather Cordaro	St. Nicholas
	Karen Ising	John Paul II
	Donna Kamer	St. Francis of Assisi
	Anne Perryman	St. Patrick
	Lisa Seidt	St. Nicholas
	Shannon Veal	St. Rita
Intermediate	Susan Argabright	St. Patrick
	Barbara Bowles	St. Rita
	Bobbie Brown	St. Martha
	Paula Do	St. Francis of Assisi
	Caroline Donnelly	St. Agnes
	Terri Lear	St. Patrick
	Emily Pratt	St. Andrew
	Denise Stead	Ascension
	Debbie Tucker	St. Rita
Middle School	Jeff Beavin	Our Lady of Lourdes
	Kathy Blanton	St. Andrew
	Karen DeNeve	St. Nicholas
	Martha Dodge	St. Nicholas
	Mary Ellen Doninger	St. Bernard
	Jan Fisch	St. Nicholas
	Inez Grider	St. Dominic
	Sheryl Kremer	St. Gabriel
	Karen Scharpf	St. Patrick
	Paula Watkins	St. Francis of Assisi

**Science****July 2016**

<b>Grade Level</b>	<b>Name</b>	<b>School</b>
Primary	Ann Colvin	St. Albert
	Kristen Kischnick	St. Margaret Mary
	Lara Krill	St. Michael
	Connie Whiteman	St. Joseph
Intermediate	Katrina Ballard	St. Joseph
	Dana Bale	St. Martha
	Katie Garrett	St. Joseph
	Linda Marvel	St. Patrick
	DeeDee Nauert	Notre Dame
	Christy Perkins	St. Martha
	Karen Spalding	St. Joseph
	Middle School	Mary Jo Brockie
Valerie Brooks		St. Joseph
Carolyn Hayden		St. Martha
Chris Huelsman		St. Gabriel
Lisa Platt		Our Lady of Lourdes
Linda Seewer		St. Michael
Jon Wiseman		St. Mary

**Social Studies****July 2006**

<b>Grade Level</b>	<b>Name</b>	<b>School</b>
Primary	Jane Hensley	St. Patrick
	Vicki Johnston	St. Andrew
	Shannon Kruer	St. Rita
	Terri Lear	St. Patrick
	Patrice Payton	St. James
	Anne Perryman	St. Patrick
Intermediate	Paula Do	St. Francis of Assisi
	Ann Dudgeon	St. Martha
	Cathy Duncanson	Notre Dame
	Kathleen Harren	Holy Spirit
	Jackie Kessler	St. Bartholomew
	Sara Manchak	St. Aloysius, PWV
	Tina McWilliams	St. Athanasius
	Karen Torsky	St. Patrick
Middle School	Michael Baete	St. Raphael
	Charlotte Colyer	St. Bernard
	Amy Gossman	St. Francis of Assisi
	Lucy Hagman	St. James, Louisville
	Kaye Olgin	St. Gabriel
	Sandy Reigel	St. Martha
	Georgie Shannon	St. Athanasius
	Chuck Stetar	St. Bernard

**Pre-Kindergarten (4)****2015-2016**

<b>Position</b>	<b>Name</b>	<b>School</b>
Director	Valerie Shell.	Ascension
	Sharon Zdunek	St. Albert
Director and Teacher	Shirley Anderson	St. Mary
	Martha Gray	Holy Trinity
	Suzanne Stewart	St. Lawrence
Pre-K Teacher	Dawn Blair	St. Francis of Assisi
	Cindy Blaske	St. Mary
	Robin Hilpp	St. Lawrence
	Debbie Horan	St. Michael
	Terry McKiernan	Holy Spirit
	Kristin Roberts	St. Michael
	Mary Lynn Storrie	St. Michael
	Brenda U'Sellis	St. Francis of Assisi
Kindergarten Teacher	Susan Gilfert	John Paul II
	Cheryl House	St. Agnes
	Angela Krish	St. Joseph
	Monica Mills	St. Gregory
	Courtney Veit	St. Agnes
K-2 Reading Specialist	Morgan Wissing	Our Lady of Lourdes

**Foreign Language****July 2011**

<b>Name</b>	<b>School</b>
Susan Delk	St. Margaret Mary
Donna Jimenez	St. Michael
Nicolasa Menchu	St. Francis of Assisi
Laura Skowronski	St. Mary Acacemy

**Visual Arts****July 2010**

<b>Name</b>	<b>School</b>
Cathy Balbach	St. Gabriel
Laura Dant	St. Agnes / St. Francis of Assisi
Carey Given	Holy Trinity
Cheryl Sinclair	St. Athanasius
Jean Woodland	St. Michael

**Music/Performing Arts****July 2010**

<b>Name</b>	<b>School</b>
Marilyn Cross	St. Agnes
Gina Eberenz	St. Francis of Assisi
Niamh Lutes	St. Gabriel
Melanie Tipton	Holy Family / St. Rita
Karen Widener	St. Mary

**Physical Education****July 2009**

<b>Name</b>	<b>School</b>
Betsy Dragoo	St. Agnes
Vince Muchow	Holy Family / St. Albert / St. James
Teri Nelson	St. Margaret Mary
Lisa Smith	St. Barnabas
Amanda Stewart	St. Mary

**Library Media****August 2009**

<b>Name</b>	<b>School</b>
Anne Bainbridge	St. Athanasius
Tammy Herbert	St. Gabriel
Angie Kalb	Mercy Academy
Adele Koch	St. Patrick
Susan Messerschmidt	St. Francis of Assisi
Elaine Whitehead	Ascension

**Technology****March 2006 and 2010**

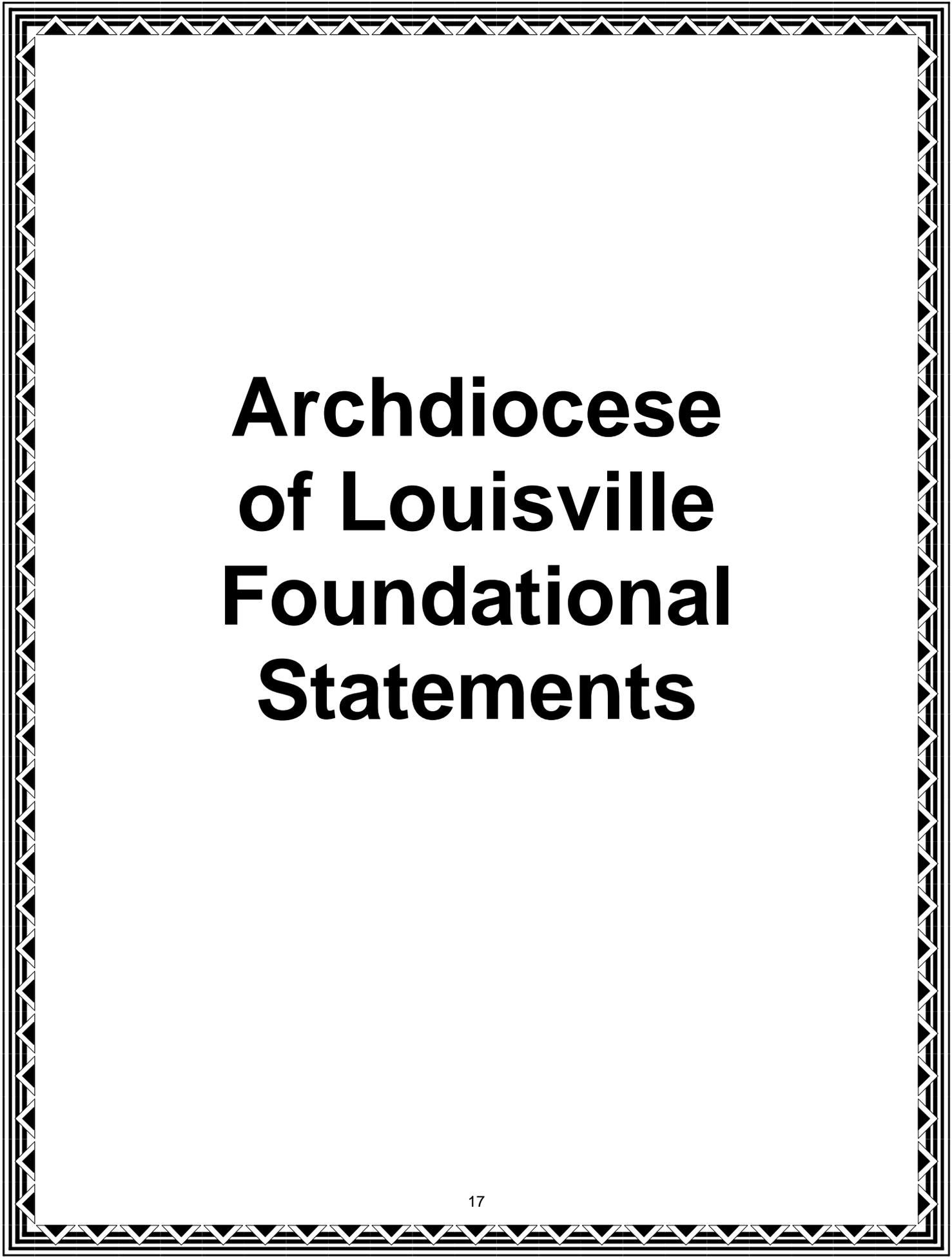
<b>Name</b>	<b>School</b>
Margaret Bowen	St. Stephen Martyr
Tony Chaudri	St. Martha
Patti Doyle	St. Patrick
Sheryl Kremer	St. Gabriel
Tom Recktenwald	Notre Dame
Kitty Schloemer	St. Nicholas

Master teachers, such as those listed above, who are willing to take a position of leadership, promote meaningful and measurable change and opportunities for growth and improvement for all those who teach and learn in the Archdiocese of Louisville. We salute their efforts and hope they are an inspiration for others who might wish to serve, so the long tradition of excellence in education and continuous improvement for all professional learning communities will carry our students and schools, proudly and securely, through the 21<sup>st</sup> century.

Thanks and recognition is given to the Archdiocese of Louisville staff who gave their time and expertise to the success of this initiative. They are as follows:

- Superintendent of Schools – Leisa Schulz
- Assistant Superintendent of Schools – Mary Beth Bowling
- Curriculum Coordinator – Karen O’Connell
- Technology Curriculum Consultant – Donna Brown
- Coordinator of School Planning and Professional Development – Terry Crawley
- Faith Formation – Art Turner and Denise Puckett
- Administrative Assistant – Nancy Johnson

**Lake Washington School District #414, Redmond, Washington** – Special thanks to the staff, administrators, and teachers from Lake Washington schools for access to their excellent curriculum guide and permission to adapt several components of their curriculum framework.



# **Archdiocese of Louisville Foundational Statements**

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# MISSION AND VISION OF THE OFFICE OF LIFELONG FORMATION AND EDUCATION

In the *Archdiocese of Louisville Handbook for Catholic Schools*, the mission and vision of the Office of Lifelong Formation and Education are stated as follows:

## MISSION OF THE OFFICE OF LIFELONG FORMATION AND EDUCATION

*To provide ministerial support for the formation and education of the whole person in the context of deepening spirituality grounded in Catholic beliefs, traditions, and values.*

We value:

- The person and message of Jesus Christ
- The dignity of every person
- The developmental nature of faith
- The sacredness of life
- The communal dimension of our faith
- The lifelong process of Catholic formation and education

## VISION OF THE OFFICE OF LIFELONG FORMATION AND EDUCATION

*In communion with servant leaders, we become a Church incarnate of Christ.*

# **MISSION AND VISION OF ARCHDIOCESE OF LOUISVILLE CATHOLIC SCHOOLS**

## **MISSION OF ARCHDIOCESE OF LOUISVILLE CATHOLIC SCHOOLS**

*The Catholic schools of the Archdiocese of Louisville exist to serve and engage young people in response to the call of Jesus Christ to “teach all nations.” In partnership with families and parishes, we seek to form our students, and through them, transform our world in light of the Gospel message. Our diverse community of schools, each with its own unique history, spirit, and tradition, prepares our graduates to live their faith as maturing adults and provide Christian leadership for Church and society.*

## **VISION OF ARCHDIOCESE OF LOUISVILLE CATHOLIC SCHOOLS**

*As stewards of Catholic education, our community of schools leads the way to a just and life-giving future without limits. Through collaboration, our faith and learning communities empower each other to learn our Catholic teachings, achieve academic excellence, embrace diversity, accept challenges, take risks, and seek God’s image in self and others. We are called to transform ourselves, one another, and the world through the Gospel of Jesus Christ in this complex time of rapid change.*

## **MISSION AND VISION OF ARCHDIOCESE OF LOUISVILLE CATHOLIC SCHOOLS**

With fidelity to this mission and vision, we provide:

- Living Faith – In-depth study of the teachings and traditions of the Catholic Church and opportunities for students to develop their personal relationships with God within caring faith communities.
- Inspiring Achievement – An exceptional academic experience that inspires excellence and achievement and fosters the lifelong pursuit of truth through self-disciplined habits of mind, body, and spirit.
- Celebrating Community – Communities of lifelong learners and believers who share responsibility for developing themselves to the fullest – intellectually, spiritually, emotionally, physically, and aesthetically – with appreciation for diverse individual gifts and challenges and respect for the common good.
- Embracing Service – People and programs that teach and promote the dignity of all people as children of God, especially those most in need, vulnerable, or neglected, by embracing service, justice, and compassion.

# **CURRICULUM MISSION AND VISION**

## **Curriculum Mission**

**The curriculum mission of the Archdiocese of Louisville is to develop and support exemplary Catholic education and faith formation through application of best practices in the teaching/learning process for all learners. This allows educators and students alike to reach their highest potential and carry out the mission of the Church.**

**This curriculum mission is accomplished by:**

- making collaborative curriculum decisions that encompass Catholic beliefs, traditions and values
- challenging schools, teachers, and all learners to reach their highest potential and function as Professional Learning Communities
- using research and best practice to provide a guide for curriculum and assessment that can be adapted and enhanced at the local school and parish level
- providing professional learning experiences that shape valuable initiatives and programs and guide teachers toward effective implementation of curriculum and assessment

## **Curriculum Vision**

**The curriculum vision of the Archdiocese of Louisville is to create professional learning communities that develop and support exemplary Catholic education with a focus on Catholic beliefs and continuous improvement in student and adult achievement and faith formation.**

**This curriculum vision is accomplished through:**

- the infusion of faith, principles, values, and social justice themes
- a collaborative model of decision-making and sharing of knowledge and resources
- Professional Learning Communities in which individuals and groups view themselves and function as learners
- application of best practices to all teaching/learning processes
- a comprehensive plan for curriculum and assessment adapted and implemented to meet all learners' needs
- professional learning experiences identified and provided to support appropriate curricular initiatives

# **CURRICULUM VALUES AND GOALS**

## **Curriculum Values**

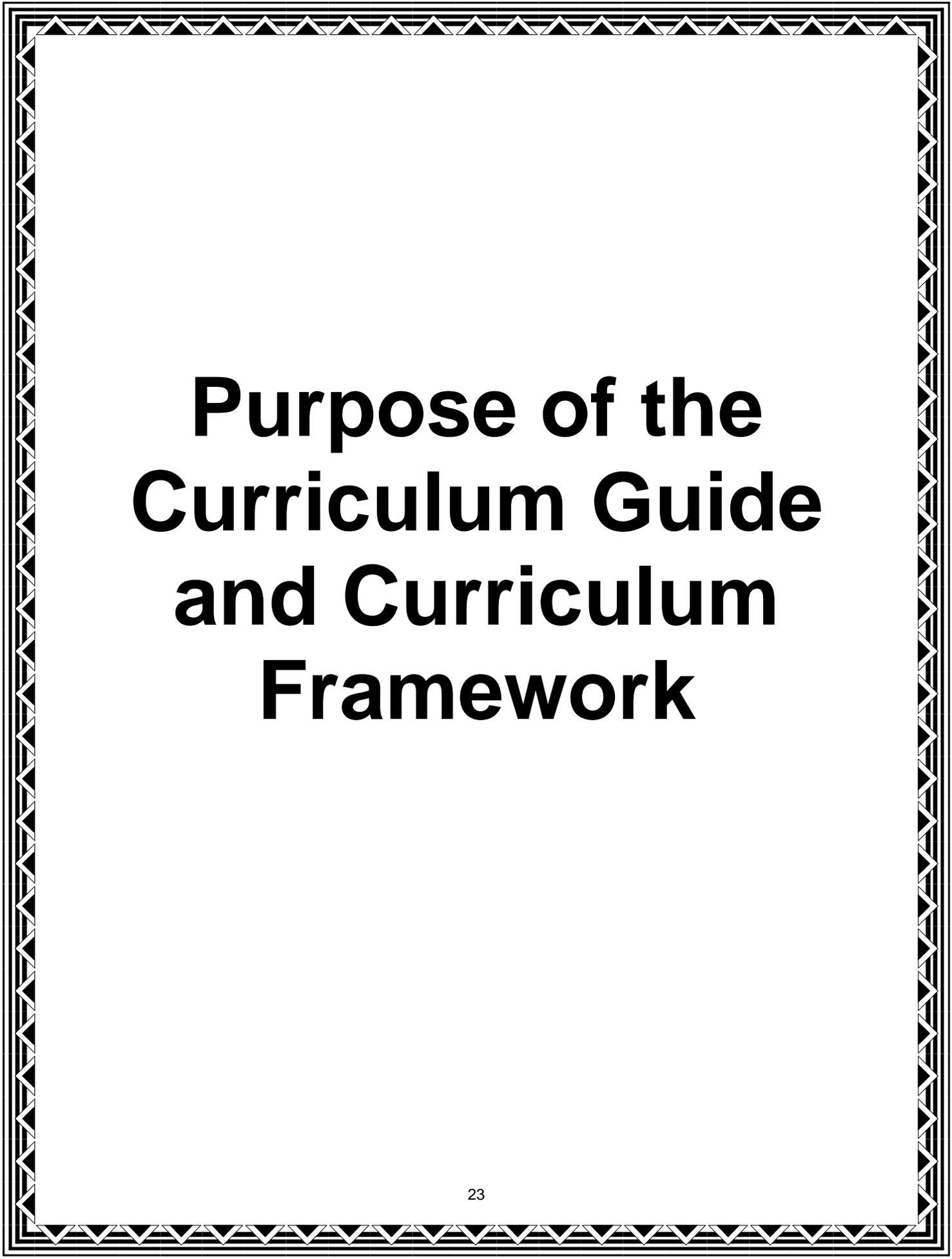
In order to advance our vision of creating Professional Learning Communities that develop and support exemplary Catholic education, continuous faith formation, and improvement in student and adult achievement, the curriculum values are:

- Catholic beliefs, traditions, and values
- the foundations and practices of Professional Learning Communities
- respect and support for the individuality and the potential of all learners
- best practices in all teaching/learning processes
- collaborative decision-making
- purposeful curriculum development and assessment
- multiple approaches and strategies for differentiation in curriculum practices and initiatives
- valuable and effective professional learning experiences to shape and support curricular initiatives

## **Curriculum Goals**

In order to advance our vision, our goals are to:

- make curriculum decisions based on Catholic beliefs, traditions, and values
- implement the foundations and practices of Professional Learning Communities
- engage in collaborative decision-making
- implement multiple and effective curriculum practice and initiatives to invite and engage all learners
- continue the development of a guide for curriculum and assessment with specific, clearly stated and challenging learning goals and standards for all learners
- assist schools and parishes with curriculum development and assessment plans that focus on student and adult learning as the ultimate goal
- engage in systemic analysis, goal setting, and refinement of curriculum documents, programs, and practices to focus on and monitor continuous improvement
- provide quality and continuous professional learning experiences to shape and support curricular initiatives



# **Purpose of the Curriculum Guide and Curriculum Framework**

# PURPOSE OF THE CURRICULUM GUIDE AND CURRICULUM FRAMEWORK

*The Archdiocese of Louisville Curriculum Guide is designed as a reference for administrators, teachers, and the community. The handbook contains foundational statements, such as curriculum mission, vision, values, and goals, which bring direction and cohesiveness to curriculum planning and development in Catholic schools. Broad-spectrum components of the guide, and part of the curriculum framework, are the Academic Expectations and Learning Goals which are exit outcomes aligned with standards.*

## How to Use the Curriculum Framework

The Guide and its components **are** designed to direct and assist by:

- stating publicly the standards, objectives, philosophies, and practices of Catholic education
- documenting the curriculum development process in the Archdiocese of Louisville
- providing a framework as a basis for cohesiveness in curriculum design, assessment, and implementation throughout Catholic schools
- providing a framework that offers structure, in tandem with local autonomy, throughout the curriculum decision-making process
- providing a “core content” that can be “taught” with the goal of mastery/proficiency for all students
- providing an overview of and reference to documents and practices that are currently in place in the Archdiocese of Louisville
- providing broad guidelines for introduction, development, and mastery of knowledge and skills through use of the performance standards
- suggesting opportunities for integration and application of technology and library media skills into the content areas
- providing a resource for administrators to use when supporting teachers and setting professional goals in conjunction with the Professional Growth Plan
- providing direction for all teachers, including beginning teachers or teachers who are new to Catholic education
- guiding teachers in the process of selecting material in textbooks that support the archdiocesan standards and incorporating other resource materials in order to effectively focus on critical content and concepts to be included in the local curriculum

## How Not to Use the Curriculum Framework

The Guide and its components **are not** designed to direct and assist teachers with:

- a complete “checklist” of content to “cover” because content is to be addressed and taught in a variety of contexts
- the answers to all curriculum decisions because teachers should retain their autonomy to make decisions based on student needs and the curriculum
- a specific local scope and sequence for all grades/levels because local schools need to confer/collaborate to make these final decisions based on student’s needs and available resources, while using the curriculum framework as the guide
- “breaking down” more specific understandings, skills, and processes for each unit and lesson because the classroom teacher makes those decisions based on student needs and the curriculum
- aligning content directly with standardized tests, because standardized tests are designed to be a “moving target” and to test items above and below grade level
- lists of teaching strategies to teach specific concepts, content, topics, skills, and processes because the classroom teacher makes those decisions, based on student needs and learning styles
- specific suggestions for intra/interdisciplinary integration and connections because the classroom teacher needs to determine these opportunities based upon available resources

# **Standards and Curriculum**

# CATHOLIC SCHOOL STANDARDS

The mission of Catholic schools is to educate the whole child – mind, body, and spirit – by providing an excellent education rooted in Gospel values, beliefs, and principles. The *National Standards and Benchmarks for Effective Catholic Elementary and Secondary Schools* was created by leaders in Catholic education to provide Catholic schools with characteristics, standards, and benchmarks to guide their work.

The characteristics define the deep Catholic identity of Catholic schools and serve as a platform on which the standards and benchmarks rest. The defining characteristics authenticate the standards and benchmarks, justifying their existence and providing their meaning.

The defining characteristics of Catholic schools include:

- Centered in the Person of Jesus Christ
- Contributing to the Evangelizing Mission of the Church
- Distinguished by Excellence
- Committed to Educate the Whole Child
- Steeped in a Catholic Worldview
- Sustained by Gospel Witness
- Shaped by Communion and Community
- Accessible to All Students
- Established by the Expressed Authority of the Bishop

The standards describe policies, programs, structures, and processes that should be present in mission-driven, program effective, well-managed, and responsibly governed Catholic schools that operate in concert with the defining characteristics. The standards address four domains: Mission and Catholic Identity, Governance and Leadership, Academic Excellence, and Operational Vitality.

The benchmarks provide observable, measurable descriptors for each standard. Benchmarks provide a solid basis for future development of more detailed self-assessment and diagnostic instruments, data collection and reporting structures, and accreditation tools, as appropriate at the local, diocesan, regional, and national levels.

The *National Standards and Benchmarks for Effective Catholic Elementary and Secondary Schools* will provide the standards framework to guide mission, Catholic identity, governance and leadership, academic excellence, and operational vitality in Catholic schools in the Archdiocese of Louisville.

For further information or to view the *National Standards and Benchmarks for Effective Catholic Elementary and Secondary Schools*, visit the Catholic Schools Standards Project website at [www.catholicschoolstandards.org](http://www.catholicschoolstandards.org).

# STANDARDS AND CURRICULUM

The Archdiocese of Louisville embraces a dual mission of faith formation and academic excellence. This is accomplished through the application of best practices in the teaching and learning process in support of our Catholic identity.

*The Archdiocese of Louisville Curriculum Frameworks*, created by teams of content area teachers in 2002 and updated on an established cycle, contain performance standards which represent a cohesive set of expectations for all students. These standards define the expected learning objectives as well as the ways students will demonstrate their knowledge and understanding of the essential concepts and skills for each grade level in a particular content area. The Archdiocese of Louisville, in collaboration with principals and educators, identifies research-based pedagogy, best practices, assessments, instructional materials, technology, and professional learning opportunities that support the implementation of these standards.

A school's curriculum outlines when the concepts and skills specified in the standards will be taught, the pacing and overall sequencing, how the learning will take place, and the resources that will be utilized. The curriculum also includes the multiple formative and summative assessment measures used to determine student progress toward meeting the standards.

Curricular decisions are made by principals and educators within the school. Principals and school leaders decide on the use of instructional time, instructional materials, resources, programs, etc., for their schools. Teachers decide upon strategies, resources from textbooks and instructional materials, lessons, and projects in order to optimize learning and meet the individual needs of the students. Through written lesson and unit plans, teachers document these decisions. The principal verifies the expected teaching and learning.

# 21<sup>st</sup> CENTURY SKILLS AND THE ARCHDIOCESE OF LOUISVILLE

Archdiocese of Louisville Catholic schools, in partnership with parents, provide a Christ-centered education that prepares students for an ever-changing world. This education cultivates a learning environment that includes the 21<sup>st</sup> century skills of critical thinking, communication, collaboration, and creativity and that fosters the principles of compassion, self-efficacy, resiliency, and global awareness. Thus, students of all ages are empowered to successfully navigate academic, digital, artistic, and interpersonal realms leading to the pursuit of lifelong learning and community engagement.

In the Archdiocese of Louisville, we define the five C's of 21<sup>st</sup> century learning in the following way:

**Catholic Identity**—To be centered in the person of Jesus Christ, students must know their faith, participate in liturgical and communal prayer, and take action in service of social justice. They must be steeped in the Catholic worldview, sustained by Gospel witness, and contribute to the evangelizing mission of the Church.

**Critical Thinking** – To be effective critical thinkers and problem solvers, students must interpret, analyze, and evaluate information. They must make connections and consider evidence before reaching conclusions. They must be able to use their reasoning skills and adapt to constant change.

**Communication** – To be effective communicators, students must express thoughts clearly for a variety of purposes and a variety of audiences. They must be able to use oral and written skills as well as a range of media and technologies to convey information. They must be active listeners who are able to discern meaning and nuance from oral and written information.

**Collaboration** – To be effective collaborators, students must be adaptable and able to work with a group or partner. They must be able to negotiate and make compromises when necessary. They must be able to offer ideas and options and share responsibility for the work of the group. They must be willing to consider different perspectives.

**Creativity** – To exhibit creativity in their learning, students must develop and incorporate new ideas. They must evaluate and refine existing ideas and demonstrate originality. They must be able to communicate their original ideas using a variety of creative techniques.

# Standards

# OVERVIEW

Standards, curriculum, instructional materials, and teaching/learning practices must align in order to be effective. This cohesiveness allows for consistent student performance, transfer of knowledge, deep understanding of essential concepts, and application of skills in order to serve all learners in an equitable manner. Implementation of standards is most crucial at the classroom level, which is where the use of standards can lead to the most significant change in student achievement. A thorough understanding of standards in content areas is a critical part of any teacher's basic knowledge and should be embedded into the design, assessment, and implementation process within each school and classroom. Opportunities for teachers to study, reflect, and openly discuss the teaching/learning process and how it relates to standards is necessary to the success of the use of standards.

## National Standards

In 1987, The National Council of Teachers of Mathematics was the first national group to create standards for developing curriculum and assessment. Currently, standards are in place for all content areas included in a comprehensive school curriculum.

Standards are available and easily obtainable for the following content areas:

- Language Arts
- Mathematics
- Science
- Social Studies
  - History
  - Civics
  - Economics
  - Geography
- Physical Education
- Health
- The Arts
  - Music and Theater
  - Visual Arts
- Foreign Language

Schools should house current copies of standards, and teachers should be given opportunities to become familiar with them and to utilize them when planning and throughout the teaching/learning process.

## National Organizations

<b>Content Area</b>	<b>Organization</b>
Language Arts	National Council of Teachers of English and International Reading Association (NCTE/IRA)
Mathematics	National Council of Teachers of Mathematics (NCTM)
Science	National Science Teachers Association (NSTA) and National Academy of Sciences (NAS)
Social Studies	National Council for the Social Studies (NCSS)
History	National Center for History in the Schools (NCHS)
Civics	Center for Civic Education
Economics	Council for Economic Education (CEE)
Geography	National Council for Geographic Education (NCGE)
Physical Education	National Association for Sport and Physical Education (NASPE)
Health	National Center for Chronic Disease Prevention and Health Promotion (CDC)
Music and Theater	National Association for Music Education (MENC)
Visual Arts	Consortium of National Arts Education Association
Foreign Language	American Council on the Teaching of Foreign Languages (ACTFL)

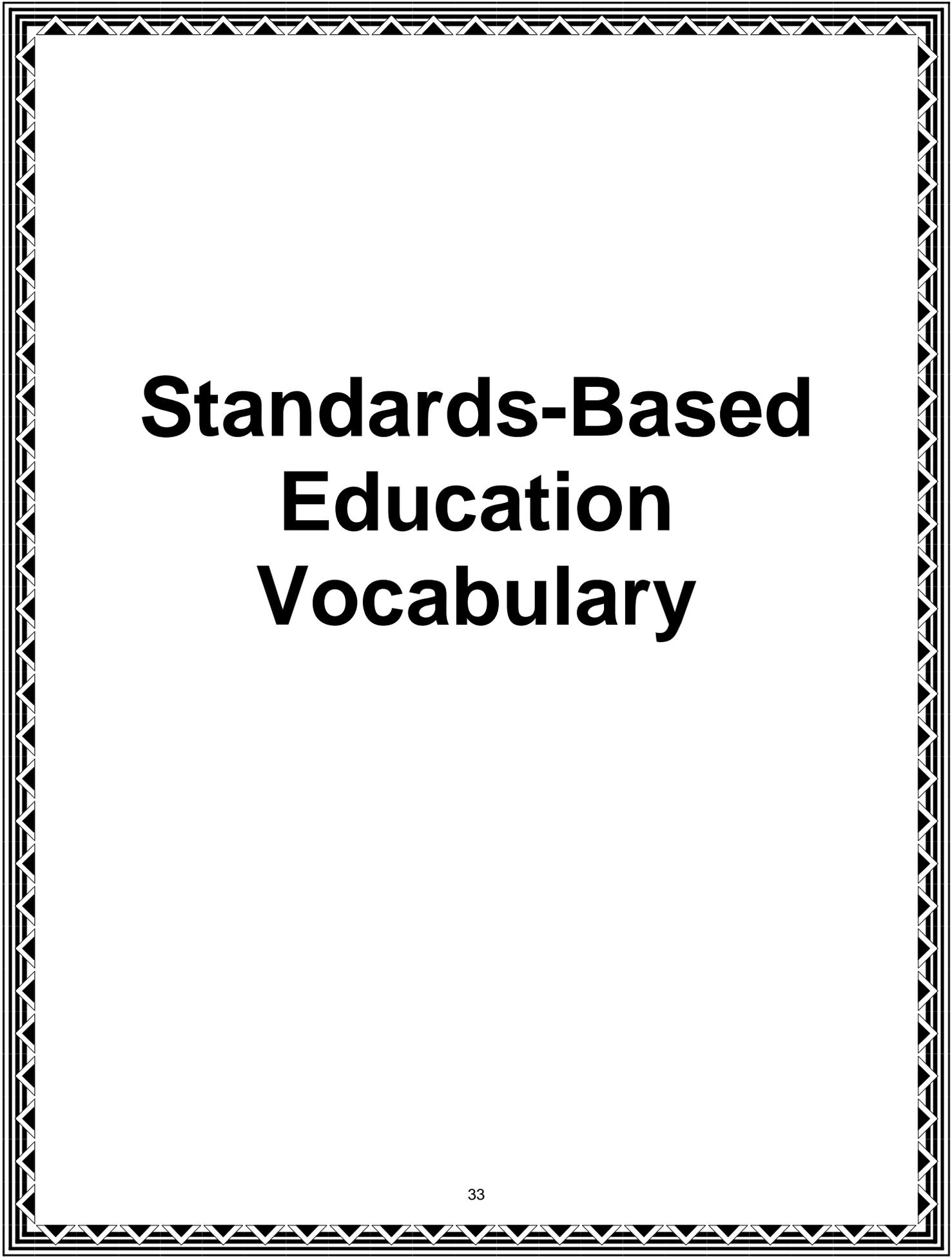
# Kentucky Department of Education

The Archdiocese of Louisville Curriculum Framework is also aligned with Kentucky Department of Education curricular documents. Following is a brief description of the KDE documents to clarify their purpose and to assist in the use of the documents and the connections to the Archdiocese of Louisville Curriculum Framework.

**Kentucky Core Academic Standards** – The Kentucky Core Academic Standards outline the minimum content required for all students before graduation from a public high school in the state of Kentucky. The document specifies the content for the required credits for high school graduation, as well as primary, intermediate, and middle-school programs leading to these requirements. The Kentucky Core Academic Standards most directly affect Catholic high schools because of the relationship to graduation requirements and specific course content. Generally all Catholic schools far exceed these minimum requirements within their academic curricular programs.

**Learning Goals and Academic Expectations** – Kentucky has six broad-based Learning Goals that serve as exit outcomes and are more fully detailed through the fifty-seven Academic Expectations. The Academic Expectations are **content standards** that describe what students should know and be able to do in a variety of content areas. The Academic Expectations help teachers by providing a major focus for developing local curriculum and should be part of all curriculum planning.

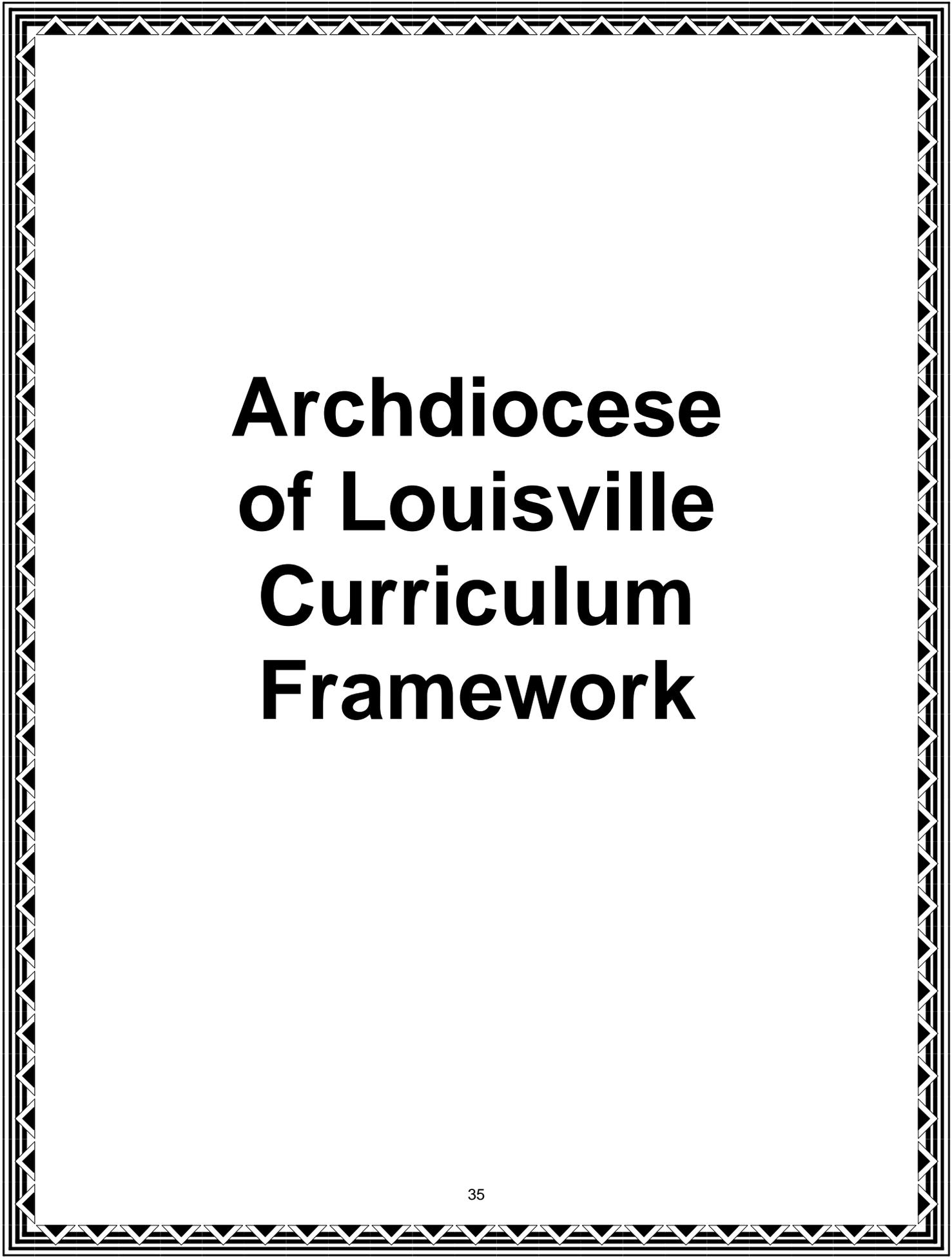
The Kentucky Core Academic Standards and the Kentucky Learning Goals and Academic Expectations can be accessed on the KDE web site at [education.ky.gov](http://education.ky.gov).



# **Standards-Based Education Vocabulary**

# STANDARDS-BASED EDUCATION VOCABULARY

1. Standards-Based Education – a model for organizing education into sets of criteria to measure what students know and are able to do in relation to the desired knowledge and skills and not in relation to one another.
2. Standards – models for organizing knowledge and skills in specific content areas into broad criteria.
3. Content Standards – description of the knowledge and skills expected of students at certain stages in their education (what students should know and be able to do).
4. Performance Standards – written standards that can be measured and may describe the levels of performance (on tasks) that students must achieve to demonstrate that they have met the content standards or their placement on the continuum for achieving them - may be broad or specific in nature.
5. Kentucky Academic Standards – guidelines mandated by law that outline the minimum content requirement, based on the Learning Goals and Academic Expectations, for all students before graduation from a high school in the state of Kentucky.
6. Learning Goals – six/seven broad-based exit outcomes for all students in the state of Kentucky, including the Archdiocese of Louisville.
7. Curriculum Framework – a set of written statements in the form of a plan for teachers to use as a resource when designing and delivering the school- or classroom-based curriculum; serves as a bridge between standards and local curriculum.
8. Curriculum – the full set of features, components, situations, and experiences of the educational (teaching/learning) environment, e.g., goals, strategies, exit outcomes, pacing and overall sequencing, resources, programs, activities).
9. Local Curriculum – the school- or classroom-based set of teaching and learning statements (plan) of the educational environment, including content, scope and sequence, features, situations, and experiences that connect to the curriculum framework and standards.



# **Archdiocese of Louisville Curriculum Framework**

# INTRODUCTION

The purpose of curriculum is to focus and connect the work of classroom teachers. **Curriculum is a means to an end and not an end in itself.**

## Curriculum Framework

The Archdiocese of Louisville Curriculum Framework is a written plan for teachers to use as a resource when designing and delivering the school/classroom-based curricula to students and serves as a bridge to ensure that students progress toward meeting the standards, Learning Goals, and Academic Expectations. The framework is designed to effect change by building capacity and empowering schools to create professional learning communities that keep curriculum design, development, and delivery at the forefront of the daily business of educating students.

A **curriculum framework** provides parameters and guidelines for the development of the school and classroom curriculum. It also provides an opportunity for many choices by the classroom teacher. The curriculum framework is designed to support the creative and self-directed process of local curriculum design, development, and implementation. A curriculum framework allows for various approaches to sequencing, organization, and strategies depending upon student needs and learning styles. All the while, the educator continues to use the framework to establish the outer limits and set direction and standards for design, assessment, and implementation. **A curriculum framework is used to develop, but is not, the local school/classroom curriculum, and it is not a curriculum checklist.**

## **Components of the Archdiocesan Curriculum Framework**

The Archdiocesan Curriculum Framework is aligned with and guides learners toward the knowledge, skills, and processes embedded in standards and the Archdiocesan Learning Goals and Academic Expectations (adapted from KDE). The components of the various content area frameworks include:

- Learning Goals and Academic Expectations
- Essential Understandings
- Guided Questions
- Content Guidelines
- Anchor Standards
- Performance Standards
- Examples of Formative and Summative Assessment
- Examples of Applications for Technology and Library Media

Content Guidelines and Performance Standards or Standards are available in the following areas:

- Religion
- Language Arts
- Mathematics
- Science
- Social Studies
- Pre-Kindergarten(4)
- Foreign Language
- Visual Arts
- Music/Performing Arts
- Physical Education
- Library Media
- Technology

### **Learning Goals and Academic Expectations**

The Learning Goals provide broad-based outcomes (desired end-results) that connect to the content standards (what students should know and be able to do). They are more fully stated through the Archdiocesan Academic Expectations. The content standards begin the process of “unraveling” the goals so teachers can assist students in meeting the Learning Goals. Academic Expectations help teachers by providing a major focus for developing local curriculum and should be part of all curriculum planning. Teachers need to be proficient in their knowledge of the Learning Goals and Academic Expectations. The Archdiocesan Learning Goals and Academic Expectations are directly aligned with the KDE Learning Goals and Academic Expectations. The difference is the addition of language that puts them in the context of Catholic education. Also, the Archdiocesan Academic Expectations include religious studies as a content area under Goal Two and as a broad-based curriculum goal through the creation of Goal Seven – *Students are able to apply the learning of Catholic teachings to everyday living.*

## **Essential Understandings**

The Essential Understandings focus on critical concepts or understandings that are embedded in the Content Guidelines. They provide insight into the big ideas or concepts that students must understand, not just know. They correlate with the Academic Expectations.

## **Guided Questions**

The Guided Questions correlate with the Essential Understandings. They provide the questions students should be answering as a result of the learning that is taking place.

## **Content Guidelines**

The Content Guidelines detail the essential concepts and skills for each grade level. They are designed to be used in conjunction with the Archdiocesan Learning Goals and Academic Expectations.

The Content Guidelines apply the mastery or core curriculum approach. They also help in the further “unraveling” of the Learning Goals and Academic Expectations. The mastery curriculum narrows the scope and sequence, which gives guidance and direction to teachers as they make decisions regarding the concepts, skills, and strategies found in instructional resources, especially textbooks. It also facilitates in-depth study and problem solving and allows time for attention to individual student needs.

## **Performance Standards, Performance Expectations, and Standards**

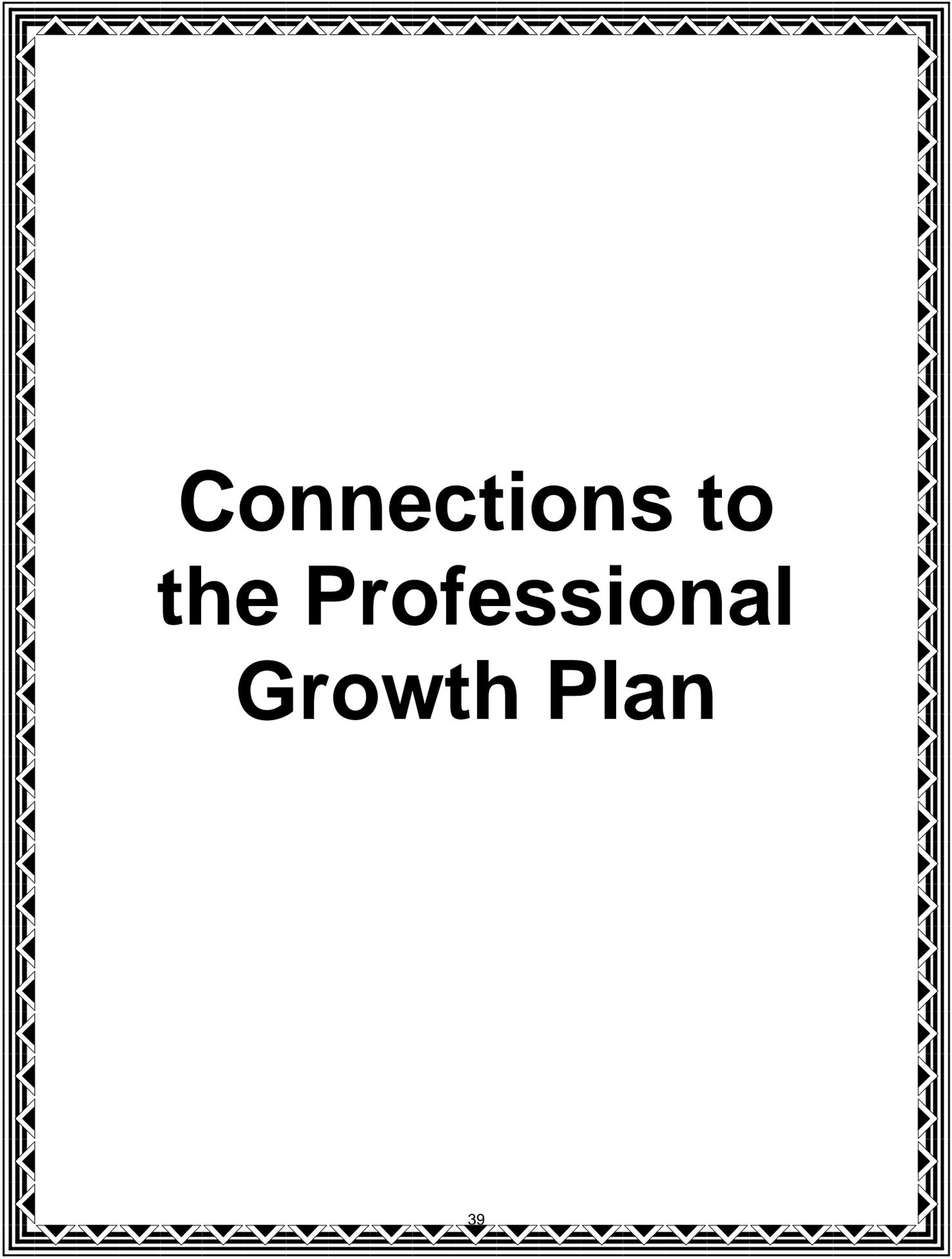
The Performance Standards, Performance Expectations, and Standards found in the content area curriculum frameworks outline expected learning and the ways students will demonstrate that learning. The Performance Standards, Performance Expectations, and Standards determine how the teacher will know that students have learned expected concepts and skills (what students should know and be able to do as a result of the learning).

## **Examples of Formative and Summative Assessment**

The Examples of Formative and Summative Assessment section offers suggestions for a holistic approach to assessment using a variety of assessment measures including pre- and post-assessment, performance events, and other types of assessment.

## **Examples of Applications of Technology and Library Media**

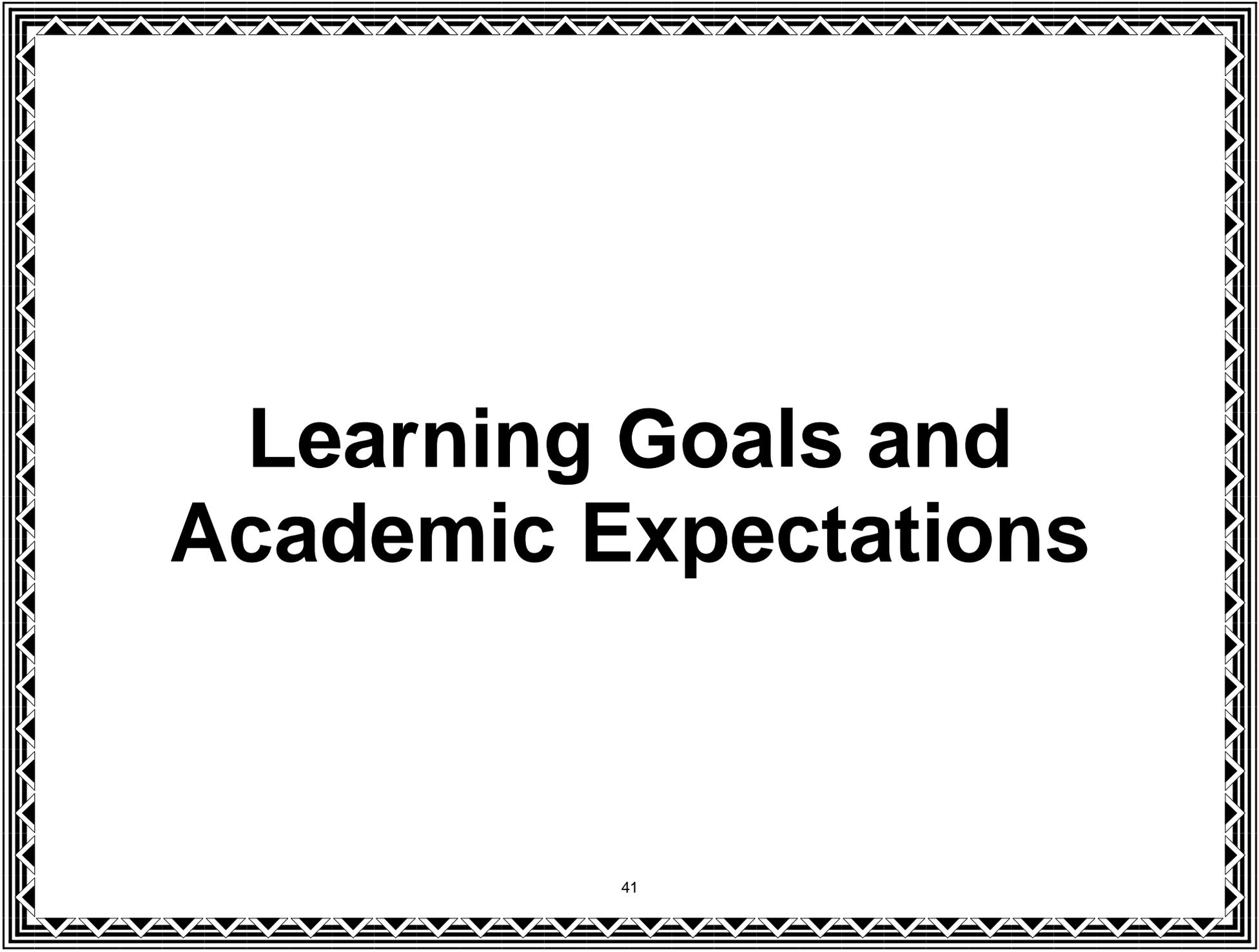
The Examples of Applications of Technology and Library Media section offers suggestions for the incorporation of technology and library media into all areas of the curriculum.



# **Connections to the Professional Growth Plan**

## **CONNECTIONS TO THE PROFESSIONAL GROWTH PLAN**

Professional Learning Communities operate with the expectation that all members (principals, teachers, and students) are lifelong learners. Professional Learning Communities also have a belief and an understanding that the on-going learning process is critical to teacher effectiveness and increased student achievement. In the Archdiocese of Louisville, to assist principals and teachers with assessment of the adult learning and goal setting process, the Professional Growth Plan (PGP) was developed. All of the areas in the Professional Growth Plan relate directly to assessing a teacher's willingness to learn and ability to understand, implement, and assess a standards/performance-based curriculum. The Professional Growth Plan is an excellent vehicle for principals to use in affirming a teacher's successes and in identifying areas for growth in regard to the level of acceptance and application of standards- and performance-based educational approaches.



# **Learning Goals and Academic Expectations**

## Archdiocese of Louisville Learning Goals and Academic Expectations

### Philosophy/Pedagogy

The Learning Goals and Academic Expectations are academic standards that describe the knowledge, skills, processes, and habits of mind expected of all students graduating from a Catholic school in the Archdiocese of Louisville. The Learning Goals and Academic Expectations for the Archdiocese of Louisville are adapted from the Kentucky Department of Education document, "Transformations: Kentucky's Curriculum Framework." The Learning Goals and Academic Expectations provide purpose, direction, and guidance for school-based curriculum development and planning. Teachers are expected to design curriculum, prepare educational activities, and align implementation and assessment in order to ensure that every child meets the standards in the Learning Goals and Academic Expectations by the end of their K - 12 educational experience.

### Format

The Learning Goals and Academic Expectations contain the same content and focus as the KDE document, but have been adapted and expanded for use in Catholic education. It is important to note that Religious Studies components have been added to Goal Two to address the content so important to Catholic schools. Goal Seven has been added to include the Catholic Identity component of our curriculum, providing our faith-based foundation which makes attending a Catholic school unique. The standards in Goal Seven must be modeled and nurtured in all that we do in Catholic education.

### Goal 1

<b>Goal One: Students are able to use basic communication and mathematics skills for purposes and situations they will encounter throughout their lives.</b>				
1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, computer reference programs, and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.	1.4 Students make sense of the various messages to which they listen.	1.10 Students organize information through development and use of classification rules and systems.	1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.	1.15 Students make sense of and communicate ideas with movement.
1.2 Students make sense of the variety of materials they read.	1.5–1.9 Students use mathematical ideas and procedures to communicate, reason, and solve problems.	1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.	1.13 Students make sense of and communicate ideas with the visual arts.	1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
1.3 Students make sense of the various things they observe.			1.14 Students make sense of and communicate ideas with music.	

Archdiocese of Louisville  
**Learning Goals and Academic Expectations**  
**Goal 2**

<b><i>Goal Two: Students shall develop their abilities to apply core concepts and principles from religious education, the sciences, mathematics, social studies, the arts, the humanities, practical living studies, and vocational studies to what they will encounter throughout their lives.</i></b>					
<b>SCIENCE</b>	<b>MATHEMATICS</b>	<b>SOCIAL STUDIES</b>	<b>ARTS AND HUMANITIES</b>	<b>PRACTICAL LIVING</b>	<b>VOCATIONAL STUDIES</b>
2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.	2.7 Students understand number concepts and use numbers appropriately and accurately.	2.14 Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.	2.22 Students create works of art and make presentations to convey a point of view.	2.29 Students demonstrate skills that promote individual well-being and healthy family relationships.	2.36 Students use strategies for choosing and preparing for a career.
2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.	2.8 Students understand various mathematical procedures and use them appropriately and accurately.	2.15 Students accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.	2.23 Students analyze their own and others' artistic products and performances using accepted standards.	2.30 Students evaluate consumer products and services and make effective consumer decisions.	2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
2.3 Students identify and analyze systems and the ways their components work together or affect each other.	2.9 Students understand space and dimensionality concepts and use them appropriately and accurately.	2.16 Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.	2.24 Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.	2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.	2.38 Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other post-secondary training or to get a job.

Archdiocese of Louisville  
**Learning Goals and Academic Expectations**  
**Goal 2**

<b><i>Goal Two: Students shall develop their abilities to apply core concepts and principles from religious education, the sciences, mathematics, social studies, the arts, the humanities, practical living studies, and vocational studies to what they will encounter throughout their lives.</i></b>					
<b>SCIENCE</b>	<b>MATHEMATICS</b>	<b>SOCIAL STUDIES</b>	<b>ARTS AND HUMANITIES</b>	<b>PRACTICAL LIVING</b>	<b>VOCATIONAL STUDIES</b>
2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and non-living things and predict other characteristics that might be observed.	2.10 Students understand measurement concepts and use measurements appropriately and accurately.	2.17 Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.	2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities, languages, literature, and history.	2.32 Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.	
2.5 Students understand that under certain conditions nature tends to remain the same or move toward a balance.	2.11 Students understand mathematical change concepts and use them appropriately and accurately.	2.18 Students understand economic principles and are able to make economic decisions that have consequences in daily living.	2.26 Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.	2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.	
2.6 Students understand how living and non-living things change over time and the factors that influence the changes.	2.12 Students understand mathematical structure concepts, including the properties and logic of various mathematical systems.	2.19 Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.	2.27 Students recognize and understand the similarities and differences among languages.	2.34 Students perform physical movement skills effectively in a variety of settings.	

Archdiocese of Louisville  
**Learning Goals and Academic Expectations**  
**Goal 2**

<b><i>Goal Two: Students shall develop their abilities to apply core concepts and principles from religious education, the sciences, mathematics, social studies, the arts, the humanities, practical living studies, and vocational studies to what they will encounter throughout their lives.</i></b>					
<b>SCIENCE</b>	<b>MATHEMATICS</b>	<b>SOCIAL STUDIES</b>	<b>ARTS AND HUMANITIES</b>	<b>PRACTICAL LIVING</b>	<b>VOCATIONAL STUDIES</b>
	2.13 Students understand and appropriately use statistics and probability.	2.20 Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.	2.28 Students understand and communicate in a second language.	2.35 Students demonstrate knowledge and skills that promote involvement in physical activity throughout their lives.	

Archdiocese of Louisville  
**Learning Goals and Academic Expectations**  
**Goal 2**

<b>RELIGIOUS STUDIES</b>				
2.39 Students demonstrate an understanding of God as creator of all things.	2.45 Students recognize that through Jesus, God established a relationship of particular intimacy with us.	2.51 Students identify the context of the Scriptures and their role in the development of the Church.	2.57 Students demonstrate the ability to apply the commandment of love by making life decisions within the Christian moral framework.	2.63 Students demonstrate the importance of sacraments, with an emphasis on centrality of the Eucharist, in the life of Catholics.
2.40 Students understand the human person as imaging God.	2.46 Students demonstrate an understanding of the Holy Spirit as being the Spirit of God who reveals God and makes Christ known to us.	2.52 Students articulate the nature of tradition and its role in the development of the Church.	2.58 Students demonstrate an understanding of the relationship between faith and culture as it is found in the arts, sciences, and technology.	2.64 Students demonstrate recognition of the sacredness of time through the celebration of the Hours, the liturgical seasons, and special feasts and days.
2.41 Students recognize the Inter-connectedness of humans with all creation.	2.47 Students articulate an understanding of the Holy Spirit as the one who awakens us to faith.	2.53 Students articulate the nature of sacrament and sacramentality and their role in the development of the People of God.	2.59 Students demonstrate an understanding of Catholic principles foundational to all relationships.	2.65 Students demonstrate an understanding of Christ's command to love and serve one another.
2.42 Students recognize the call to continuing creation by further developing the Kingdom of God.	2.48 Students articulate an understanding of the Holy Spirit as the vibrant presence of God in the Church and the world.	2.54 Students illustrate a basic understanding of the documentary tradition of the universal, national, and local Church.	2.60 Students exercise responsible stewardship toward all creation.	2.66 Students engage in service to the community in response to the Gospel call.
2.43 Students articulate an understanding of the Incarnation: the Word of God enfleshed in Jesus Christ.	2.49 Students identify the covenants revealed in the Scriptures as extending to all creation.	2.55 Students illustrate a basic understanding of the history of the Church.	2.61 Students examine the variety of Christian lifestyles as ways of responding to the Baptismal call to a life of service.	2.67 Students critique societal structures in the light of Catholic social justice principles.
2.44 Students articulate an understanding of Christ's life, death, and resurrection as the distinctive sign of Christian faith.	2.50 Students demonstrate an understanding of active participation in a community of faith.	2.56 Students demonstrate an understanding of the Paschal mystery and the various ways it is encountered in daily living.	2.62 Students demonstrate an understanding of different ways of relating to God in prayer, on a personal level, and in community.	2.68 Students acknowledge the diverse cultural expressions of Catholicism.

Archdiocese of Louisville  
**Learning Goals and Academic Expectations**  
**Goal 3-7**

Goal Three	Goal Four	Goal Five	Goal Six	Goal Seven	
<i>Students shall develop their abilities to become self-sufficient individuals, who are dependent upon God.</i>	<i>Students shall develop their abilities to become responsible members of a family, work group, church, or community, including demonstrating effectiveness in community service.</i>	<i>Students shall develop their abilities to think and solve problems based upon Christian values in a variety of situations they will encounter in life.</i>	<i>Students shall develop their abilities to connect and integrate experiences and new knowledge from all subject matter fields with what they have previously learned and build on past learning experiences to acquire new information through various media sources.</i>	<i>Students are able to apply the understanding of Catholic teachings to everyday living.</i>	
3.1 Students demonstrate positive growth in self-concept through appropriate tasks or projects.	4.1 Students effectively use interpersonal skills.	5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.	6.1 Students connect knowledge and experiences from different subject areas.	7.1 Students practice respect and care for all creation seeing it as a gift of God's love.	7.7 Students demonstrate different ways of relating to God in prayer on a personal level and in community.
3.2 Students demonstrate the ability to maintain a healthy lifestyle.	4.2 Students use productive team membership skills.	5.2 Students use creative thinking skills to develop or invent novel, constructive ideas or products.	6.2 Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.	7.2 Students integrate Christ's life, death, and resurrection, the distinctive sign of Christian faith, into their life experiences.	7.8 Students engage in Christ's command to love and serve one another.
3.3 Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.	4.3 Students individually demonstrate consistent, responsive, and caring behavior.	5.3 Students organize information to develop or change their understanding of a concept.	6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.	7.3 Students develop a sense of the movement of the Spirit in one's life.	7.9 Students affirm the diverse cultural expressions of Catholicism.
3.4 Students demonstrate the ability to be resourceful and creative.	4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.	5.4 Students use a decision-making process to make informed decisions among options.		7.4 Students participate actively in a community of faith.	7.10 Students apply Catholic social justice principles in social and personal situations.

Archdiocese of Louisville  
**Learning Goals and Academic Expectations**  
**Goal 3-7**

Goal Three	Goal Four	Goal Five	Goal Six	Goal Seven	
<i>Students shall develop their abilities to become self-sufficient individuals, who are dependent upon God.</i>	<i>Students shall develop their abilities to become responsible members of a family, work group, church, or community, including demonstrating effectiveness in community service.</i>	<i>Students shall develop their abilities to think and solve problems based upon Christian values in a variety of situations they will encounter in life.</i>	<i>Students shall develop their abilities to connect and integrate experiences and new knowledge from all subject matter fields with what they have previously learned and build on past learning experiences to acquire new information through various media sources.</i>	<i>Students are able to apply the understanding of Catholic teachings to everyday living.</i>	
3.5 Students demonstrate self-control and self-discipline.	4.5 Students demonstrate an understanding of, appreciation for, and sensitivity to a multi-cultural and world view.	5.5 Students use problem-solving processes to develop solutions to relatively complex problems.		7.5 Students give witness to the meaning of the teachings of the Church.	
3.6 Students demonstrate the ability to make decisions based on ethical values.	4.6 Students demonstrate an open mind to alternative perspectives.			7.6 Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, Church, and with all creation.	
3.7 Students demonstrate the ability to learn on one's own.					

# **Religious Education Curriculum Framework**

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## RELIGIOUS EDUCATION FOUNDATIONS AND GUIDELINES

The *General Directory for Catechesis (GDC)* outlines six main tasks for all religious education:

- Promoting knowledge of the faith
- Liturgical education
- Moral formation
- Teaching to pray
- Educating for community life
- Missionary initiation

The *Kentucky Guidelines for Religious Education*, created by the Catholic Conference of Kentucky, is intended to serve as the archdiocesan guide for school religion curriculum, with the Archdiocesan Curriculum Framework and texts as supportive resources. The purpose of the *Kentucky Guidelines for Religious Education* is to give direction, unity, and consistency to religious education across the state of Kentucky. These guidelines reflect lifelong catechesis and provide the knowledge and skills appropriate to learners of all ages. Catholic social teachings are also very important to the learners' development and attention and focus should be placed on instilling these into the hearts and minds of both learners and teachers.

Specific content standards in *The Kentucky Guidelines for Religious Education* are included in the Archdiocese of Louisville Learning Goals and Academic Expectations in two areas:

- Goal 2 – as religion goals and expectations incorporated into all content areas
- Goal 7 – as a newly created goal to indicate broader religion standards/exit outcomes

The complete color-coded *Kentucky Guidelines for Religious Education* for early childhood to adult (including indicators for each level) can be found on the Catholic Conference of Kentucky website, [www.ccky.org](http://www.ccky.org). The curriculum framework that is part of the Archdiocese of Louisville Curriculum Guide can be found on the Archdiocese of Louisville website, [www.archlou.org](http://www.archlou.org). In addition, the supporting documents, *Religion Correlation for the Religious Education Content Guidelines and Science/Social Studies Content Guidelines* and the *Religion Correlation Implementation Guide* are also available.

NCEA IFG: ACRE (Information for Growth Survey (IFG) and Assessment of Catechesis Religious Education (ACRE) serve as invaluable tools for planning purposes and for curriculum review, for understanding student attitudes, and strengthening the religious education program. The Archdiocese of Louisville is participating fully in NCEA IFG: ACRE. The assessment is administered annually to students in fifth, eighth, and eleventh grades, in both school and parish religious education programs.

To facilitate the learners' growth in faith, teachers need to enhance their own faith on an ongoing basis through instruction, reading, reflection, prayer, faith-sharing, etc. The Archdiocese of Louisville has made preparation and formation of catechists in both the school and parish setting a primary goal, through the catechist formation process and other offerings.

# **Religious Education Curriculum Framework**

Archdiocese of Louisville

## **Kentucky Guidelines for Religious Education**

In lifelong religious education, learners make their faith in God real, meaningful, and alive through instruction, community experience, liturgical and personal prayer, and social action. The Nicene Creed, the *National Catechetical Directory* and the *Catechism of the Catholic Church* identify the following core concepts as the doctrinal basis for lifelong religious education. To foster mature faith in individuals and community, the Christian message must be presented in its entirety, while recognizing a certain hierarchy of truths. There are four central truths from which all other truths flow and by which they are illumined.

These four central truths are:

- The Mystery of God, Creator of All Things
- The Mystery of Christ, the Incarnate Word of God
- The Mystery of the Holy Spirit, the Animator of God's Love
- The Mystery of the Church, the People of God

Related to these truths, there are three core concepts that are formational and transformational. These move the learner to appropriate and live out the Christian message:

- God teaches us how to live out our salvation
- God invites us into the divine relationship through personal prayer and through community worship
- God calls us to love and serve our neighbor

All core concepts are to be applied in age-appropriate ways at every age level of learning. The core concepts and their specific categories with age-appropriate skills for the learner are outlined on the following pages. Teaching strategies vary with the developmental level of the learner and may be found in diocesan recommended published materials.

These guidelines:

- Provide focus for religious education
- Provide unity throughout the dioceses of Kentucky
- Provide a basis for evaluation and assessment



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**Archdiocese of Louisville  
Curriculum Framework  
Religious Education**

**Academic Expectations**

**Kindergarten through Second Grade**

**The Mystery of God, Creator of All Things**

**Academic Expectation 2.39**  
Students demonstrate an understanding of God as creator of all things.

- God's love is like the unconditional love of a caring parent.
- God is always willing to forgive us through Jesus.
- God is the creator of all things.

**Academic Expectation 2.40**  
Students understand the human person as imaging God.

- God created the human person to share in God's love and truth.
- Moments of shared love reflect God's love.

**Academic Expectation 2.41**  
Students recognize the interconnectedness of humans with all creation.

- All creation is a gift.
- All creation is interdependent.
- The innate value of things and persons comes from being created by God.

**Academic Expectation 2.42**  
Students recognize the call to continuing creation by further developing the Kingdom of God.

- Choices are made for the good of all.

**The Mystery of Christ, the Incarnate Word of God**

**Academic Expectation 2.43**  
Students articulate an understanding of the Incarnation: the Word of God, enfleshed in Jesus Christ.

- Jesus is a person like us who grew up in a holy family with Mary and Joseph.
- Jesus came to bring us God's Word.

**Academic Expectation 2.44**  
Students articulate an understanding of Christ's life, death, and resurrection as the distinctive sign of Christian faith.

- The events of Jesus' life and ministry are the foundation of Christian faith.
- Jesus died on the cross and rose from the dead to save us and give us new life.

**Academic Expectation 2.45**  
Students recognize that through Jesus, God established a relationship of particular intimacy with us.

- Jesus is God's most special gift and a present to us today.
- Jesus is the Son of God, savior, friend, and brother.
- Jesus lived a life of prayer and served people in need.
- Jesus offers everyone God's forgiveness.

**Teacher's Notes**

**Archdiocese of Louisville  
Curriculum Framework  
Religious Education**

**Academic Expectations**

**Kindergarten through Second Grade**

**The Mystery of the Holy Spirit, the Loving Presence of God**

**Academic Expectation 2.46**  
Students demonstrate an understanding of the Holy Spirit as being the Spirit of God who reveals God and makes Christ known to us.

**Academic Expectation 2.47**  
Students articulate an understanding of the Holy Spirit as the one who awakens us to faith.

**Academic Expectation 2.48**  
Students demonstrate an understanding of the Holy Spirit as the vibrant presence of God in the Church and the world.

- God is Father, Son, and Holy Spirit.
- The Spirit is God's presence in our lives.
  
- The Holy Spirit came to the disciples on Pentecost.
- The Holy Spirit is the one who inspires and strengthens us to live a good life.
- The Holy Spirit gifts us with strength and joy and the help to live together in peace.
  
- The special gifts of the Spirit are named.
- These special gifts are evident in the life of the Church.
- These special gifts are evident in the world.

**Teacher's Notes**

**Archdiocese of Louisville  
Curriculum Framework  
Religious Education**

**Academic Expectations**

**Kindergarten through Second Grade**

**The Mystery of the Church, the People of God**

<p><b>Academic Expectation 2.49</b> Students identify the covenants revealed in the Scriptures as extending to all creation.</p> <p><b>Academic Expectation 2.50</b> Students demonstrate an understanding of and an appreciation for active participation in a community of faith.</p> <p><b>Academic Expectation 2.51</b> Students identify the context of the Scriptures and their role in the development of the Church.</p> <p><b>Academic Expectation 2.52</b> Students articulate the nature of Tradition and its role in the development of the Church.</p> <p><b>Academic Expectation 2.53</b> Students articulate the nature of sacrament and sacramentality and its role in the development of the People of God.</p> <p><b>Academic Expectation 2.54</b> Students illustrate a basic understanding of the documentary tradition of the universal, national, and local Church.</p> <p><b>Academic Expectation 2.55</b> Students illustrate a basic understanding of the history of the Church.</p>	<ul style="list-style-type: none"> <li>• Jesus was the promised Messiah to free all people.</li>   <li>• The People of God are the Church.</li> <li>• The work of the Church continues the work of Jesus through community building, preaching the Word, worship, and service.</li> <li>• God's presence is everywhere, especially in and through other people and the Church.</li>   <li>• The Bible was written by different people under the guidance of the Spirit.</li> <li>• The Bible is the story of God's love for all of us.</li> <li>• There are major divisions in the Bible.</li> <li>• The New Testament tells us about Jesus as God and man.</li>   <li>• The principal elements of the Creed identify the basic truths of our faith.</li> <li>• Family traditions relate to Church traditions.</li>   <li>• Signs of God's love are abundant in the universe.</li> <li>• The sacraments are celebrations of Jesus' love.</li> <li>• The signs and symbols used in the sacraments have special meaning.</li> <li>• Grace is God's life in us.</li>   <li>• Church leaders communicate with the faithful through writings.</li>   <li>• The first Christians were followers of Jesus and formed the earliest Christian communities.</li> <li>• Stories of saints and other famous Christians help relate the history of the Church.</li> </ul>
<p><b>Teacher's Notes</b></p>	

# Archdiocese of Louisville Curriculum Framework Religious Education

## Academic Expectations

## Kindergarten through Second Grade

### God Teaches Us How to Live Out Our Salvation

**Academic Expectation 2.56**  
Students demonstrate an understanding of the Paschal mystery and the various ways it is encountered in daily living.

**Academic Expectation 2.57**  
Students demonstrate the ability to apply the commandment of love by making life decisions within the Christian moral framework.

**Academic Expectation 2.58**  
Students demonstrate the relationship between faith and culture as it is found in the arts, sciences, and technology.

**Academic Expectation 2.59**  
Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, and the Church.

**Academic Expectation 2.60**  
Students exercise responsible stewardship toward all creation.

**Academic Expectation 2.61**  
Students examine the variety of Christian lifestyles as ways of responding to the Baptismal call to a life of service.

- The new life that is ours after death compares to the many things in nature that grow and change into a new life.
- Each person has a special part in God’s plan and, in God’s plan, dying is not the end of life. Heaven is forever.
  
- God gives human persons freedom to make choices.
- One needs to express sorrow for choices made or missed and not in accord with the Christian moral framework.
- The Ten Commandments are guides for loving God and loving neighbor.
  
- Examples of Christian teaching are found in our present culture.
- Examples of cultural faith are expressed through drama, art, song, and gesture.
- Various cultures contribute to the expression of faith.
- Faith values are experienced through art, science, and the use of technology.
  
- One’s beliefs shape the way one relates to family and friends.
- Christ’s love and teachings are for all people, regardless of individual needs, nationality, etc.
  
- One has a responsibility to respect all of God’s creation.
- One recognizes one’s role as steward.
- Time is a gift given and received.
- The value of one’s talents is given by God and shared through service.
- One values the concept of tithing and sharing treasures.
  
- Followers of Jesus are called Christians through Baptism.
- Baptism calls all to the service of others through the married, ordained, vowed religious, or single life.
- Saints are people who live the call of the Gospel.

**Teacher’s Notes**

**Archdiocese of Louisville  
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**Academic Expectations**

**Kindergarten through Second Grade**

<b>God Invites Us into Relationship through Personal Prayer and through Community Worship</b>	
<p><b>Academic Expectation 2.62</b> Students demonstrate an understanding of and an experience with different ways of relating to God in prayer on a personal level and in community.</p> <p><b>Academic Expectation 2.63</b> Students demonstrate the importance of sacraments, with an emphasis on the centrality of the Eucharist, in the life of Catholics.</p> <p><b>Academic Expectation 2.64</b> Students demonstrate recognition of the sacredness of time through the celebration of the Hours, the liturgical seasons, and special feasts and days.</p>	<ul style="list-style-type: none"> <li>• The Sign of the Cross is our prayer for naming God.</li> <li>• Prayer addresses God in praise, thanksgiving, contrition, and petition.</li> <li>• One prays in song, gesture, movement, art, and drama.</li>   <li>• The Eucharist is Jesus' gift of himself.</li> <li>• The sacraments are celebrations of Jesus' love.</li> <li>• The sacrament of reconciliation is a sign of Jesus' love, mercy, and forgiveness.</li>   <li>• Advent is a time of waiting and preparing for the birth of Christ at Christmas.</li> <li>• Lent is the period from Ash Wednesday through Holy Thursday and Good Friday when we pray, sacrifice, and reach out to others in preparation for Easter.</li> <li>• Easter is the celebration of the resurrection of Jesus.</li> </ul>
<b>God Calls Us to Love and Serve Our Neighbor</b>	
<p><b>Academic Expectation 2.65</b> Students engage in activities that demonstrate an understanding of and personal witness to Christ's command to love and serve one another.</p> <p><b>Academic Expectation 2.66</b> Students engage in service to the community in response to the Gospel call.</p> <p><b>Academic Expectation 2.67</b> Students critique societal structures in the light of Catholic social justice principles and apply them to social and personal situations.</p> <p><b>Academic Expectation 2.68</b> Students acknowledge and affirm the diverse cultural expressions of Catholicism.</p>	<ul style="list-style-type: none"> <li>• Compassion, loving actions, and sharing with others demonstrate God's love.</li> <li>• Jesus sums up the commandments for us in His commandment to love.</li>   <li>• Christians are called to lead just and peaceful lives in the service of God and others, and by loving ourselves.</li> <li>• One practices acts of service.</li>   <li>• The Church works for love, justice, and peace.</li>   <li>• Catholicism extends to people of all races and nationalities.</li> </ul>

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**Academic Expectations**

**Grades Three through Five**

<b>The Mystery of God, Creator of All Things</b>	
<p><b>Academic Expectation 2.39</b> Students demonstrate an understanding of God as creator of all things.</p>	<ul style="list-style-type: none"> <li>• God is faithful, merciful, and forgiving.</li> <li>• Goodness and love come from God.</li> <li>• God is always present in creation.</li> <li>• God continues to create for our enjoyment, respect, and stewardship.</li> <li>• God is a God of freedom.</li> <li>• God teaches and heals us through Jesus.</li> </ul>
<p><b>Academic Expectation 2.40</b> Students understand the human person as imaging God.</p>	
<p><b>Academic Expectation 2.41</b> Students recognize the interconnectedness of humans with all creation.</p>	
<p><b>Academic Expectation 2.42</b> Students recognize the call to continuing creation by further developing the Kingdom of God.</p>	
<b>The Mystery of Christ, the Incarnate Word of God</b>	
<p><b>Academic Expectation 2.43</b> Students articulate an understanding of the Incarnation: the Word of God, enfleshed in Jesus Christ.</p>	<ul style="list-style-type: none"> <li>• Christ is fully human and fully divine.</li> <li>• Christ is the sacrament of God and greatest sign of God's love.</li> </ul>
<p><b>Academic Expectation 2.44</b> Students articulate an understanding of Christ's life, death, and resurrection as the distinctive sign of Christian faith.</p>	
<p><b>Academic Expectation 2.45</b> Students recognize that through Jesus, God established a relationship of particular intimacy with us.</p>	
<p><b>Teacher's Notes</b></p>	

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**Academic Expectations**

**Grades Three through Five**

**The Mystery of the Holy Spirit, the Loving Presence of God**

**Academic Expectation 2.46**

Students demonstrate an understanding of the Holy Spirit as being the Spirit of God who reveals God and makes Christ known to us.

**Academic Expectation 2.47**

Students articulate an understanding of the Holy Spirit as the one who awakens us to faith.

**Academic Expectation 2.48**

Students demonstrate an understanding of the Holy Spirit as the vibrant presence of God in the Church and the world.

- God is Trinity: Creator, Redeemer, and Sanctifier.
- Jesus sent the Spirit to be present in our lives.
  
- The Holy Spirit is helper, guide, and inspiration.
- The Holy Spirit is the one who helps us to pray.
- The Holy Spirit helps us to live by Jesus' example.
- Pentecost is the coming of the Spirit on Jesus' disciples.
- One's life reflects the gifts of the Spirit.
  
- The Spirit is the force that draws Jesus' followers into one Christian family.
- The role of the Spirit is to give life to the Church.
- The symbols of the Spirit are wind, breath, and fire.

**Teacher's Notes**

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**Grades Three through Five**

**The Mystery of the Church, the People of God**

<p><b>Academic Expectation 2.49</b> Students identify the covenants revealed in the Scriptures as extending to all creation.</p> <p><b>Academic Expectation 2.50</b> Students demonstrate an understanding of and an appreciation for active participation in a community of faith.</p> <p><b>Academic Expectation 2.51</b> Students identify the context of the Scriptures and their role in the development of the Church.</p> <p><b>Academic Expectation 2.52</b> Students articulate the nature of Tradition and its role in the development of the Church.</p> <p><b>Academic Expectation 2.53</b> Students articulate the nature of sacrament and sacramentality and its role in the development of the People of God.</p> <p><b>Academic Expectation 2.54</b> Students illustrate a basic understanding of the documentary tradition of the universal, national, and local Church.</p> <p><b>Academic Expectation 2.55</b> Students illustrate a basic understanding of the history of the Church.</p>	<ul style="list-style-type: none"> <li>• Promise is the basis of all relationships.</li> <li>• Covenant is a relationship.</li> <li>• A covenant has conditions.</li> <li>• Faithfulness is related to promise and covenant.</li> <li>• Fidelity is apparent in the experiences of God’s people throughout history.</li>   <li>• The Church is the community of God’s people.</li> <li>• The Church’s method of welcoming new member is a process of initiation.</li> <li>• The Church community is the light of Christ and servant to the world.</li> <li>• The Church is the Body of Christ.</li> <li>• The risen Christ is present in the Church.</li> <li>• The mission of the Church is made up of Jesus’ ministries of community, Word, worship, and service.</li>   <li>• The Bible is organized into books, chapters, and verses.</li> <li>• The Scriptures reveal God.</li> <li>• Prayer in the Scriptures, especially the Psalms, is the prayer of the Church.</li> <li>• The Bible teaches about God’s goodness in us and all creation.</li> <li>• The Bible teaches about moral choice.</li> <li>• The Bible is structured into a number of books in each Testament, into general types of writing, and into main divisions.</li> <li>• Several different people wrote the Bible.</li> <li>• The purpose of the Bible is to tell God’s story and the story of God’s people.</li>   <li>• Tradition refers to the living transmission of all that the Church is and believes.</li> <li>• Scripture and Tradition are the sources of Church teaching.</li> <li>• The Creed contains statements of belief.</li>   <li>• The Church is the Sacrament of Christ in the world.</li> <li>• The use of signs and symbols has a unifying power.</li> <li>• Jesus’ presence and work in our lives is celebrated in the seven sacraments.</li> <li>• Grace is God’s life in us.</li> <li>• The Sacraments of Initiation, Healing, and Commitment are identified.</li>   <li>• Different types of writing are used by Church leaders to communicate with the faithful.</li> <li>• These writings have built upon one another through the ages to express understanding of truth and practice.</li>   <li>• The roots of Christianity are Jewish.</li> <li>• Catholicism is one form of Christianity.</li> <li>• The four marks of the Church are: one, catholic, holy and apostolic.</li> </ul>
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**Academic Expectations**

**Grades Three through Five**

**God Teaches Us How to Live Out Our Salvation**

**Academic Expectation 2.56**

Students demonstrate an understanding of the Paschal mystery and the various ways it is encountered in daily living.

- The Paschal Mystery consists of the death and resurrection of Christ.
- The Paschal Mystery is God's saving action accomplished once and for all.
- Good and evil exist in the world.
- Jesus' death and resurrection are the atonement for evil in the world.

**Academic Expectation 2.57**

Students demonstrate the ability to apply the commandment of love by making life decisions within the Christian moral framework.

- Selfishness is the basis of evil.
- Sins are unloving choices which turn us away from God and creation.
- There are conditions for serious sin.
- Jesus' commandment is the summary of all other commandments.
- The Ten Commandments are guides for loving God and others.
- The Church teaches the true dignity and worth of each person.
- The Beatitudes are guides for living happily.

**Academic Expectation 2.58**

Students demonstrate the relationship between faith and culture as it is found in the arts, sciences, and technology.

- Aspects of culture can be related to Gospel values.
- There are examples of cultural faith expressions through drama, art, song, and gesture.
- Knowledge of faith applies to the arts, sciences, and use of technology.

**Academic Expectation 2.59**

Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, and the Church.

- One's relationship to others is related to one's relationship to Jesus.
- There are Spiritual and Corporal Works of Mercy.

**Academic Expectation 2.60**

Students exercise responsible stewardship toward all creation.

- There is a need to care for and respect all creation.
- Stewardship has biblical roots.
- The steward has a defined role.
- The concept of steward can be compared with that of owner.
- One is aware of one's talents and their use.

**Academic Expectation 2.61**

Students examine the variety of Christian lifestyles as ways of responding to the Baptismal call to a life of service.

- There are different vocations.
- Each vocation has a service element.

**Teacher's Notes**

# Archdiocese of Louisville Curriculum Framework Religious Education

## Academic Expectations

## Grades Three through Five

<b>God Invites Us into Relationship through Personal Prayer and through Community Worship</b>	
<p><b>Academic Expectation 2.62</b> Students demonstrate an understanding of and an experience with different ways of relating to God in prayer on a personal level and in community.</p>	<ul style="list-style-type: none"> <li>• There are prayers in our Tradition and selected Psalms.</li> <li>• There are various forms of prayer.</li> </ul>
<p><b>Academic Expectation 2.63</b> Students demonstrate the importance of Sacraments, with an emphasis on the centrality of the Eucharist, in the life of Catholics.</p>	
<p><b>Academic Expectation 2.64</b> Students demonstrate recognition of the sacredness of time through the celebration of the Hours, the liturgical seasons, and special feasts and days.</p>	
<b>God Calls Us to Love and Serve Our Neighbor</b>	
<p><b>Academic Expectation 2.65</b> Students engage in activities that demonstrate an understanding of and personal witness to Christ's command to love and serve one another.</p>	<ul style="list-style-type: none"> <li>• There is holiness in caring about others as Jesus cared about us.</li> <li>• The Works of Mercy are ways to live out concern for others.</li> <li>• There is a need to reach out to the needy as continuing the work of Jesus.</li> </ul>
<p><b>Academic Expectation 2.66</b> Students engage in service to the community in response to the Gospel call.</p>	
<p><b>Academic Expectation 2.67</b> Students critique societal structures in the light of Catholic social justice principles and apply them to social and personal situations.</p>	
<p><b>Academic Expectation 2.68</b> Students acknowledge and affirm the diverse cultural expressions of Catholicism.</p>	

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**Academic Expectations**

**Grades Six through Eight**

<b>The Mystery of God, Creator of All Things</b>	
<p><b>Academic Expectation 2.39</b> Students demonstrate an understanding of God as creator of all things.</p> <p><b>Academic Expectation 2.40</b> Students understand the human person as imaging God.</p> <p><b>Academic Expectation 2.41</b> Students recognize the interconnectedness of humans with all creation.</p> <p><b>Academic Expectation 2.42</b> Students recognize the call to continuing creation by further developing the Kingdom of God.</p>	<ul style="list-style-type: none"> <li>• God’s faithfulness is a sign of trust in all creation.</li> <li>• God is worthy of total trust.</li> <li>• Good and evil are present in the world.</li>   <li>• Masculinity and femininity are images of God.</li> <li>• Christian values form the context for human sexuality.</li> <li>• Emotions have sources and value.</li> <li>• The differences in humans are recognized as gifts.</li> <li>• The dignity of the human person deserves respect.</li>   <li>• There are responsible ways to use and reuse resources.</li>   <li>• Jesus proclaims the Kingdom of God.</li> </ul>
<b>The Mystery of Christ, the Incarnate Word of God</b>	
<p><b>Academic Expectation 2.43</b> Students articulate an understanding of the Incarnation: the Word of God, enfleshed in Jesus Christ.</p> <p><b>Academic Expectation 2.44</b> Students articulate an understanding of Christ’s life, death, and resurrection as the distinctive sign of Christian faith.</p> <p><b>Academic Expectation 2.45</b> Students recognize that through Jesus, God established a relationship of particular intimacy with us.</p>	<ul style="list-style-type: none"> <li>• One has a relationship with Jesus – who Jesus is, his values, his intentions, motives, and attitudes – as well as what he really proclaimed and how this relates to one’s own life.</li> <li>• Jesus lived in a historical and social world.</li>   <li>• Jesus’ life and teaching gave human form to God’s compassion.</li> <li>• Jesus shares the power of his resurrection with us by sending the Spirit.</li> <li>• Jesus preached and practiced obedience to God’s will.</li>   <li>• Jesus is the perfect sign of God’s presence.</li> <li>• Jesus is the center of God’s plan for the world, mediator between God and his Church, and the world’s liberator.</li> </ul>
<p><b>Teacher’s Notes</b></p>	

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**Academic Expectations**

**Grades Six through Eight**

**The Mystery of the Holy Spirit, the Loving Presence of God**

**Academic Expectation 2.46**  
Students demonstrate an understanding of the Holy Spirit as being the Spirit of God who reveals God and makes Christ known to us.

**Academic Expectation 2.47**  
Students articulate an understanding of the Holy Spirit as the one who awakens us to faith.

**Academic Expectation 2.48**  
Students demonstrate an understanding of the Holy Spirit as the vibrant presence of God in the Church and the world.

- Trinity is a community of three Persons.
  
- The Spirit has a role in moral decision-making.
- The Spirit provides gifts and fruits for living a life of faith.
- The Spirit has a role in Baptism and Confirmation.
  
- There are specific signs of the presence of the Spirit in the Church and in the world.
- The different ministries in the Church and in the world are responses to a call from the Spirit.

**Teacher's Notes**

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**Grades Six through Eight**

**The Mystery of the Church, the People of God**

**Academic Expectation 2.49**  
Students identify the covenants revealed in the Scriptures as extending to all creation.

- The Hebrew and Christian covenants are revealed in Scripture.
- God's covenants extend to all creation.
- God is faithful in one's life.

**Academic Expectation 2.50**  
Students demonstrate an understanding of and an appreciation for active participation in a community of faith.

- People actively participate in a community of faith.
- The Church is a group of people with a distinctive spirit, sharing their talents in various roles to achieve a common goal.
- The marks of the Church are one, holy, catholic, and apostolic.
- One has a personal gift for active participation in a community of faith.

**Academic Expectation 2.51**  
Students identify the context of the Scriptures and their role in the development of the Church.

- The characteristics of the early Christian communities are described in the Acts of the Apostles.
- The Church uses Christian Scripture passages to describe herself.
- Paul's letters to the early Church communities were written in a particular context and setting.
- Paul made missionary journeys and endured suffering and trials.

**Academic Expectation 2.52**  
Students articulate the nature of Tradition and its role in the development of the Church.

- Elements of faith are used to develop a community's religious identity rooted in its ways and understandings.
- Religious words and concepts have specific meanings developed over time.
- There are four signs of God's presence: natural, liturgical, scriptural, and ecclesial.
- The Apostles' Creed or the Nicene Creed can be recited.
- The roles of Scripture and Tradition can be distinguished in the life of the Church.

**Academic Expectation 2.53**  
Students articulate the nature of sacrament and sacramentality and its role in the development of the People of God.

- Ritual can be identified in everyday activities.
- Signs and symbols are integrated into ritual.
- There is evidence of the presence and power of grace in the world.

**Academic Expectation 2.54**  
Students illustrate a basic understanding of the documentary tradition of the universal, national, and local Church.

- Religious information is derived from a variety of sources.
- The documents of the Second Vatican Council can be identified.
- *The Catechism of the Catholic Church* is a major resource.

**Academic Expectation 2.55**  
Students illustrate a basic understanding of the history of the Church.

- There are various rites within the Catholic Church.
- The Church developed from Pentecost to the present.
- The ordained ministry of the Catholic Church has a structure.
- The historical development of the ministries and lifestyles within the Church can be traced.

**Teacher's Notes**

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**Academic Expectations**

**Grades Six through Eight**

**God Teaches Us How to Live Out Our Salvation**

**Academic Expectation 2.56**  
Students demonstrate an understanding of the Paschal mystery and the various ways it is encountered in daily living.

**Academic Expectation 2.57**  
Students demonstrate the ability to apply the commandment of love by making life decisions within the Christian moral framework.

**Academic Expectation 2.58**  
Students demonstrate the relationship between faith and culture as it is found in the arts, sciences, and technology.

**Academic Expectation 2.59**  
Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, and the Church.

**Academic Expectation 2.60**  
Students exercise responsible stewardship toward all creation.

**Academic Expectation 2.61**  
Students examine the variety of Christian lifestyles as ways of responding to the Baptismal call to a life of service.

- Jesus is the source for the meaning of life's mysteries.
- The virtue of hope is related to daily living.
- God judges each of us at death and all people at the end of time.
- The Bible provides an understanding of heaven and hell.
  
- There are techniques that can be applied to control one's impulses.
- Christian values and decision-making skills are applied to moral judgment questions.
- Signs of grace and sin are evident everywhere.
- There is a specific process for making decisions to reflect one's religious values.
- Right and wrong are distinct.
- Emotions and their value can be distinguished.
- Appropriate emotional responses are defined.
  
- The Bible can impact one's life.
- Sacred and cultural symbols are related to religious concepts.
- Various stories have spiritual themes.
- Positive and negative messages are found in media.
  
- The Church has precepts.
- People can relate to Mary in various ways.
- The Spiritual and Corporal Works of Mercy can be applied to contemporary social and spiritual problems.
  
- The elements of stewardship are identified.
- Scriptural passages refer to stewardship.
- One's talents for Christian ministry are identified.
  
- Jesus calls disciples today to continue his mission.
- People today can live the spirit of the Beatitudes.
- The service aspects of various lifestyles can be traced as they are identified in family and friends.

**Teacher's Notes**

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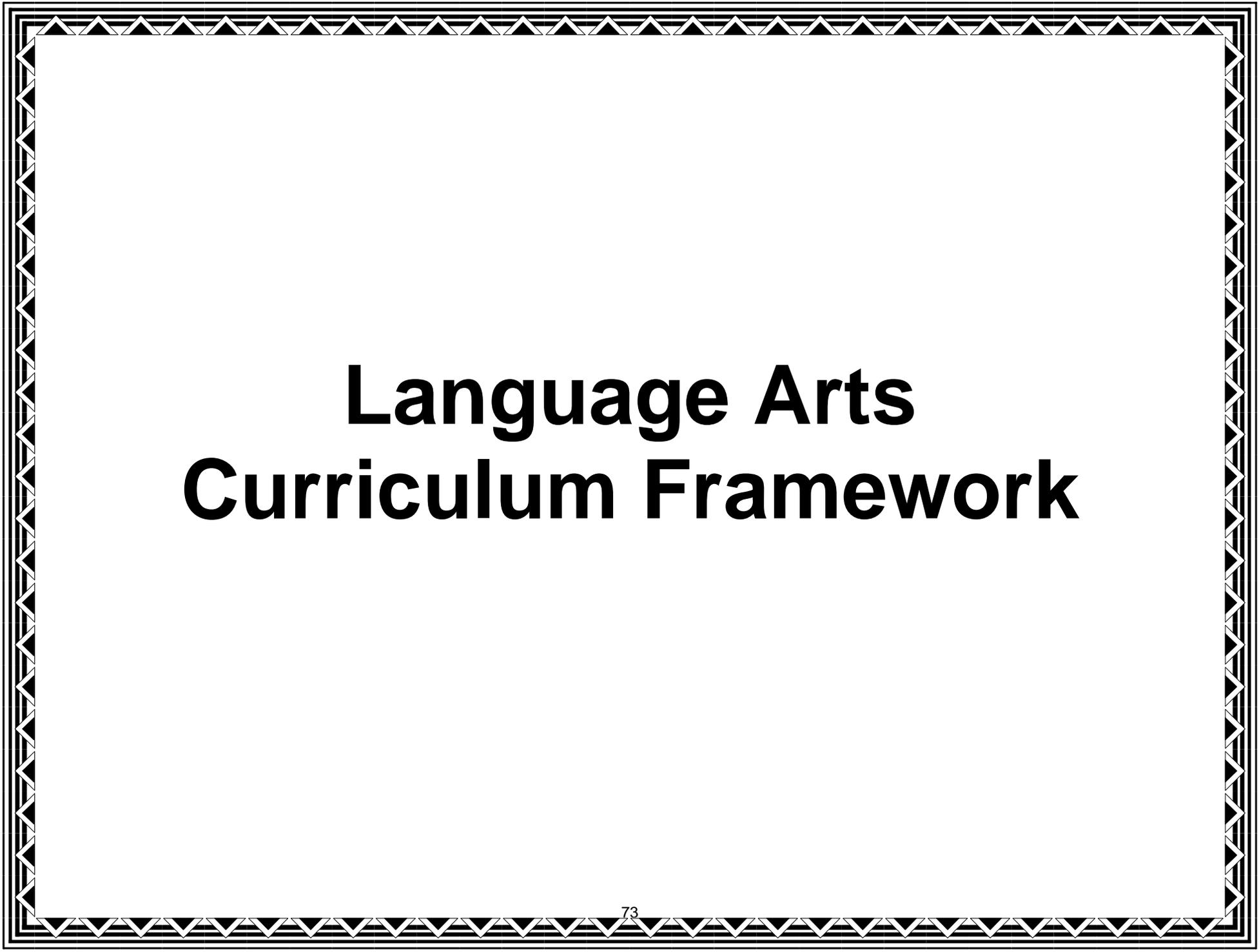
**Academic Expectations**

**Grades Six through Eight**

<b>God Invites Us into Relationship through Personal Prayer and through Community Worship</b>	
<p><b>Academic Expectation 2.62</b> Students demonstrate an understanding of and an experience with different ways of relating to God in prayer on a personal level and in community.</p> <p><b>Academic Expectation 2.63</b> Students demonstrate the importance of sacraments, with an emphasis on the centrality of the Eucharist, in the life of Catholics.</p> <p><b>Academic Expectation 2.64</b> Students demonstrate recognition of the sacredness of time through the celebration of the Hours, the liturgical seasons, and special feasts and days.</p>	<ul style="list-style-type: none"> <li>• The various elements of prayer include praise, thanksgiving, contrition, and petition.</li> <li>• Prayers can be composed personally or in community.</li> <li>• Imaginative prayer helps us relate to God on a personal level.</li> <li>• Meditation is a form of prayer.</li>   <li>• Each sacrament contains a ritual and a rite.</li>   <li>• The major events of Christ's life have significance for daily life.</li> </ul>
<b>God Calls Us to Love and Serve Our Neighbor</b>	
<p><b>Academic Expectation 2.65</b> Students engage in activities that demonstrate an understanding of and personal witness to Christ's command to love and serve one another.</p> <p><b>Academic Expectation 2.66</b> Students engage in service to the community in response to the Gospel call.</p> <p><b>Academic Expectation 2.67</b> Students critique societal structures in the light of Catholic social justice principles and apply them to social and personal situations.</p> <p><b>Academic Expectation 2.68</b> Students acknowledge and affirm the diverse cultural expressions of Catholicism.</p>	<ul style="list-style-type: none"> <li>• Acts of service demonstrate love for others.</li>   <li>• Acts of service can be identified in family, community, and church.</li> <li>• Acts of service are practiced in various communities.</li>   <li>• The seven principles of social justice are applied to personal and social situations.</li> <li>• Rules based on fairness can be determined for the groups to which one belongs.</li>   <li>• The concept that different is good affirms cultural expressions.</li> <li>• The various rites within the Catholic Church can be named.</li> <li>• Different cultural expressions of Catholicism have different gifts.</li> </ul>
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# **Language Arts Curriculum Framework**

# Introduction

## Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

The K-8 standards define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards by number. The CCR and grade-specific standards are necessary complements – the former providing broad standards, the latter providing additional specificity – that together define the skills and understandings that all students must demonstrate.

Students advancing through the grades are expected to meet each year’s grade-specific standards, retain or further develop skills and understandings mastered in preceding grades, and work steadily toward meeting the more general expectations described by the College and Career Readiness Anchor Standards.

The Standards set requirements not only for English language arts (ELA) but also for literacy in history/social studies, science, and technical subjects. Just as students must learn to read, write, speak, listen, and use language effectively in a variety of content areas, so too must the Standards specify the literacy skills and understandings required for college and career readiness in multiple disciplines. Literacy standards for grade six and above are predicated on teachers of ELA, history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. It is important to note that the 6-8 literacy standards in history/social studies, science, and technical subjects are not meant to replace content standards in those areas but rather to supplement them.

### **Reading Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6-8**

*The Reading Standards for Literacy in History/Social Studies, Science, and Technical Subjects begin at grade 6. Standards for K-5 reading in history/social studies, science, and technical subjects are integrated into the K-5 Reading standards. The CCR anchor standards and grade-specific standards in literacy work in tandem to define college and career readiness.*

### **Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6-8**

*The Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects begin at grade 6. Standards for K-5 writing in history/social studies, science, and technical subjects are integrated into the K-5 Writing standards. The CCR anchor standards and grade-specific standards in literacy work in tandem to define college and career readiness.*

*Common Core State Standards Initiative  
June 2, 2010*

## Common Core State Standards

The Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects (“the Standards”) are the culmination of an extended, broad-based effort to fulfill the charge issued by the states to create the next generation of K–12 standards in order to help ensure that all students are college and career ready in literacy no later than the end of high school.

The present work, led by the Council of Chief State School Officers (CCSSO) and the National Governors Association (NGA), builds on the foundation laid by states in their decades-long work on crafting high-quality education standards. The Standards also draw on the most important international models as well as research and input from numerous sources, including state departments of education, scholars, assessment developers, professional organizations, educators from kindergarten through college, and parents, students, and other members of the public. In their design and content, refined through successive drafts and numerous rounds of feedback, the Standards represent a synthesis of the best elements of standards-related work to date and an important advance over that previous work.

As specified by CCSSO and NGA, the Standards are (1) research and evidence based, (2) aligned with college and work expectations, (3) rigorous, and (4) internationally benchmarked. A particular standard was included in the document only when the best available evidence indicated that its mastery was essential for college and career readiness in a twenty-first-century, globally competitive society. The Standards are intended to be a living work. As new and better evidence emerges, the Standards will be revised accordingly.

## Catholic Schools and the Common Core State Standards

Catholic schools have a long-standing commitment to academic excellence that is rooted in the faith-based mission of Catholic education. The Common Core State Standards in no way compromise the Catholic identity or educational program of a Catholic school.

The Common Core State Standards initiative, begun in 2007, is a state-led, bipartisan effort that is not a requirement for participation in the No Child Left Behind Act of 2001 (NCLB) or any other federally-funded program, and there are no mandates for any Catholic school to follow any federal rules if they adopt the Common Core. Adoption of the Common Core is voluntary; individual states, Catholic dioceses, and other private schools make their own decisions about whether to adopt the standards.

The Common Core State Standards are a set of high-quality academic expectations that all students should master by the end of each grade level. The standards establish consistent learning goals for all students that focus on preparing them to succeed in college and careers in a globally competitive workplace. The standards define and clearly communicate grade-specific goals and inform parents about learning outcomes, making it easier for parents to collaborate with teachers in helping their children achieve success.

The Common Core State Standards are not a curriculum. A curriculum includes what is taught, when it is taught, how it is taught, and what materials to use. None of these items are included in the Common Core State Standards. In the Archdiocese of Louisville, all of these elements will continue to be determined by curriculum specialists, principals, and teachers working to meet the needs of their students.

The Common Core represents a fundamental shift in the teaching and learning process. The Common Core establishes clear, measurable goals for students that assist teachers in making instructional decisions. The standards place emphasis on creativity, critical and analytical thinking, and application to curriculum content. The Common Core is not a national curriculum. It guides the way that instruction takes place in each classroom, allowing the Catholic school to develop its own curriculum content.

**The Archdiocese of Louisville has adopted the Common Core State Standards and made adaptations to ensure a rigorous academic curriculum that integrates faith and knowledge.** As trained professionals, Catholic administrators and teachers continually seek the best instructional methods for educating students.

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## Reading Literature (RL) – Grade Two

Essential Understandings		Guided Questions	
<ul style="list-style-type: none"> <li>Reading helps us to understand our world and our place in it.</li> <li>Reading has intrinsic value.</li> <li>Reading can be used to access information needed to meet specific demands, explore interests, or solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>What can we learn from reading a variety of materials?</li> <li>Why do we read?</li> <li>What was the author's purpose?</li> <li>What genre is the text?</li> <li>What do we do when we come to</li> </ul>	<b>Anchor Standard Strand</b>	
Academic Expectations	Anchor Standard Strand	Standards	
<p>1.2 Students make sense of the variety of materials they read.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p>4.2 Students use productive team membership skills.</p> <p>5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.</p> <p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Key Ideas and Details</b></p> <p><b>Craft and Structure</b></p> <p><b>Integration of Knowledge and Ideas</b></p> <p><b>Range of Reading and Level of Text Complexity</b></p>	<p>1. Ask and answer such questions as <i>who, what, where, when, and how</i> to demonstrate understanding of key details in a text.</p> <p>2. Recount stories, including fables and folktales from diverse cultures, and determine their central message (main idea), lesson, or moral.</p> <p>3. Describe how characters in a story respond to major events and challenges.</p> <p>4. Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song.</p> <p>5. Describe the beginning of a story; how the beginning introduces the story and how the beginning sets the tone.</p> <p>6. Acknowledge differences in the points of view or characters, including by speaking in a different voice for each character when reading dialogue aloud.</p> <p>7. Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.</p> <p>8. (Not applicable to literature.)</p> <p>9. Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.</p> <p>10. By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range.</p>	
<b>RL.2.10 Reading Literature. Grade 2. Standard 10</b>		<b>Grade-specific Standard</b>	

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## **College and Career Readiness Anchor Standards for Reading (R.CCR)**

*The Reading Standards for Literature and Informational Text offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

### **Key Ideas and Details**

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

### **Craft and Structure**

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

### **Integration of Knowledge and Ideas**

7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

### **Range of Reading and Level of Text Complexity**

10. Read and comprehend complex literary and informational texts independently and proficiently.

### **Note on Range and Content of Student Reading**

*To build a foundation for college and career readiness, students in grades K-5 must read widely and deeply from among a broad range of high-quality, increasingly challenging literary and informational texts. Through extensive reading of stories, dramas, poems, and myths from diverse cultures and different time periods, students gain literary and cultural knowledge as well as familiarity with various text structures and elements. By reading texts in history/social studies, science, and other disciplines, students build a foundation of knowledge in these fields that also gives them the background to be better readers in all content areas. Students can only gain this foundation when the curriculum is intentionally and coherently structured to develop rich content knowledge within and across grades. Students also acquire the habits of reading independently and closely, which are essential to their future success.*

*The Foundational Skills standards for reading in grades K-5 are directed toward fostering students' understanding and working knowledge of concepts of print, the alphabetic principle, and other basic conventions of the English writing system. These foundational skills are not an end in and of themselves; rather, they are necessary and important components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines. Instruction should be differentiated: good readers will need much less practice with those concepts than struggling readers will. The point is to teach students what they need to learn and not what they already know – to discern when particular children or activities warrant more or less attention.*

*To become college and career ready, students in grades 6-8 must grapple with works of exceptional craft and thought whose range extends across genres, cultures, and centuries. Such works offer profound insights into the human condition and serve as models for students' own thinking and writing. Along with high-quality contemporary works, these texts should be chosen from among seminal U.S. documents, the classics of American literature, and the timeless dramas of Shakespeare. Through wide and deep reading of literature and literary nonfiction of steadily increasing sophistication, students gain a reservoir of literary and cultural knowledge, references, and images; the ability to evaluate intricate arguments; and the capacity to surmount the challenges posed by complex texts.*

## **College and Career Readiness Anchor Standards for Writing (W.CCR)**

*The Writing Standards offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

### **Text Types and Purposes**

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

### **Production and Distribution of Writing**

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

### **Research to Build and Present Knowledge**

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

### **Range of Writing**

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

### **Note on Range and Content of Student Writing**

*To build a foundation for college and career readiness, students in grades K-5 need to learn to use writing as a way of offering and supporting opinions, demonstrating understanding of the subjects they are studying, and conveying real and imagined experiences and events. They learn to appreciate that a key purpose of writing is to communicate clearly to an external, sometimes unfamiliar audience, and they begin to adapt the form and content of their writing to accomplish a particular task and purpose. They develop the capacity to build knowledge on a subject through research projects and to respond analytically to literary and informational sources. To meet these goals, students must devote significant time and effort to writing, producing numerous pieces over short and extended time frames throughout the year.*

*For students in grades 6-8, writing is a key means of asserting and defending claims, showing what they know about a subject, and conveying what they have experienced, imagined, thought, and felt. To be college- and career-ready writers, students must take task, purpose, and audience into careful consideration, choosing words, information, structures, and formats deliberately. They need to know how to combine elements of different kinds of writing – for example, to use narrative strategies within argument and explanation within narrative – to produce complex and nuanced writing. They need to be able to use technology strategically when creating, refining, and collaborating on writing. They have to become adept at gathering information, evaluating sources, and citing material accurately, reporting findings from their research and analysis of sources in a clear and cogent manner. They must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline as well as the capacity to revisit and make improvements to a piece of writing over multiple drafts when circumstances encourage or require it.*

## **College and Career Readiness Anchor Standards for Speaking and Listening (SL.CCR)**

*The Speaking and Listening Standards offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

### Comprehension and Collaboration

1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

### Presentation of Knowledge and Ideas

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

### **Note on Range and Content of Student Speaking and Listening**

*To build a foundation and become college and career ready, students must have ample opportunities to take part in a variety of rich, structured conversations – as part of a whole class, in small groups, and with a partner – built around important content in various domains. Being productive members of these conversations requires that students contribute accurate, relevant information; respond to and develop what others have said; make comparisons and contrasts; and analyze and synthesize a multitude of ideas in various domains.*

*New technologies have broadened and expanded the role that speaking and listening play in acquiring and sharing knowledge and have tightened their link to other forms of communication. Digital texts confront students with the potential for continually updated content and dynamically changing combinations of words, graphics, images, hyperlinks, and embedded video and audio. The Internet has accelerated the speed at which connections between speaking, listening, reading, and writing can be made, requiring that students be ready to use these modalities nearly simultaneously. Technology itself is changing quickly, creating a new urgency for students to be adaptable in response to change.*

## **College and Career Readiness Anchor Standards for Language (L.CCR)**

*The Language Standards offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

### Conventions of Standard English

1. Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.
2. Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.

### Knowledge of Language

3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

### Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

## **Note on Range and Content of Student Language Use**

*To build a foundation for college and career readiness in language, students in grades K-5 must gain control over many conventions of standard English grammar, usage, and mechanics as well as learn other ways to use language to convey meaning effectively. They must also be able to determine or clarify the meaning of grade-appropriate words encountered through listening, reading, and media use; come to appreciate that words have non-literal meanings, shadings of meaning, and relationships to other words; and expand their vocabulary in the course of studying content. The inclusion of Language standards in their own strand should not be taken as an indication that skills related to conventions, effective language use, and vocabulary are unimportant to reading, writing, speaking, and listening; indeed, they are inseparable from such contexts.*

*The language standards offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

*To be college and career ready in language, students in grades 6-8 must have firm control over the conventions of Standard English. At the same time, they must come to appreciate that language is at least as much a matter of craft as of rules and be able to choose words, syntax, and punctuation to express themselves and achieve particular functions and rhetorical effects. They must also have extensive vocabularies, built through reading and study, enabling them to comprehend complex texts and engage in purposeful writing about and conversations around content. They read to become skilled in determining or clarifying the meaning of words and phrases they encounter, choosing flexibly from an array of strategies to aid them. They must learn to see an individual word as part of a network of other words – words, for example, that have similar denotations but different connotations. The inclusion of Language standards in their own strand should not be taken as an indication that the skills related to conventions, effective language usage, and vocabulary are unimportant to reading, writing, speaking, and listening; indeed they are inseparable from such contexts.*

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## Language and Literacy Development – Pre-Kindergarten

Essential Understandings	Guided Questions
<ul style="list-style-type: none"> <li>• Listening is important to understanding of the message.</li> <li>• To communicate effectively, it is essential that the speaker is able to express ideas clearly.</li> <li>• Phonological and phonemic awareness are essential foundational skills for early reading.</li> <li>• The development of active listening skills and memory aid in comprehension.</li> <li>• The use of emergent writing skills is a means of communication.</li> <li>• Increased vocabulary promotes the ability to understand and communicate.</li> </ul>	<ul style="list-style-type: none"> <li>• What must we do to be good listeners?</li> <li>• How can we clearly communicate our ideas and knowledge to others?</li> <li>• Why is it important to speak clearly and audibly?</li> <li>• How can discriminating between sounds support pre-reading skills?</li> <li>• How can careful listening help us understand what we hear?</li> <li>• How can we convey information through the pictures that we draw?</li> <li>• How can we figure out what an unfamiliar word means?</li> </ul>
Content Guidelines	Performance Standards
<p>Listening Skills</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• recognize the intent of non-verbal and verbal cues</li> <li>• listen to stories, directions, and conversations</li> <li>• follow directions that involve a two- or three-step sequence of actions</li> <li>• listen to and recognize similar and different sounds in words and rhymes</li> </ul>

Content Guidelines	Performance Standards
<p>Communication Skills</p> <p>Phonological and Phonemic Awareness</p> <p>Alphabet Knowledge</p> <p>Comprehension</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• communicate needs, wants, or thoughts through non-verbal gestures and actions, facial expressions, and/or words</li> <li>• speak clearly enough to be understood</li> <li>• speak audibly and express thoughts, feelings, and ideas clearly</li> <li>• speak in appropriate tone</li> <li>• speak in five- to six-word sentences</li> <li>• use increasingly complex and varied vocabulary, language, and sentence structure</li> <li>• initiate, ask questions, and respond appropriately in conversation with peers and adults in one-on-one, small group, and large group interactions</li> <li>• ask and answer questions in order to seek help, get information, or clarify something</li> <li>• describe familiar people, places, things, and events</li> <li>• use most grammatical constructions well</li> <li>• use appropriate pronouns</li> <li>• recite simple finger plays and nursery rhymes</li> </ul> <ul style="list-style-type: none"> <li>• recognize words that rhyme in games, songs, and stories</li> <li>• match or produce words that rhyme</li> <li>• adds or substitutes individual sounds in simple, one-syllable words to make new words</li> <li>• identify initial sound that corresponds to a picture or object</li> </ul> <ul style="list-style-type: none"> <li>• demonstrate the ability to recite the alphabet by rote memory</li> <li>• recognize and name most uppercase and lowercase letters, especially those in own name</li> <li>• identify sounds typically associated with letters that are frequently used</li> <li>• understand the connection between letters and sounds</li> <li>• begin to associate sounds with letters</li> </ul> <ul style="list-style-type: none"> <li>• demonstrate understanding of stories and conversations</li> <li>• predict what will happen next in a story using pictures as a guide</li> <li>• recall information from a story</li> <li>• retell a simple story in sequence</li> <li>• identify characters and the role they play in a story</li> </ul>

Content Guidelines	Performance Standards
<p>Word Recognition Skills</p> <p>Reading Readiness</p> <p>Emergent Writing</p> <p>Background Knowledge and Vocabulary Skills</p> <p>Book Knowledge and Appreciation</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• recognize written first name</li> <li>• demonstrate awareness and beginning knowledge of environmental print (e.g., stop, on, restaurant or store logo)</li> <li>• initiate stories and respond to stories told or read aloud</li> <li>• represent stories told or read aloud through during play</li> <li>• show beginning understanding of concepts about print</li> <li>• engage in “reading” (e.g., look at pictures in a book; pretend to read)</li> <li>• “ reread” a book that has been read by another</li> <li>• understand that writing is a means of communication</li> <li>• use scribbles, shapes, pictures, letter-like symbols, or dictation to represent thoughts or ideas</li> <li>• begin to copy or write own name using an uppercase letter for only the first letter</li> <li>• identify meaning of words in read-alouds, conversations, and descriptions of everyday items in the world around them</li> <li>• make use of new vocabulary in an appropriate manner</li> <li>• use strategies to figure out word meanings (e.g., look at pictures, ask someone, use context clues)</li> <li>• use previous experiences and acquired vocabulary to demonstrate a bigger understanding of the world around them and the world beyond them</li> <li>• demonstrate interest in a range of texts</li> <li>• identify the function and location of a book’s front, back, top, bottom, and spine</li> <li>• demonstrate how to turn the pages of a book properly</li> <li>• know that books are read from front to back</li> <li>• point to where to begin reading</li> <li>• recognize that text flows from left to right and top to bottom</li> <li>• recognize that there are spaces between words</li> </ul>

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## Reading Literature (RL) – Kindergarten

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Identifying important ideas and supporting details is essential to understanding what is read.</li> <li>• Understanding the organization and purpose of a text selection can help the reader answer questions about unfamiliar words.</li> <li>• In real life, comparisons help generate similarities and differences and help determine a focus.</li> <li>• Illustrations and words help the reader to understand the character, setting, and plot.</li> <li>• Characters in stories can serve as models of Catholic values and behaviors.</li> </ul>	<ul style="list-style-type: none"> <li>• What does the author want us to know about the text?</li> <li>• What was the sequence of events in the story?</li> <li>• How can we determine the main idea? What details support the main idea, lesson, or moral?</li> <li>• What strategies can readers use to determine unfamiliar words in a text?</li> <li>• How can learning about the author’s and illustrator’s purposes aid in understanding a reading selection?</li> <li>• Why is the setting important?</li> <li>• How do the characters impact the events?</li> <li>• How do the events affect the characters?</li> <li>• How do illustrations and print work together to help us gather information?</li> <li>• How do characters demonstrate Catholic values and behaviors?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.2 Students make sense of the variety of materials they read.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p>4.2 Students use productive team membership skills.</p> <p>5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.</p> <p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Key Ideas and Details</b></p> <p><b>Craft and Structure</b></p> <p><b>Integration of Knowledge and Ideas</b></p> <p><b>Range of Reading and Level of Text Complexity</b></p>	<ol style="list-style-type: none"> <li>1. With prompting and support, ask and answer questions about key details in a text.</li> <li>2. With prompting and support, retell familiar stories, including main ideas and key details.</li> <li>3. With prompting and support, identify characters, settings, and sequence of major events in a story.</li> <li>4. Ask and answer questions about unknown words in a text.</li> <li>5. Recognize common types of texts (e.g., storybooks, poems).</li> <li>6. With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.</li> <li>7. With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).</li> <li>8. (Not applicable to literature)</li> <li>9. With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories.</li> <li>10. Actively engage in group reading activities with purpose and understanding using comprehension strategies.</li> </ol>

## Reading Standards for Informational Text (RI) – Kindergarten

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Identifying important ideas and supporting details is essential to understanding what is read.</li> <li>• Words and phrases supply meaning to a selection.</li> <li>• Text features help the reader navigate the text.</li> <li>• Together the illustrations and print provide information.</li> <li>• Reading invites the reader to use new and prior knowledge and ideas to understand the world and the reader's place in the world.</li> </ul>	<ul style="list-style-type: none"> <li>• What does the author want us to know and remember about the text?</li> <li>• How can we determine the main idea of the text selection?</li>   <li>• How do particular words and phrases impact the meaning?</li> <li>• Why is it important to use descriptive words?</li>   <li>• What information can be learned from previewing and locating the text features and components of a reading selection?</li> <li>• How do text features help us as we read a piece of informational text?</li>   <li>• What is gained from examining both print and illustrations?</li>   <li>• Why is it important to read a variety of materials?</li> <li>• How can we use prior knowledge and ideas to build upon the understanding of new material?</li> <li>• How can we learn to understand and respect others through reading?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.2 Students make sense of the variety of materials they read.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p>2.59 Students demonstrate an understanding of Catholic principles foundational to all relationships.</p> <p>4.2 Students use productive team membership skills.</p> <p>5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.</p> <p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Key Ideas and Details</b></p> <p><b>Craft and Structure</b></p> <p><b>Integration of Knowledge and Ideas</b></p> <p><b>Range of Reading and Level of Text Complexity</b></p>	<ol style="list-style-type: none"> <li>1. With prompting and support, ask and answer questions about key details in a text.</li> <li>2. With prompting and support, identify the main topic and retell key details of a text.</li> <li>3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.</li> <li>4. With prompting and support, ask and answer questions about unknown words in a text.</li> <li>5. Identify the front cover, back cover, and title page of a book.</li> <li>6. Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.</li> <li>7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).</li> <li>8. With prompting and support, identify the reasons an author gives to support points in a text.</li> <li>9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).</li> <li>10. Actively engage in group reading activities with purpose and understanding.</li> </ol>







<p>3.4 Students demonstrate the ability to be resourceful and creative.</p> <p>4.2 Students use productive team membership skills.</p> <p>5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.</p> <p>5.2 Students use creative thinking skills to develop or invent novel, constructive ideas or products.</p>	<p><b>Research to Build and Present Knowledge</b></p> <p><b>Range of Writing</b></p>	<p>6. With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.</p> <p>7. Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).</p> <p>8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.</p> <p>9. (Begins in grade 4)</p> <p>10. (Begins in grade 3)</p>
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	<p><b>Vocabulary Acquisition and Use</b></p>	<ol style="list-style-type: none"> <li>4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>kindergarten reading and content</i>.       <ol style="list-style-type: none"> <li>4a. Identify new meanings for familiar words and apply them accurately (e.g., knowing <i>duck</i> is a bird and learning the verb <i>duck</i>).</li> <li>4b. Use the most frequently occurring inflections and affixes (e.g., <i>-ed</i>, <i>-s</i>, <i>re-</i>, <i>un-</i>, <i>pre-</i>, <i>-ful</i>, <i>-less</i>) as a clue to the meaning of an unknown word.</li> </ol> </li> <li>5. With guidance and support from adults, explore word relationships and nuances in word meanings.       <ol style="list-style-type: none"> <li>5a. Sort common objects into categories (e.g., shapes, foods) to gain a sense of concepts the categories represent.</li> <li>5b. Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms).</li> <li>5c. Identify real-life connections between words and their use (e.g., note places at school that are <i>colorful</i>).</li> <li>5d. Distinguish shades of meaning among verbs describing the same general action (e.g., <i>walk</i>, <i>march</i>, <i>strut</i>, <i>prance</i>) by acting out the meanings.</li> </ol> </li> <li>6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.</li> </ol>
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## Reading Literature (RL) – Grade One

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Identifying important ideas and supporting details is essential to understanding what is read.</li> <li>• Understanding the organization and purpose of a text selection can help the reader answer questions about unfamiliar words.</li> <li>• In real life, comparisons help generate similarities and differences and help determine a focus.</li> <li>• Illustrations and words help the reader to understand the character, setting, and plot.</li> <li>• Characters in stories can serve as models of Catholic values and behaviors.</li> </ul>	<ul style="list-style-type: none"> <li>• What does the author want us to know about the text?</li> <li>• What was the sequence of events in the story?</li> <li>• How can we determine the main idea? What details support the main idea, lesson, or moral?</li> <li>• What strategies can readers use to determine unfamiliar words in a text?</li> <li>• How can learning about the author’s and illustrator’s purposes aid in understanding a reading selection?</li> <li>• Why is the setting important?</li> <li>• How do the characters impact the events?</li> <li>• How do the events affect the characters?</li> <li>• How do illustrations and print work together to help us gather information?</li> <li>• How do characters demonstrate Catholic values and behaviors?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.2 Students make sense of the variety of materials they read.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p>4.2 Students use productive team membership skills.</p> <p>5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.</p> <p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Key Ideas and Details</b></p> <p><b>Craft and Structure</b></p> <p><b>Integration of Knowledge and Ideas</b></p> <p><b>Range of Reading and Level of Text Complexity</b></p>	<ol style="list-style-type: none"> <li>1. Ask and answer questions about key details in a text.</li> <li>2. Retell stories, including key details, and demonstrate understanding of their central message (main idea) or lesson.</li> <li>3. Describe characters, settings, and sequence of major events in a story, using key details.</li> <li>4. Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.</li> <li>5. Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.</li> <li>6. Identify who is telling the story at various points in a text.</li> <li>7. Use illustrations and details in a story to describe its characters, setting, or events.</li> <li>8. (Not applicable to literature)</li> <li>9. Compare and contrast the adventures and experiences of characters in stories.</li> <li>10. With prompting and support, read prose and poetry of appropriate complexity for grade 1.</li> </ol>

## Reading Standards for Informational Text (RI) – Grade One

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Identifying important ideas and supporting details is essential to understanding what is read.</li> <li>• Words and phrases supply meaning to a selection.</li> <li>• Text features help the reader navigate the text.</li> <li>• Together the illustrations and print provide information.</li> <li>• Reading invites the reader to use new and prior knowledge and ideas to understand the world and the reader's place in the world.</li> </ul>	<ul style="list-style-type: none"> <li>• What does the author want us to know and remember about the text?</li> <li>• How can we determine the main idea of the text selection?</li>   <li>• How do particular words and phrases impact the meaning?</li> <li>• Why is it important to use descriptive words?</li>   <li>• What information can be learned from previewing and locating the text features and components of a reading selection?</li> <li>• How do text features help us as we read a piece of informational text?</li>   <li>• What is gained from examining both print and illustrations?</li>   <li>• Why is it important to read a variety of materials?</li> <li>• How can we use prior knowledge and ideas to build upon the understanding of new material?</li> <li>• How can we learn to understand and respect others through reading?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.2 Students make sense of the variety of materials they read.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p>2.59 Students demonstrate an understanding of Catholic principles foundational to all relationships.</p> <p>4.2 Students use productive team membership skills.</p> <p>5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.</p> <p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Key Ideas and Details</b></p> <p><b>Craft and Structure</b></p> <p><b>Integration of Knowledge and Ideas</b></p> <p><b>Range of Reading and Level of Text Complexity</b></p>	<ol style="list-style-type: none"> <li>1. Ask and answer questions about key details in a text.</li> <li>2. Identify the main topic and retell key details of a text.</li> <li>3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.</li> <li>4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.</li> <li>5. Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.</li> <li>6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.</li> <li>7. Use the illustrations and details in a text to describe its key ideas.</li> <li>8. Identify the reasons an author gives to support points in a text.</li> <li>9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).</li> <li>10. With prompting and support, read informational texts appropriately complex for grade 1.</li> </ol>











## Language (L) – Grade One

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Rules of spelling, punctuation, and capitalization are a necessity for good writing.</li> <li>• Language is divided into categories known as parts of speech.</li> <li>• Strategies help us to determine unfamiliar words.</li> <li>• Understanding the connections between roots and affixes help us to expand our vocabulary.</li> </ul>	<ul style="list-style-type: none"> <li>• Why is it important to use grammar and usage rules when writing?</li> <li>• How do we use language to clearly communicate our ideas and knowledge to others?</li> <li>• How does familiarity with one word help us to determine unknown words?</li> <li>• How do context clues help us to understand unfamiliar words and phrases?</li> <li>• How does adding a prefix and/or suffix to a known root help us to expand our vocabulary?</li> <li>• How does understanding the meaning of common affixes help us to determine the meaning of an unfamiliar word?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Conventions of Standard English</b></p>	<ol style="list-style-type: none"> <li>1. Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.               <ol style="list-style-type: none"> <li>1a. Print all upper- and lowercase letters proficiently.</li> <li>1b. Use common, proper, and possessive nouns.</li> <li>1c. Use singular and plural nouns with matching verbs in basic sentences (e.g., <i>He hops; We hop</i>).</li> <li>1d. Use personal, possessive, and indefinite pronouns (e.g., <i>I, me, my, they, them, their; anyone, everything</i>).</li> <li>1e. Use verbs to convey a sense of past, present, and future (e.g., <i>Yesterday I walked home; Today I walk home; Tomorrow I will walk home</i>).</li> <li>1f. Use frequently occurring adjectives.</li> <li>1g. Use frequently occurring conjunctions (e.g., <i>and, but, or, so, because</i>).</li> <li>1h. Use determiners (e.g. articles, demonstratives).</li> <li>1i. Use frequently occurring prepositions (e.g., <i>during, beyond, toward</i>).</li> <li>1j. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts.</li> </ol> </li> <li>2. Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.               <ol style="list-style-type: none"> <li>2a. Capitalize dates and names of people.</li> <li>2b. Use end punctuation for sentences.</li> <li>2c. Use commas in dates and to separate single words in a series.</li> <li>2d. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words.</li> <li>2e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions.</li> </ol> </li> </ol>

	<p><b>Knowledge of Language</b></p> <p><b>Vocabulary Acquisition and Use</b></p>	<p>3. (Begins in grade 2)</p> <p>4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content, choosing flexibly from an array of strategies.</p> <p>4a. Use sentence-level context as a clue to the meaning of a word or phrase.</p> <p>4b. Use frequently occurring affixes as a clue to the meaning of a word.</p> <p>4c. Identify frequently occurring root words (e.g., <i>look</i>) and their inflectional forms (e.g., <i>looks, looked, looking</i>).</p> <p>4d. Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., <i>birdhouse, lighthouse, housefly</i>).</p> <p>5. With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings.</p> <p>5a. Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent.</p> <p>5b. Define words by category and by one or more key attributes (e.g., a <i>duck</i> is a bird that swims; a <i>tiger</i> is a large cat with stripes).</p> <p>5c. Identify real-life connections between words and their use (e.g., note places at home that are <i>cozy</i>).</p> <p>5d. Distinguish shades of meaning among verbs differing in manner (e.g., <i>look, peek, glance, stare, glare, scowl</i>) and adjectives differing in intensity (e.g., <i>large, gigantic</i>) by defining or choosing them or by acting out the meanings.</p> <p>6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., <i>because</i>).</p>
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## Reading Literature (RL) – Grade Two

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Identifying important ideas and supporting details is essential to understanding what is read.</li> <li>• Understanding the organization and purpose of a text selection can help the reader answer questions about unfamiliar words.</li> <li>• In real life, comparisons help generate similarities and differences and help determine a focus.</li> <li>• Illustrations and words help the reader to understand the character, setting, and plot.</li> <li>• Characters in stories can serve as models of Catholic values and behaviors.</li> </ul>	<ul style="list-style-type: none"> <li>• What does the author want us to know about the text?</li> <li>• What was the sequence of events in the story?</li> <li>• How can we determine the main idea? What details support the main idea, lesson, or moral?</li> <li>• What strategies can readers use to determine unfamiliar words in a text?</li> <li>• How can learning about the author’s and illustrator’s purposes aid in understanding a reading selection?</li> <li>• Why is the setting important?</li> <li>• How do the characters impact the events?</li> <li>• How do the events affect the characters?</li> <li>• How do illustrations and print work together to help us gather information?</li> <li>• How do characters demonstrate Catholic values and behaviors?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.2 Students make sense of the variety of materials they read.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p>4.2 Students use productive team membership skills.</p> <p>5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.</p> <p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Key Ideas and Details</b></p> <p><b>Craft and Structure</b></p> <p><b>Integration of Knowledge and Ideas</b></p>	<ol style="list-style-type: none"> <li>1. Ask and answer such questions as <i>who, what, where, when, why,</i> and <i>how</i> to demonstrate understanding of key details in a text.</li> <li>2. Recount stories, including fables and folktales from diverse cultures, and determine their central message (main idea), lesson, or moral.</li> <li>3. Describe how characters in a story respond to major events and challenges.</li> <li>4. Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song.</li> <li>5. Describe the overall sequential structure of a story, describing how the beginning introduces the story and the ending concludes the action.</li> <li>6. Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud.</li> <li>7. Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.</li> <li>8. (Not applicable to literature)</li> <li>9. Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.</li> </ol>

	<b>Range of Reading and Level of Text Complexity</b>	10. By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range.
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## Reading Standards for Informational Text (RI) – Grade Two

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Identifying important ideas and supporting details is essential to understanding what is read.</li> <li>• Words and phrases supply meaning to a selection.</li> <li>• Text features help the reader navigate the text.</li> <li>• Together the illustrations and print provide information.</li> <li>• Reading invites the reader to use new and prior knowledge and ideas to understand the world and the reader's place in the world.</li> </ul>	<ul style="list-style-type: none"> <li>• What does the author want us to know and remember about the text?</li> <li>• How can we determine the main idea of the text selection?</li>   <li>• How do particular words and phrases impact the meaning?</li> <li>• Why is it important to use descriptive words?</li>   <li>• What information can be learned from previewing and locating the text features and components of a reading selection?</li> <li>• How do text features help us as we read a piece of informational text?</li>   <li>• What is gained from examining both print and illustrations?</li>   <li>• Why is it important to read a variety of materials?</li> <li>• How can we use prior knowledge and ideas to build upon the understanding of new material?</li> <li>• How can we learn to understand and respect others through reading?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p>1.2 Students make sense of the variety of materials they read.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p>2.59 Students demonstrate an understanding of Catholic principles foundational to all relationships.</p> <p>4.2 Students use productive team membership skills.</p>	<p><b>Key Ideas and Details</b></p> <p><b>Craft and Structure</b></p> <p><b>Integration of Knowledge and Ideas</b></p>	<ol style="list-style-type: none"> <li>1. Ask and answer such questions as <i>who, what, where, when, why,</i> and <i>how</i> to demonstrate understanding of key details in a text.</li> <li>2. Identify the main topic of a multi-paragraph text as well as the focus of specific paragraphs within the text.</li> <li>3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.</li> <li>4. Determine the meaning of words and phrases in a text relevant to a <i>grade 2 topic or subject area</i>.</li> <li>5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.</li> <li>6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe.</li> <li>7. Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</li> <li>8. Describe how reasons support specific points the author makes in a text.</li> <li>9. Compare and contrast the most important points presented by two texts on the same topic.</li> </ol>

<p>5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.</p> <p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Range of Reading and Level of Text Complexity</b></p>	<p>10. By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grade 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range.</p>
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	<p><b>Vocabulary Acquisition and Use</b></p>	<ol style="list-style-type: none"> <li>4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grade 2 reading and content</i>, choosing flexibly from an array of strategies..       <ol style="list-style-type: none"> <li>4a. Use sentence-level context as a clue to the meaning of a word or phrase.</li> <li>4b. Determine the meaning of the new word formed when a known prefix is added to a known word (e.g., <i>happy/unhappy, tell/retell</i>).</li> <li>4c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., <i>addition, additional</i>)</li> <li>4d. Use knowledge of compound words in oral and written expression.</li> <li>4e. Use glossaries and beginning dictionaries, both print and digital, to determine or clarify the meaning of words and phrases.</li> </ol> </li> <li>5. Demonstrate understanding of word relationships and nuances in word meanings.       <ol style="list-style-type: none"> <li>5a. Identify real-life connections between words and their use (e.g., describe foods that are <i>spicy</i> or <i>juicy</i>).</li> <li>5b. Distinguish shades of meaning among closely related verbs (e.g., <i>toss, throw, hurl</i>) and closely related adjectives (e.g., <i>thin, slender, skinny, scrawny</i>).</li> <li>5c. Identify synonyms, antonyms, homophones, and homonyms.</li> </ol> </li> <li>6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., <i>When other kids are happy that makes me happy</i>).</li> </ol>
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## Writing (W) – Grade Three

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• The choice of text type is influenced by task, purpose, and audience.</li> <li>• Writing can be used to communicate new learning.</li> <li>• Our written work is a reflection of the person that we are.</li> <li>• Effective writing includes the use of accurate facts and concrete details.</li> <li>• Using a formal writing process strengthens the written work.</li> <li>• Writing is essential to communication.</li> <li>• Computer skills are crucial in today's world.</li> <li>• The words that others write belong only to them.</li> </ul>	<ul style="list-style-type: none"> <li>• How do we determine whether to write an opinion piece, an informative/explanatory piece, or a narrative piece?</li> <li>• How can we convey information and our ideas through dialogue?</li> <li>• How can we build upon our knowledge by seeking out new information?</li> <li>• How do we communicate new information?</li> <li>• How can what we write reflect our character?</li> <li>• Why is it important to substantiate our writing with facts and details?</li> <li>• How do planning, revising, and editing enhance our writing?</li> <li>• Why is writing important?</li> <li>• How do we make our writing interesting?</li> <li>• How can the use of the computer help us to improve our writing?</li> <li>• What is plagiarism?</li> <li>• Why must we respect an author's ownership of his or her writing?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, computer reference programs, and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize,</p>	<p><b>Text Types and Purposes</b></p>	<ol style="list-style-type: none"> <li>1. Write opinion pieces on topics or texts, supporting a point of view with reasons.               <ol style="list-style-type: none"> <li>1a. Introduce the topic or text they are writing about, state an opinion, and create an organizational structure that lists reasons.</li> <li>1b. Provide reasons that support the opinion.</li> <li>1c. Use linking words and phrases (e.g., <i>because, therefore, since, for example</i>) to connect opinion and reasons.</li> <li>1d. Provide a concluding statement or section.</li> </ol> </li> <li>2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.               <ol style="list-style-type: none"> <li>2a. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension.</li> <li>2b. Develop the topic with facts, definitions, and details.</li> <li>2c. Use linking words and phrases (e.g., <i>also, another, and, more, but</i>) to connect ideas within categories of information.</li> <li>2d. Provide a concluding statement or section.</li> </ol> </li> </ol>

<p>and communicate information and ideas.</p> <p>2.59 Students demonstrate an understanding of Catholic principles foundational to all relationships.</p> <p>3.4 Students demonstrate the ability to be resourceful and creative.</p> <p>4.2 Students use productive team membership skills.</p> <p>5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.</p> <p>5.2 Students use creative thinking skills to develop or invent novel, constructive ideas or products.</p>	<p><b>Production and Distribution of Writing</b></p> <p><b>Research to Build and Present Knowledge</b></p> <p><b>Range of Writing</b></p>	<p>3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.</p> <p>3a. Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally.</p> <p>3b. Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations.</p> <p>3c. Use temporal words and phrases to signal event order.</p> <p>3d. Provide a sense of closure.</p> <p>4. With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1-3 above.)</p> <p>5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 3.)</p> <p>6. With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.</p> <p>7. Conduct short research projects that build knowledge about a topic.</p> <p>8. Recall information from experiences or legally and ethically gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.</p> <p>9. (Begins in grade 4)</p> <p>10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</p>
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## Speaking and Listening (SL) – Grade Three

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• The task, purpose, and audience help to determine the most effective way to communicate information.</li> <li>• Listening is important to the understanding of the message.</li> <li>• There is a difference between listening and hearing.</li> <li>• There are important rules for collaborative discussion.</li> <li>• To communicate, it is essential that the speaker is able to express ideas clearly.</li> <li>• Speech is a reflection of the speaker.               <ul style="list-style-type: none"> <li>• To communicate, it is important to express thoughts clearly.</li> <li>• When retelling a sequence of events or conveying a message, it is important to use appropriate facts and relevant, descriptive details.</li> <li>• Working collaboratively reflects our response to God’s call to love and care for others.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• How does effective communication enhance learning?</li> <li>• How can we engage our audience with clear and concise presentations of our knowledge?</li> <li>• Why do we consider our audience when determining the best way to communicate our ideas?</li> <li>• How does listening help us to recall and retell the information that is presented to us?</li> <li>• What skills does it take to be a good listener?</li> <li>• How can we gather, organize, and evaluate material through listening?</li> <li>• What is the difference between listening and hearing?</li> <li>• Why are the rules for discussion necessary?</li> <li>• Why do we ask questions when listening to a speaker?</li> <li>• How can we effectively express our ideas to our audience?</li> <li>• Why are there different presentation skills for different audiences?</li> <li>• Why is it important to communicate clearly?</li> <li>• Why is it essential to use correct grammar in speaking?</li> <li>• How can we effectively express our ideas to our audience?</li> <li>• How can we enhance our oral communication?</li> <li>• How does working collaboratively demonstrate our call to love and respect one another and share the gifts God has given to us?</li> <li>• How do others learn about our responsiveness to God’s message by what we say and the way we say it?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.4 Students make sense of the various messages to which they listen.</p> <p>1.12 Students speak using appropriate forms, conventions, and styles to</p>	<p><b>Comprehension and Collaboration</b></p>	<p>1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 3 topics and texts</i>, building on others’ ideas and expressing their own clearly.</p>

<p>communicate ideas and information to different audiences for different purposes.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p>2.59 Students demonstrate an understanding of Catholic principles foundational to all relationships.</p> <p>4.2 Students use productive team membership skills.</p>	<p style="text-align: center;"><b>Presentation of Knowledge and Ideas</b></p>	<ol style="list-style-type: none"> <li>1a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.</li> <li>1b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</li> <li>1c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.</li> <li>1d. Explain their own ideas and understanding in light of the discussion.</li> <li>2. Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</li> <li>3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.</li> <li>4. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.</li> <li>5. Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.</li> <li>6. Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 3 Language standards 1 and 3 for specific expectations.)</li> </ol>
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## Language (L) – Grade Three

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• The choice of words and phrases impacts the effectiveness of communication.</li> <li>• Rules of spelling, punctuation, and capitalization are essential for clarity and communication in writing.</li> <li>• Using correct grammar is important to effective written and oral communication.</li> <li>• Understanding Greek and Latin roots enables the reader to expand vocabulary and decipher unfamiliar words.</li> <li>• Written work often includes literal and non-literal meanings for words and phrases.</li> </ul>	<ul style="list-style-type: none"> <li>• How does word choice influence another’s understanding of our message?</li> <li>• What is the importance of knowing and using rules of writing?</li> <li>• Why is it necessary to use correct grammar in writing and speaking?</li> <li>• How can we use knowledge of root words and affixes to determine the meaning of unknown words?</li> <li>• How can we use context to determine the meaning of words and phrases?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Conventions of Standard English</b></p>	<ol style="list-style-type: none"> <li>1. Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.               <ol style="list-style-type: none"> <li>1a. Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences.</li> <li>1b. Form and use regular and irregular plural nouns.</li> <li>1c. Use abstract nouns (e.g., <i>childhood</i>).</li> <li>1d. Form and use regular and irregular verbs.</li> <li>1e. Form and use the simple (e.g., <i>I walked; I walk; I will walk</i>) verb tenses.</li> <li>1f. Ensure subject-verb and pronoun-antecedent agreement.</li> <li>1g. Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified.</li> <li>1h. Use coordinating and subordinating conjunctions.</li> <li>1i. Produce simple, compound, and complex sentences.</li> </ol> </li> <li>2. Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.               <ol style="list-style-type: none"> <li>2a. Capitalize appropriate words in titles.</li> <li>2b. Use commas in addresses.</li> <li>2c. Use commas and quotation marks in dialogue.</li> <li>2d. Form and use possessives.</li> </ol> </li> </ol>

	<p><b>Knowledge of Language</b></p> <p><b>Vocabulary Acquisition and Use</b></p>	<p>2e. Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., <i>sitting, smiled, cries, happiness</i>).</p> <p>2f. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words.</p> <p>2g. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.</p> <p>3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.</p> <p>3a. Choose words and phrases for effect.</p> <p>3b. Recognize and observe differences between the conventions of spoken and written Standard English.</p> <p>4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grade 3 reading and content</i>, choosing flexibly from a range of strategies.</p> <p>4a. Use sentence-level context as a clue to the meaning of a word or phrase.</p> <p>4b. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., <i>agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat</i>).</p> <p>4c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., <i>company, companion</i>).</p> <p>4d. Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.</p> <p>5. Demonstrate understanding of word relationships and nuances in word meanings.</p> <p>5a. Distinguish the literal and non-literal meanings of words and phrases in context (e.g., <i>take steps</i>).</p> <p>5b. Distinguish shades of meaning among related words that describe states of mind or degrees of certainty (e.g., <i>knew, believed, suspected, heard, wondered</i>).</p> <p>5c. Recognize and explain the meaning of words using synonyms, antonyms, homophones, and homonyms.</p> <p>6. Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., <i>After dinner that night we went looking for them</i>).</p>
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## Reading Standards: Foundational Skills (RF) – Grade Four

Reading Standards: Foundational Skills (RF) – Grade Four		
Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Patterns help to make sense of print.</li> <li>• Phonics and word recognition skills can be used to decode, read, and write unfamiliar words.</li> <li>• Reading is important to daily life and understanding how words are formed and origins of words leads to fluency.</li> </ul>	<ul style="list-style-type: none"> <li>• How do we make sense of printed information?</li> <li>• How can we use phonics and word recognition skills to determine unfamiliar words?</li> <li>• How can we use what we know about root words and affixes to determine unfamiliar words?</li> <li>• Why is it important to read fluently?</li> <li>• How can knowing word origins help to improve reading fluency?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.2 Students make sense of the variety of materials they read.</p>	<p><b>Phonics and Word Recognition</b></p> <p><b>Fluency</b></p>	<p>3. Know and apply grade-level phonics and word analysis skills in decoding words.</p> <p>3a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.</p> <p>4. Read with sufficient accuracy and fluency to support comprehension.</p> <p>4a. Read grade-level text with purpose and understanding.</p> <p>4b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.</p> <p>4c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.</p>

## Writing (W) – Grade Four

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• The choice of text type is influenced by task, purpose, and audience.</li> <li>• Writing can be used to communicate new learning.</li> <li>• Our written work is a reflection of the person that we are.</li> <li>• Effective writing includes the use of accurate facts and concrete details.</li> <li>• Using a formal writing process strengthens the written work.</li> <li>• Writing is essential to communication.</li> <li>• Computer skills are crucial in today's world.</li> <li>• The words that others write belong only to them.</li> </ul>	<ul style="list-style-type: none"> <li>• How do we determine whether to write an opinion piece, an informative/explanatory piece, or a narrative piece?</li> <li>• How can we convey information and our ideas through dialogue?</li> <li>• How can we build upon our knowledge by seeking out new information?</li> <li>• How do we communicate new information?</li> <li>• How can what we write reflect our character?</li> <li>• Why is it important to substantiate our writing with facts and details?</li> <li>• How do planning, revising, and editing enhance our writing?</li> <li>• Why is writing important?</li> <li>• How do we make our writing interesting?</li> <li>• How can the use of the computer help us to improve our writing?</li> <li>• What is plagiarism?</li> <li>• Why must we respect an author's ownership of his or her writing?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, computer reference programs, and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p>	<b>Text Types and Purposes</b>	<ol style="list-style-type: none"> <li>1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.               <ol style="list-style-type: none"> <li>1a. Introduce the topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.</li> <li>1b. Provide reasons that are supported by facts and details.</li> <li>1c. Link opinion and reasons using words and phrases (e.g., <i>for instance, in order to, in addition</i>).</li> <li>1d. Provide a concluding statement or section related to the opinion presented.</li> </ol> </li> <li>2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.               <ol style="list-style-type: none"> <li>2a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension</li> <li>2b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.</li> </ol> </li> </ol>



## Speaking and Listening (SL) – Grade Four

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• The task, purpose, and audience help to determine the most effective way to communicate information.</li> <li>• Listening is important to the understanding of the message.</li> <li>• There is a difference between listening and hearing.</li> <li>• There are important rules for collaborative discussion.</li> <li>• To communicate, it is essential that the speaker is able to express ideas clearly.</li> <li>• Speech is a reflection of the speaker.               <ul style="list-style-type: none"> <li>• To communicate, it is important to express thoughts clearly.</li> <li>• When retelling a sequence of events or conveying a message, it is important to use appropriate facts and relevant, descriptive details.</li> <li>• Working collaboratively reflects our response to God’s call to love and care for others.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• How does effective communication enhance learning?</li> <li>• How can we engage our audience with clear and concise presentations of our knowledge?</li> <li>• Why do we consider our audience when determining the best way to communicate our ideas?</li> <li>• How does listening help us to recall and retell the information that is presented to us?</li> <li>• What skills does it take to be a good listener?</li> <li>• How can we gather, organize, and evaluate material through listening?</li> <li>• What is the difference between listening and hearing?</li> <li>• Why are the rules for discussion necessary?</li> <li>• Why do we ask questions when listening to a speaker?</li> <li>• How can we effectively express our ideas to our audience?</li> <li>• Why are there different presentation skills for different audiences?</li> <li>• Why is it important to communicate clearly?</li> <li>• Why is it essential to use correct grammar in speaking?</li> <li>• How can we effectively express our ideas to our audience?</li> <li>• How can we enhance our oral communication?</li> <li>• How does working collaboratively demonstrate our call to love and respect one another and share the gifts God has given to us?</li> <li>• How do others learn about our responsiveness to God’s message by what we say and the way we say it?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.4 Students make sense of the various messages to which they listen.</p> <p>1.12 Students speak using appropriate forms, conventions, and styles to</p>	<p><b>Comprehension and Collaboration</b></p>	<p>1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 4 topics and texts</i>, building on others’ ideas and expressing their own clearly.</p>

<p>communicate ideas and information to different audiences for different purposes.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p>2.59 Students demonstrate an understanding of Catholic principles foundational to all relationships.</p> <p>4.2 Students use productive team membership skills.</p>	<p><b>Presentation of Knowledge and Ideas</b></p>	<ol style="list-style-type: none"> <li>1a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.</li> <li>1b. Follow agreed-upon rules for discussions and carry out assigned roles.</li> <li>1c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.</li> <li>1d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.</li> <li>2. Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</li> <li>3. Identify the reasons and evidence a speaker provides to support particular points.</li> <li>4. Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.</li> <li>5. Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.</li> <li>6. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See grade 4 Language standards 1 and 3 for specific expectations.)</li> </ol>
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## Language (L) – Grade Four

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• The choice of words and phrases impacts the effectiveness of communication.</li> <li>• Rules of spelling, punctuation, and capitalization are essential for clarity and communication in writing.</li> <li>• Using correct grammar is important to effective written and oral communication.</li> <li>• Understanding Greek and Latin roots enables the reader to expand vocabulary and decipher unfamiliar words.</li> <li>• Written work often includes literal and non-literal meanings for words and phrases.</li> </ul>	<ul style="list-style-type: none"> <li>• How does word choice influence another’s understanding of our message?</li> <li>• What is the importance of knowing and using rules of writing?</li> <li>• Why is it necessary to use correct grammar in writing and speaking?</li> <li>• How can we use knowledge of root words and affixes to determine the meaning of unknown words?</li> <li>• How can we use context to determine the meaning of words and phrases?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Conventions of Standard English</b></p>	<ol style="list-style-type: none"> <li>1. Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.               <ol style="list-style-type: none"> <li>1a. Use relative pronouns (<i>who, whose, whom, which, that</i>) and relative adverbs (<i>where, when, why</i>).</li> <li>1b. Form and use the progressive (e.g., <i>I was walking; I am walking; I will be walking</i>) verb tenses.</li> <li>1c. Use modal auxiliaries (e.g., <i>can, may, must</i>) to convey various conditions.</li> <li>1d. Order adjectives within sentences according to conventional patterns (e.g., <i>a small red bag</i> rather than <i>a red small bag</i>).</li> <li>1e. Form and use prepositional phrases.</li> <li>1f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.</li> <li>1g. Correctly use frequently confused words (e.g., <i>to, too, two; there, their</i>).</li> </ol> </li> <li>2. Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.               <ol style="list-style-type: none"> <li>2a. Use correct capitalization.</li> <li>2b. Use commas and quotation marks to mark direct speech and quotations from a text.</li> <li>2c. Use a comma before a coordinating conjunction in a compound sentence.</li> </ol> </li> </ol>



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## Reading Standards: Foundational Skills (RF) – Grade Five

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Patterns help to make sense of print.</li> <li>• Phonics and word recognition skills can be used to decode, read, and write unfamiliar words.</li> <li>• Reading is important to daily life and understanding how words are formed and origins of words leads to fluency.</li> </ul>	<ul style="list-style-type: none"> <li>• How do we make sense of printed information?</li> <li>• How can we use phonics and word recognition skills to determine unfamiliar words?</li> <li>• How can we use what we know about root words and affixes to determine unfamiliar words?</li> <li>• Why is it important to read fluently?</li> <li>• How can knowing word origins help to improve reading fluency?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
1.2 Students make sense of the variety of materials they read.	<b>Phonics and Word Recognition</b>  <b>Fluency</b>	3. Know and apply grade-level phonics and word analysis skills in decoding words. 3a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.  4. Read with sufficient accuracy and fluency to support comprehension. 4a. Read grade-level text with purpose and understanding. 4b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. 4c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

## Writing (W) – Grade Five

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• The choice of text type is influenced by task, purpose, and audience.</li> <li>• Writing can be used to communicate new learning.</li> <li>• Our written work is a reflection of the person that we are.</li> <li>• Effective writing includes the use of accurate facts and concrete details.</li> <li>• Using a formal writing process strengthens the written work.</li> <li>• Writing is essential to communication.</li> <li>• Computer skills are crucial in today's world.</li> <li>• The words that others write belong only to them.</li> </ul>	<ul style="list-style-type: none"> <li>• How do we determine whether to write an opinion piece, an informative/explanatory piece, or a narrative piece?</li> <li>• How can we convey information and our ideas through dialogue?</li> <li>• How can we build upon our knowledge by seeking out new information?</li> <li>• How do we communicate new information?</li> <li>• How can what we write reflect our character?</li> <li>• Why is it important to substantiate our writing with facts and details?</li> <li>• How do planning, revising, and editing enhance our writing?</li> <li>• Why is writing important?</li> <li>• How do we make our writing interesting?</li> <li>• How can the use of the computer help us to improve our writing?</li> <li>• What is plagiarism?</li> <li>• Why must we respect an author's ownership of his or her writing?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, computer reference programs, and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p>	<p><b>Text Types and Purposes</b></p>	<ol style="list-style-type: none"> <li>1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.               <ol style="list-style-type: none"> <li>1a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.</li> <li>1b. Provide logically ordered reasons that are supported by facts and details.</li> <li>1c. Link opinions and reasons using words, phrases, and clauses (e.g., <i>consequently, specifically</i>).</li> <li>1d. Provide a concluding statement or section related to the opinion presented.</li> </ol> </li> <li>2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.               <ol style="list-style-type: none"> <li>2a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.</li> <li>2b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.</li> </ol> </li> </ol>



	<b>Range of Writing</b>	10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
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## Speaking and Listening (SL) – Grade Five

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• The task, purpose, and audience help to determine the most effective way to communicate information.</li> <li>• Listening is important to the understanding of the message.</li> <li>• There is a difference between listening and hearing.</li> <li>• There are important rules for collaborative discussion.</li> <li>• To communicate, it is essential that the speaker is able to express ideas clearly.</li> <li>• Speech is a reflection of the speaker.               <ul style="list-style-type: none"> <li>• To communicate, it is important to express thoughts clearly.</li> <li>• When retelling a sequence of events or conveying a message, it is important to use appropriate facts and relevant, descriptive details.</li> <li>• Working collaboratively reflects our response to God’s call to love and care for others.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• How does effective communication enhance learning?</li> <li>• How can we engage our audience with clear and concise presentations of our knowledge?</li> <li>• Why do we consider our audience when determining the best way to communicate our ideas?</li> <li>• How does listening help us to recall and retell the information that is presented to us?</li> <li>• What skills does it take to be a good listener?</li> <li>• How can we gather, organize, and evaluate material through listening?</li> <li>• What is the difference between listening and hearing?</li> <li>• Why are the rules for discussion necessary?</li> <li>• Why do we ask questions when listening to a speaker?</li> <li>• How can we effectively express our ideas to our audience?</li> <li>• Why are there different presentation skills for different audiences?</li> <li>• Why is it important to communicate clearly?</li> <li>• Why is it essential to use correct grammar in speaking?</li> <li>• How can we effectively express our ideas to our audience?</li> <li>• How can we enhance our oral communication?</li> <li>• How does working collaboratively demonstrate our call to love and respect one another and share the gifts God has given to us?</li> <li>• How do others learn about our responsiveness to God’s message by what we say and the way we say it?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.4 Students make sense of the various messages to which they listen.</p> <p>1.12 Students speak using appropriate forms, conventions, and styles to</p>	<p><b>Comprehension and Collaboration</b></p>	<p>1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 5 topics and texts</i>, building on others’ ideas and expressing their own clearly.</p>

<p>communicate ideas and information to different audiences for different purposes.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p>2.59 Students demonstrate an understanding of Catholic principles foundational to all relationships.</p> <p>4.2 Students use productive team membership skills.</p>	<p><b>Presentation of Knowledge and Ideas</b></p>	<ol style="list-style-type: none"> <li>1a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.</li> <li>1b. Follow agreed-upon rules for discussions and carry out assigned roles.</li> <li>1c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.</li> <li>1d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.</li> <li>2. Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</li> <li>3. Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.</li> <li>4. Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.</li> <li>5. Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.</li> <li>6. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation. (See grade 5 Language standards 1 and 3 for specific expectations.)</li> </ol>
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## Language (L) – Grade Five

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• The choice of words and phrases impacts the effectiveness of communication.</li> <li>• Rules of spelling, punctuation, and capitalization are essential for clarity and communication in writing.</li> <li>• Using correct grammar is important to effective written and oral communication.</li> <li>• Understanding Greek and Latin roots enables the reader to expand vocabulary and decipher unfamiliar words.</li> <li>• Written work often includes literal and non-literal meanings for words and phrases.</li> </ul>	<ul style="list-style-type: none"> <li>• How does word choice influence another’s understanding of our message?</li> <li>• What is the importance of knowing and using rules of writing?</li> <li>• Why is it necessary to use correct grammar in writing and speaking?</li> <li>• How can we use knowledge of root words and affixes to determine the meaning of unknown words?</li> <li>• How can we use context to determine the meaning of words and phrases?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Conventions of Standard English</b></p>	<ol style="list-style-type: none"> <li>1. Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.               <ol style="list-style-type: none"> <li>1a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences.</li> <li>1b. Form and use the perfect (e.g., <i>I had walked; I have walked; I will have walked</i>) verb tenses.</li> <li>1c. Use verb tense to convey various times, sequences, states, and conditions.</li> <li>1d. Recognize and correct inappropriate shifts in verb tense.</li> <li>1e. Use correlative conjunctions (e.g., <i>either/or, neither/nor</i>).</li> </ol> </li> <li>2. Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.               <ol style="list-style-type: none"> <li>2a. Use punctuation to separate items in a series.</li> <li>2b. Use a comma to separate an introductory element from the rest of the sentence.</li> <li>2c. Use a comma to set off the words <i>yes</i> and <i>no</i> (e.g., <i>Yes, thank you</i>), to set off a tag question from the rest of the sentence (e.g., <i>It’s true, isn’t it?</i>), and to indicate direct address (e.g., <i>Is that you, Steve?</i>).</li> <li>2d. Use underlining, quotation marks, or italics to indicate titles of works.</li> <li>2e. Spell grade-appropriate words correctly, consulting references as needed.</li> </ol> </li> </ol>



## Reading Literature (RL) – Grade Six

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Central themes are developed over the course of a text through the characters, setting, and plot.</li> <li>• An author uses dialogue to communicate important information.</li> <li>• Using text evidence strengthens the understanding of text.</li> <li>• Comparing and contrasting multiple texts or other mediums on the same topic or by the same author contributes to deeper understanding of text.</li> <li>• Reading a variety of texts is important for expanding knowledge and understanding the world.</li> <li>• Readers form images when reading.</li> <li>• Different forms or genres approach themes or topics differently.</li> <li>• Similar themes, characters, and events can be found in works of fiction throughout time.</li> <li>• Authors choose words and phrases carefully and for specific purposes.</li> </ul>	<ul style="list-style-type: none"> <li>• How does an understanding of the characters, setting, and plot help us to identify the central idea?</li> <li>• How does reading shape values and morals?</li> <li>• How do we learn about the character and other story elements through dialogue?</li> <li>• Why is it essential to cite evidence from the text to support thinking?</li> <li>• How does comparing and contrasting texts, videos, audios, and live versions support our understanding?</li> <li>• Why is it important to read a variety of challenging texts?</li> <li>• Why do images formed when reading a text often differ from those seen while viewing a video or live performance of that text?</li> <li>• Why does a video or live version of a text often differ from the original work?</li> <li>• How would the genre impact the approach an author uses?</li> <li>• Why might the fictional account of a time differ from the historical account?</li> <li>• How do characters, themes, or events from a particular modern work of fiction resemble characters, themes, or events from myths and traditional stories?</li> <li>• How do characters in stories serve as models of Catholic values and behaviors?</li> <li>• How do themes in parables relate to themes in stories, poems, folktales, and fables?</li> <li>• How does word choice impact the overall text?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific</p>	<p><b>Key Ideas and Details</b></p>	<ol style="list-style-type: none"> <li>1. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.</li> <li>2. Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.</li> </ol>







## Writing (W) – Grade Six

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Following the writing process allows students to engage in specific steps for communicating ideas.</li> <li>• Computer skills are essential in today's world.</li> <li>• Considering the task, purpose, and audience is important to effective writing.</li> <li>• Ethical procedures are required for the use of technology.</li> <li>• The words that others write belong only to them.</li> <li>• Our written work is a reflection of the person that we are.</li> <li>• Information found in various sources can differ.</li> </ul>	<ul style="list-style-type: none"> <li>• How does the writing process help us to strengthen our writing and communicate ideas more effectively?</li> <li>• How can we use technology to gather information?</li> <li>• How can we use technology to improve our writing?</li> <li>• How do the task, purpose, and audience influence the organization and style used in our writing?</li> <li>• How do we determine the most appropriate form of writing in a particular situation?</li> <li>• How do we assure ethical practices when using technology?</li> <li>• What are the ethical and legal implications of Internet use?</li> <li>• How do we avoid plagiarism?</li> <li>• Why must we respect an author's ownership of his or her writing?</li> <li>• How can what we write reflect our character?</li> <li>• Why is it important to refer to multiple sources when gathering information?</li> <li>• How does the researcher determine if a source is credible?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, computer reference programs, and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p>	<p><b>Text Types and Purposes</b></p>	<ol style="list-style-type: none"> <li>1. Write arguments to support claims with clear reasons and relevant evidence.               <ol style="list-style-type: none"> <li>1a. Introduce claim(s) and organize the reasons and evidence clearly.</li> <li>1b. Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text.</li> <li>1c. Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons.</li> <li>1d. Establish and maintain a formal style.</li> <li>1e. Provide a concluding statement or section that follows from the argument presented.</li> </ol> </li> <li>2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.               <ol style="list-style-type: none"> <li>2a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.</li> <li>2b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.</li> </ol> </li> </ol>



	<b>Range of Writing</b>	10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
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## Speaking and Listening (SL) – Grade Six

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• It is essential to be able to work with others and discuss what is encountered in the classroom.</li> <li>• Organization, clarity, and focus are essential in presenting information.</li> <li>• Verbal and non-verbal communication skills improve oral presentations.</li> <li>• Multimedia and visual displays enhance oral presentations.</li> <li>• The way a speaker communicates depends on the topic, purpose, and audience.               <ul style="list-style-type: none"> <li>• To communicate, you must express your thoughts clearly.</li> </ul> </li> <li>• You must listen to obtain information.               <ul style="list-style-type: none"> <li>• There is a difference between listening and hearing.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• How do we effectively convey to others what we know?</li> <li>• Why are there rules to guide collaborative work and discussions?</li> <li>• Why is it important to communicate ideas in a clear, organized way?</li> <li>• How does the way a speaker talks influence the effectiveness of the speech?</li> <li>• How does the way a speaker acts influence the effectiveness of the speech?</li> <li>• What makes a good oral presentation?</li> <li>• How can the use of both verbal and non-verbal communication impact the clarity of a presentation?</li> <li>• How can the use of multimedia and visual displays help us to improve our oral presentations?</li> <li>• When would it be acceptable to use informal English in an oral presentation?</li> <li>• Why is it important to use formal English for some speeches?</li> <li>• How would an oral presentation change for different audiences?</li> <li>• How does the use of specific words, rate of speech, expression, and concrete evidence help us to express our thoughts clearly?</li> <li>• How can compassion and understanding be increased through listening?</li> <li>• What skills does it take to be a good listener?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.4 Students make sense of the various messages to which they listen.</p> <p>1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p>	<p><b>Comprehension and Collaboration</b></p>	<p>1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 6 topics, texts, and issues</i>, building on others' ideas and expressing their own clearly.</p> <p>1a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.</p> <p>1b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed.</p> <p>1c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion.</p>

<p>2.59 Students demonstrate an understanding of Catholic principles foundational to all relationships.</p> <p>4.2 Students use productive team membership skills.</p>	<p><b>Presentation of Knowledge and Ideas</b></p>	<p>1d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.</p> <ol style="list-style-type: none"> <li>1. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.</li> <li>2. Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.</li> <li>3. Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.</li> <li>4. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.</li> <li>5. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 6 Language standards 1 and 3 for specific expectations.)</li> </ol>
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## Language (L) – Grade Six

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Rules of grammar, mechanics, usage, and spelling are important to effective written and oral communication.</li> <li>• Students use collaborative skills and critical thinking skills to create original writing.</li> <li>• Students write for a variety of purposes including narrative, informational, and argumentative writing.</li> <li>• Effectively using our language is essential to communication.</li> <li>• Language can be used to achieve desired effects.</li> <li>• The use of phonics skills and known words assist in decoding and understanding unknown or multiple-meaning words.</li> </ul>	<ul style="list-style-type: none"> <li>• Why is it important to correctly use grammar and mechanics in speaking? In writing?</li> <li>• Why is it important to spell words correctly in written communication?</li> <li>• How does collaboration improve our writing?</li> <li>• Why is it important to write for a variety of purposes?</li> <li>• Why is it important to use our language correctly when writing, speaking, reading, or listening?</li> <li>• How does good communication affect understanding?</li> <li>• How can we use language to make ideas more interesting and exciting?</li> <li>• How can we use language to show our emotions?</li> <li>• How can we use language to help our audience visualize our ideas?</li> <li>• How can our understanding of Greek and Latin roots and affixes help us to determine the meaning of new words?</li> <li>• How can knowledge of language and conventions help us with writing, reading, and speaking?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p>6.3 Students expand their understanding</p>	<p><b>Conventions of Standard English</b></p>	<ol style="list-style-type: none"> <li>1. Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.               <ol style="list-style-type: none"> <li>1a. Ensure that pronouns are in the proper case (subjective, objective, possessive).</li> <li>1b. Use intensive pronouns (e.g., <i>myself</i>, <i>ourselves</i>).</li> <li>1c. Recognize and correct inappropriate shifts in pronoun number and person.</li> <li>1d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).</li> <li>1e. Recognize variations from Standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.</li> </ol> </li> <li>2. Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.               <ol style="list-style-type: none"> <li>2a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.</li> <li>2b. Spell correctly.</li> </ol> </li> </ol>

<p>of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Knowledge of Language</b></p> <p><b>Vocabulary Acquisition and Use</b></p>	<ol style="list-style-type: none"> <li>3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. <ol style="list-style-type: none"> <li>3a. Vary sentence patterns for meaning, reader/listener interest, and style.</li> <li>3b. Maintain consistency in style and tone.</li> </ol> </li> <li>4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grade 6 reading and content</i>, choosing flexibly from a range of strategies. <ol style="list-style-type: none"> <li>4a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.</li> <li>4b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., <i>audience, auditory, audible</i>).</li> <li>4c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.</li> <li>4d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</li> </ol> </li> <li>5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. <ol style="list-style-type: none"> <li>5a. Interpret figures of speech (e.g., personification) in context.</li> <li>5b. Use the relationship between particular words (e.g., cause/effect, part/whole, item/category) to better understand each of the words.</li> <li>5c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., <i>stingy, scrimping, economical, thrifty</i>).</li> </ol> </li> <li>6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</li> </ol>
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## Reading Literature (RL) – Grade Seven

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Central themes are developed over the course of a text through the characters, setting, and plot.</li> <li>• An author uses dialogue to communicate important information.</li> <li>• Using text evidence strengthens the understanding of text.</li> <li>• Comparing and contrasting multiple texts or other mediums on the same topic or by the same author contributes to deeper understanding of text.</li> <li>• Reading a variety of texts is important for expanding knowledge and understanding the world.</li> <li>• Readers form images when reading.</li> <li>• Different forms or genres approach themes or topics differently.</li> <li>• Similar themes, characters, and events can be found in works of fiction throughout time.</li> <li>• Authors choose words and phrases carefully and for specific purposes.</li> </ul>	<ul style="list-style-type: none"> <li>• How does an understanding of the characters, setting, and plot help us to identify the central idea?</li> <li>• How does reading shape values and morals?</li> <li>• How do we learn about the character and other story elements through dialogue?</li> <li>• Why is it essential to cite evidence from the text to support thinking?</li> <li>• How does comparing and contrasting texts, videos, audios, and live versions support our understanding?</li> <li>• Why is it important to read a variety of challenging texts?</li> <li>• Why do images formed when reading a text often differ from those seen while viewing a video or live performance of that text?</li> <li>• Why does a video or live version of a text often differ from the original work?</li> <li>• How would the genre impact the approach an author uses?</li> <li>• Why might the fictional account of a time differ from the historical account?</li> <li>• How do characters, themes, or events from a particular modern work of fiction resemble characters, themes, or events from myths and traditional stories?</li> <li>• How do characters in stories serve as models of Catholic values and behaviors?</li> <li>• How do themes in parables relate to themes in stories, poems, folktales, and fables?</li> <li>• How does word choice impact the overall text?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific</p>	<p><b>Key Ideas and Details</b></p>	<ol style="list-style-type: none"> <li>1. Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.</li> <li>2. Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.</li> </ol>



## Reading Standards for Informational Text (RI) – Grade Seven

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Writers use specific words, phrases, and formats to convey meaning.</li> <li>• Topics and ideas are presented in print and digital text, video, and multimedia formats or mediums.</li> <li>• Information in text is backed up by arguments or claims using reasoning and evidence.</li> <li>• Particular periods and events in history or scientific work and discoveries can reflect Catholic beliefs and values.</li> <li>• Texts can have conflicting information on the same topic.</li> <li>• Phonics and word recognition skills as well as context can be used to identify unfamiliar words.</li> <li>• Wide reading enhances the ability to understand and respect diversity.</li> </ul>	<ul style="list-style-type: none"> <li>• How does the author of a text affect our understanding of the text?</li> <li>• Why is a particular format effective for understanding and interpreting information?</li> <li>• Why would another medium have been more effective to present the information?</li> <li>• What strategies did the writer use to come to his/her conclusions?</li> <li>• Why is it important to determine whether or not the writer used relevant evidence and credible sources to back up an argument or claim?</li> <li>• Why should readers retrace the reasoning used by a writer to back up information?</li> <li>• How can particular periods and events in history or scientific work and discoveries support or veer from Catholic beliefs and values?</li> <li>• How can texts on the same topic have different facts?</li> <li>• How can we determine the correct information in two texts that have conflicting information?</li> <li>• How can interpretation of facts or point of view lead to differences in informational texts?</li> <li>• How can religious, political, and cultural beliefs influence facts or interpretation of facts?</li> <li>• How do we find the meaning of new words or phrases?</li> <li>• How does the structure of a text help us to understand it?</li> <li>• How can we learn to understand and respect diverse cultures and traditions through reading?</li> <li>• What role can wide reading play in encouraging us to reach out and serve those in need?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p>1.2 Students make sense of the variety of materials they read.</p>	<p><b>Key Ideas and Details</b></p> <p><b>Craft and Structure</b></p>	<ol style="list-style-type: none"> <li>1. Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.</li> <li>2. Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.</li> <li>3. Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).</li> <li>4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of a specific word choice on meaning and tone.</li> </ol>



## Writing (W) – Grade Seven

Writing (W) – Grade Seven		
Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Following the writing process allows students to engage in specific steps for communicating ideas.</li> <li>• Computer skills are essential in today's world.</li> <li>• Considering the task, purpose, and audience is important to effective writing.</li> <li>• Ethical procedures are required for the use of technology.</li> <li>• The words that others write belong only to them.</li> <li>• Our written work is a reflection of the person that we are.</li> <li>• Information found in various sources can differ.</li> </ul>	<ul style="list-style-type: none"> <li>• How does the writing process help us to strengthen our writing and communicate ideas more effectively?</li> <li>• How can we use technology to gather information?</li> <li>• How can we use technology to improve our writing?</li> <li>• How do the task, purpose, and audience influence the organization and style used in our writing?</li> <li>• How do we determine the most appropriate form of writing in a particular situation?</li> <li>• How do we assure ethical practices when using technology?</li> <li>• What are the ethical and legal implications of Internet use?</li> <li>• How do we avoid plagiarism?</li> <li>• Why must we respect an author's ownership of his or her writing?</li> <li>• How can what we write reflect our character?</li> <li>• Why is it important to refer to multiple sources when gathering information?</li> <li>• How does the researcher determine if a source is credible?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, computer reference programs, and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p>	<p><b>Text Types and Purposes</b></p>	<ol style="list-style-type: none"> <li>1. Write arguments to support claims with clear reasons and relevant evidence.               <ol style="list-style-type: none"> <li>1a. Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and evidence logically.</li> <li>1b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.</li> <li>1c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence.</li> <li>1d. Establish and maintain a formal style.</li> <li>1e. Provide a concluding statement or section that follows from and supports the argument presented.</li> </ol> </li> <li>2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.               <ol style="list-style-type: none"> <li>2a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.</li> </ol> </li> </ol>



	<p style="text-align: center;"><b>Range of Writing</b></p>	<p>9. Draw evidence from literary or informational texts to support analysis, reflection, and research.</p> <p>9a. Apply <i>grade 7 Reading standards</i> to literature (e.g., “Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.”).</p> <p>9b. Apply <i>grade 7 Reading standards</i> to literary nonfiction (e.g., “Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.”).</p> <p>10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</p>
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## Speaking and Listening (SL) – Grade Seven

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• It is essential to be able to work with others and discuss what is encountered in the classroom.</li> <li>• Organization, clarity, and focus are essential in presenting information.</li> <li>• Verbal and non-verbal communication skills improve oral presentations.</li> <li>• Multimedia and visual displays enhance oral presentations.</li> <li>• The way a speaker communicates depends on the topic, purpose, and audience.                             <ul style="list-style-type: none"> <li>• To communicate, you must express your thoughts clearly.</li> </ul> </li> <li>• You must listen to obtain information.                             <ul style="list-style-type: none"> <li>• There is a difference between listening and hearing.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• How do we effectively convey to others what we know?</li> <li>• Why are there rules to guide collaborative work and discussions?</li> <li>• Why is it important to communicate ideas in a clear, organized way?</li> <li>• How does the way a speaker talks influence the effectiveness of the speech?</li> <li>• How does the way a speaker acts influence the effectiveness of the speech?</li> <li>• What makes a good oral presentation?</li> <li>• How can the use of both verbal and non-verbal communication impact the clarity of a presentation?</li> <li>• How can the use of multimedia and visual displays help us to improve our oral presentations?</li> <li>• When would it be acceptable to use informal English in an oral presentation?</li> <li>• Why is it important to use formal English for some speeches?</li> <li>• How would an oral presentation change for different audiences?</li> <li>• How does the use of specific words, rate of speech, expression, and concrete evidence help us to express our thoughts clearly?</li> <li>• How can compassion and understanding be increased through listening?</li> <li>• What skills does it take to be a good listener?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.4 Students make sense of the various messages to which they listen.</p> <p>1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p>	<p><b>Comprehension and Collaboration</b></p>	<p>1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 7 topics, texts, and issues</i>, building on others' ideas and expressing their own clearly.</p> <p>1a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.</p> <p>1b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed.</p> <p>1c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.</p> <p>1d. Acknowledge new information expressed by others, and, when warranted, modify their own views.</p>

<p>2.59 Students demonstrate an understanding of Catholic principles foundational to all relationships.</p> <p>4.2 Students use productive team membership skills.</p>	<p><b>Presentation of Knowledge and Ideas</b></p>	<ol style="list-style-type: none"> <li>2. Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.</li> <li>3. Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.</li> <li>4. Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.</li> <li>5. Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.</li> <li>6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 7 Language standards 1 and 3 for specific expectations.)</li> </ol>
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## Language (L) – Grade Seven

Language (L) – Grade Seven		
Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Rules of grammar, mechanics, usage, and spelling are important to effective written and oral communication.</li> <li>• Students use collaborative skills and critical thinking skills to create original writing.</li> <li>• Students write for a variety of purposes including narrative, informational, and argumentative writing.</li> <li>• Effectively using our language is essential to communication.</li> <li>• Language can be used to achieve desired effects.</li> <li>• The use of phonics skills and known words assist in decoding and understanding unknown or multiple-meaning words.</li> </ul>	<ul style="list-style-type: none"> <li>• Why is it important to correctly use grammar and mechanics in speaking? In writing?</li> <li>• Why is it important to spell words correctly in written communication?</li> <li>• How does collaboration improve our writing?</li> <li>• Why is it important to write for a variety of purposes?</li> <li>• Why is it important to use our language correctly when writing, speaking, reading, or listening?</li> <li>• How does good communication affect understanding?</li> <li>• How can we use language to make ideas more interesting and exciting?</li> <li>• How can we use language to show our emotions?</li> <li>• How can we use language to help our audience visualize our ideas?</li> <li>• How can our understanding of Greek and Latin roots and affixes help us to determine the meaning of new words?</li> <li>• How can knowledge of language and conventions help us with writing, reading, and speaking?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.</p>	<p><b>Conventions of Standard English</b></p>	<ol style="list-style-type: none"> <li>1. Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.               <ol style="list-style-type: none"> <li>1a. Explain the function of phrases and clauses in general and their function in specific sentences.</li> <li>1b. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas.</li> <li>1c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.</li> </ol> </li> <li>2. Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.               <ol style="list-style-type: none"> <li>2a. Use a comma to separate coordinate adjectives (e.g., <i>It was a fascinating, enjoyable movie</i> but not <i>He wore an old [,] green shirt</i>).</li> <li>2b. Spell correctly.</li> </ol> </li> </ol>

<p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Knowledge of Language</b></p> <p><b>Vocabulary Acquisition and Use</b></p>	<ol style="list-style-type: none"> <li>3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.       <ol style="list-style-type: none"> <li>3a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.</li> </ol> </li> <li>4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grade 7 reading and content</i>, choosing flexibly from a range of strategies.       <ol style="list-style-type: none"> <li>4a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.</li> <li>4b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., <i>belligerent</i>, <i>bellicose</i>, <i>rebel</i>).</li> <li>4c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.</li> <li>4d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</li> </ol> </li> <li>5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.       <ol style="list-style-type: none"> <li>5a. Interpret figures of speech (e.g., literary, biblical, and mythological allusions) in context.</li> <li>5b. Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words.</li> <li>5c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., <i>refined</i>, <i>respectful</i>, <i>polite</i>, <i>diplomatic</i>, <i>condescending</i>).</li> </ol> </li> <li>6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</li> </ol>
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## Reading Literature (RL) – Grade Eight

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Central themes are developed over the course of a text through the characters, setting, and plot.</li> <li>• An author uses dialogue to communicate important information.</li> <li>• Using text evidence strengthens the understanding of text.</li> <li>• Comparing and contrasting multiple texts or other mediums on the same topic or by the same author contributes to deeper understanding of text.</li> <li>• Reading a variety of texts is important for expanding knowledge and understanding the world.</li> <li>• Readers form images when reading.</li> <li>• Different forms or genres approach themes or topics differently.</li> <li>• Similar themes, characters, and events can be found in works of fiction throughout time.</li> <li>• Authors choose words and phrases carefully and for specific purposes.</li> </ul>	<ul style="list-style-type: none"> <li>• How does an understanding of the characters, setting, and plot help us to identify the central idea?</li> <li>• How does reading shape values and morals?</li> <li>• How do we learn about the character and other story elements through dialogue?</li> <li>• Why is it essential to cite evidence from the text to support thinking?</li> <li>• How does comparing and contrasting texts, videos, audios, and live versions support our understanding?</li> <li>• Why is it important to read a variety of challenging texts?</li> <li>• Why do images formed when reading a text often differ from those seen while viewing a video or live performance of that text?</li> <li>• Why does a video or live version of a text often differ from the original work?</li> <li>• How would the genre impact the approach an author uses?</li> <li>• Why might the fictional account of a time differ from the historical account?</li> <li>• How do characters, themes, or events from a particular modern work of fiction resemble characters, themes, or events from myths and traditional stories?</li> <li>• How do characters in stories serve as models of Catholic values and behaviors?</li> <li>• How do themes in parables relate to themes in stories, poems, folktales, and fables?</li> <li>• How does word choice impact the overall text?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific</p>	<p><b>Key Ideas and Details</b></p>	<ol style="list-style-type: none"> <li>1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.</li> <li>2. Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.</li> </ol>



## Reading Standards for Informational Text (RI) – Grade Eight

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Writers use specific words, phrases, and formats to convey meaning.</li> <li>• Topics and ideas are presented in print and digital text, video, and multimedia formats or mediums.</li> <li>• Information in text is backed up by arguments or claims using reasoning and evidence.</li> <li>• Particular periods and events in history or scientific work and discoveries can reflect Catholic beliefs and values.</li> <li>• Texts can have conflicting information on the same topic.</li> <li>• Phonics and word recognition skills as well as context can be used to identify unfamiliar words.</li> <li>• Wide reading enhances the ability to understand and respect diversity.</li> </ul>	<ul style="list-style-type: none"> <li>• How does the author of a text affect our understanding of the text?</li> <li>• Why is a particular format effective for understanding and interpreting information?</li> <li>• Why would another medium have been more effective to present the information?</li> <li>• What strategies did the writer use to come to his/her conclusions?</li> <li>• Why is it important to determine whether or not the writer used relevant evidence and credible sources to back up an argument or claim?</li> <li>• Why should readers retrace the reasoning used by a writer to back up information?</li> <li>• How can particular periods and events in history or scientific work and discoveries support or veer from Catholic beliefs and values?</li> <li>• How can texts on the same topic have different facts?</li> <li>• How can we determine the correct information in two texts that have conflicting information?</li> <li>• How can interpretation of facts or point of view lead to differences in informational texts?</li> <li>• How can religious, political, and cultural beliefs influence facts or interpretation of facts?</li> <li>• How do we find the meaning of new words or phrases?</li> <li>• How does the structure of a text help us to understand it?</li> <li>• How can we learn to understand and respect diverse cultures and traditions through reading?</li> <li>• What role can wide reading play in encouraging us to reach out and serve those in need?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p>1.2 Students make sense of the variety of materials they read.</p>	<p><b>Key Ideas and Details</b></p>	<ol style="list-style-type: none"> <li>1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.</li> <li>2. Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.</li> <li>3. Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).</li> </ol>



## Writing (W) – Grade Eight

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Following the writing process allows students to engage in specific steps for communicating ideas.</li> <li>• Computer skills are essential in today's world.</li> <li>• Considering the task, purpose, and audience is important to effective writing.</li> <li>• Ethical procedures are required for the use of technology.</li> <li>• The words that others write belong only to them.</li> <li>• Our written work is a reflection of the person that we are.</li> <li>• Information found in various sources can differ.</li> </ul>	<ul style="list-style-type: none"> <li>• How does the writing process help us to strengthen our writing and communicate ideas more effectively?</li> <li>• How can we use technology to gather information?</li> <li>• How can we use technology to improve our writing?</li> <li>• How do the task, purpose, and audience influence the organization and style used in our writing?</li> <li>• How do we determine the most appropriate form of writing in a particular situation?</li> <li>• How do we assure ethical practices when using technology?</li> <li>• What are the ethical and legal implications of Internet use?</li> <li>• How do we avoid plagiarism?</li> <li>• Why must we respect an author's ownership of his or her writing?</li> <li>• How can what we write reflect our character?</li> <li>• Why is it important to refer to multiple sources when gathering information?</li> <li>• How does the researcher determine if a source is credible?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, computer reference programs, and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p>	<p><b>Text Types and Purposes</b></p>	<ol style="list-style-type: none"> <li>1. Write arguments to support claims with clear reasons and relevant evidence.               <ol style="list-style-type: none"> <li>1a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.</li> <li>1b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.</li> <li>1c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.</li> <li>1d. Establish and maintain a formal style.</li> <li>1e. Provide a concluding statement or section that follows from and supports the argument presented.</li> </ol> </li> <li>2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.               <ol style="list-style-type: none"> <li>2a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.</li> </ol> </li> </ol>



	<p><b>Range of Writing</b></p>	<p>9a. Apply <i>grade 8 Reading standards</i> to literature (e.g., “Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works, including describing how the material is rendered new.”).</p> <p>9b. Apply <i>grade 8 Reading standards</i> to literary nonfiction (e.g., “Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.”).</p> <p>10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</p>
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## Speaking and Listening (SL) – Grade Eight

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• It is essential to be able to work with others and discuss what is encountered in the classroom.</li> <li>• Organization, clarity, and focus are essential in presenting information.</li> <li>• Verbal and non-verbal communication skills improve oral presentations.</li> <li>• Multimedia and visual displays enhance oral presentations.</li> <li>• The way a speaker communicates depends on the topic, purpose, and audience.                             <ul style="list-style-type: none"> <li>• To communicate, you must express your thoughts clearly.</li> </ul> </li> <li>• You must listen to obtain information.                             <ul style="list-style-type: none"> <li>• There is a difference between listening and hearing.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• How do we effectively convey to others what we know?</li> <li>• Why are there rules to guide collaborative work and discussions?</li> <li>• Why is it important to communicate ideas in a clear, organized way?</li> <li>• How does the way a speaker talks influence the effectiveness of the speech?</li> <li>• How does the way a speaker acts influence the effectiveness of the speech?</li> <li>• What makes a good oral presentation?</li> <li>• How can the use of both verbal and non-verbal communication impact the clarity of a presentation?</li> <li>• How can the use of multimedia and visual displays help us to improve our oral presentations?</li> <li>• When would it be acceptable to use informal English in an oral presentation?</li> <li>• Why is it important to use formal English for some speeches?</li> <li>• How would an oral presentation change for different audiences?</li> <li>• How does the use of specific words, rate of speech, expression, and concrete evidence help us to express our thoughts clearly?</li> <li>• How can compassion and understanding be increased through listening?</li> <li>• What skills does it take to be a good listener?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.4 Students make sense of the various messages to which they listen.</p> <p>1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p>2.59 Students demonstrate an</p>	<p><b>Comprehension and Collaboration</b></p>	<p>1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 8 topics, texts, and issues</i>, building on others' ideas and expressing their own clearly.</p> <p>1a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.</p> <p>1b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.</p> <p>1c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.</p> <p>1d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.</p>

<p>understanding of Catholic principles foundational to all relationships.</p> <p>4.2 Students use productive team membership skills.</p>	<p><b>Presentation of Knowledge and Ideas</b></p>	<ol style="list-style-type: none"> <li>2. Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.</li> <li>3. Delineate a speaker’s argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.</li> <li>4. Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.</li> <li>5. Integrate multimedia and visual displays in presentations to clarify information, strengthen claims and evidence, and add interest.</li> <li>6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 8 Language standards 1 and 3 for specific expectations.)</li> </ol>
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## Language (L) – Grade Eight

Language (L) – Grade Eight		
Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Rules of grammar, mechanics, usage, and spelling are important to effective written and oral communication.</li> <li>• Students use collaborative skills and critical thinking skills to create original writing.</li> <li>• Students write for a variety of purposes including narrative, informational, and argumentative writing.</li> <li>• Effectively using our language is essential to communication.</li> <li>• Language can be used to achieve desired effects.</li> <li>• The use of phonics skills and known words assist in decoding and understanding unknown or multiple-meaning words.</li> </ul>	<ul style="list-style-type: none"> <li>• Why is it important to correctly use grammar and mechanics in speaking? In writing?</li> <li>• Why is it important to spell words correctly in written communication?</li> <li>• How does collaboration improve our writing?</li> <li>• Why is it important to write for a variety of purposes?</li> <li>• Why is it important to use our language correctly when writing, speaking, reading, or listening?</li> <li>• How does good communication affect understanding?</li> <li>• How can we use language to make ideas more interesting and exciting?</li> <li>• How can we use language to show our emotions?</li> <li>• How can we use language to help our audience visualize our ideas?</li> <li>• How can our understanding of Greek and Latin roots and affixes help us to determine the meaning of new words?</li> <li>• How can knowledge of language and conventions help us with writing, reading, and speaking?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p>6.3 Students expand their understanding</p>	<p><b>Conventions of Standard English</b></p>	<ol style="list-style-type: none"> <li>1. Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.               <ol style="list-style-type: none"> <li>1a. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences.</li> <li>1b. Form and use verbs in the active and passive voice.</li> <li>1c. Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood.</li> <li>1d. Recognize and correct inappropriate shifts in verb voice and mood.</li> </ol> </li> <li>2. Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.               <ol style="list-style-type: none"> <li>2a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break.</li> <li>2b. Use an ellipsis to indicate an omission.</li> <li>2c. Spell correctly.</li> </ol> </li> </ol>



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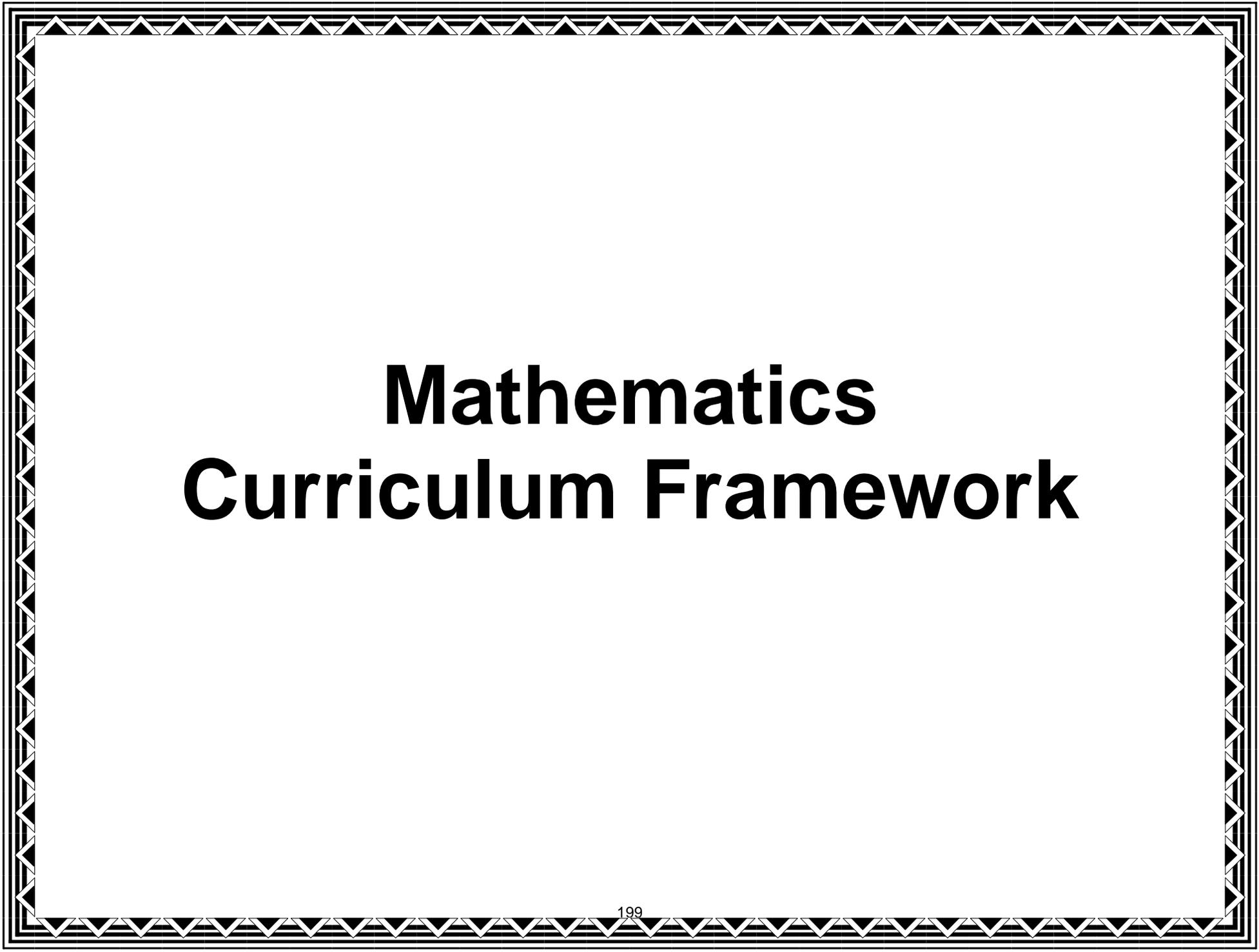


<p>foundational to all relationships.</p> <p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Range of Reading and Level of Text Complexity</b></p>	<p>10. By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently.</p>
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## Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects (WHST) Grades Six - Eight

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Writers use domain-specific words and phrases and various formats to convey meaning.</li> <li>• Technology plays a critical role in gathering reliable information.</li> <li>• Ethical procedures are required for the use of technology.</li> <li>• The words that others write belong only to them.</li> <li>• Information found in various sources can differ.</li> </ul>	<ul style="list-style-type: none"> <li>• How does the author of a text affect our understanding of the text?</li> <li>• How can we use technology to gather information?</li> <li>• How can we use technology to improve our written communication on a particular topic?</li> <li>• How do we assure ethical practices when using technology?</li> <li>• What are the ethical and legal implications of Internet use?</li> <li>• How do we avoid plagiarism?</li> <li>• Why must we respect an author’s ownership of his or her writing?</li> <li>• Why is it important to refer to multiple sources when gathering information for our written work?</li> <li>• How does the researcher determine if a source is credible?</li> </ul>	
Academic Expectations	Anchor Standard Strand	Standards
<p>1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, computer reference programs, and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p>1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p>1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p>5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.</p>	<p><b>Text Types and Purposes</b></p>	<ol style="list-style-type: none"> <li>1. Write arguments focused on <i>discipline-specific content</i>.               <ol style="list-style-type: none"> <li>1a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.</li> <li>1b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.</li> <li>1c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.</li> <li>1d. Establish and maintain a formal style.</li> <li>1e. Provide a concluding statement or section that follows from and supports the argument presented.</li> </ol> </li> <li>2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.               <ol style="list-style-type: none"> <li>2a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.</li> <li>2b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.</li> <li>2c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.</li> </ol> </li> </ol>

<p>6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<p><b>Production and Distribution of Writing</b></p> <p><b>Research to Build and Present Knowledge</b></p> <p><b>Range of Writing</b></p>	<p>2d. Use precise language and domain-specific vocabulary to inform about or explain the topic.</p> <p>2e. Establish and maintain a formal style and objective tone.</p> <p>2f. Provide a concluding statement or section that follows from and supports the information or explanation presented.</p> <p>3. (See Note: not applicable as a separate requirement)  <i>Note: Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history/social studies, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import. In science and technical subjects, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations or technical work that others can replicate them and (possibly) reach the same results.</i></p> <p>4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.</p> <p>6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.</p> <p>7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.</p> <p>8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.</p> <p>9. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</p>
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# **Mathematics Curriculum Framework**

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# Mathematics Curriculum Framework

## Archdiocese of Louisville

According to *Principles and Standards for School Mathematics* from the National Council of Teachers of Mathematics, new knowledge, tools, and ways of doing and communicating mathematics continue to emerge and evolve in an ever-changing world. The need to understand and be able to use mathematics in everyday life and in the workplace has never been greater and will continue to increase.

-Adapted from *Principles and Standards for School Mathematics*

In alignment with the *National Mathematics Standards* from the National Council of Teachers of Mathematics, the Archdiocese of Louisville Mathematics Curriculum Framework uses the content goals as organizers.

The Content Goals are:

- Number and Operations
- Algebra
- Geometry
- Measurement
- Data Analysis and Probability

To view the *National Mathematics Standards* or for further information and resources, contact: [www.nctm.org](http://www.nctm.org).

- *Mathematics Curriculum Committee, Archdiocese of Louisville*

# Archdiocese of Louisville Standards for Mathematics

The Archdiocese of Louisville Mathematics Curriculum Framework incorporates the work of the *Common Core State Standards for Mathematics*, stressing the importance of conceptual understanding of key ideas. The Standards for Mathematical Content and the Standards for Mathematical Practice are embedded in the curriculum framework.

The Standards for Mathematical Content outlined in the *Common Core State Standards for Mathematics* by domain are:

- Counting and Cardinality
- Operations and Algebraic Thinking
- Number and Operations in Base Ten
- Number and Operations – Fractions
- Measurement and Data
- Geometry
- Ratios and Proportional Relationships
- The Number System
- Expressions and Equations
- Functions
- Statistics and Probability

To view the *Common Core State Standards for Mathematics* or for further information and resources, visit:  
[www.corestandards.org/the-standards/mathematics](http://www.corestandards.org/the-standards/mathematics).

# Archdiocese of Louisville Standards for Mathematics

According to the *Common Core State Standards for Mathematics*, eight processes and proficiencies are essential to the mathematical development of all students. These “Standards for Mathematical Practice” represent the processes outlined by the National Council of Teachers of Mathematics and the proficiencies outlined by the National Research Council.

The NCTM processes include: “problem solving, reasoning and proof, communication, representation, and connections”. In the National Research Council’s report, *Adding it Up*, the proficiencies are described as: “adaptive reasoning, strategic competence, conceptual understanding, procedural fluency, and productive disposition”. Complete descriptions of the “Standards for Mathematical Practice” can be found in the introduction section of the *Common Core State Standards for Mathematics*.

The Standards for Mathematical Practice are:

- 1) Make sense of problems and persevere in solving them
- 2) Reason abstractly and quantitatively
- 3) Construct viable arguments and critique the reasoning of others
- 4) Model with mathematics
- 5) Use appropriate tools strategically
- 6) Attend to precision
- 7) Look for and make use of structure
- 8) Look for and express regularity in repeated reasoning

In addition, emphasis is placed on the responsibility of all mathematics educators to connect these “Standards for Mathematical Practice” with the “Standards for Mathematical Content” in order to provide a balanced combination of procedure and understanding.

- Adapted from the *Common Core State Standards for Mathematics*  
[www.corestandards.org/the-standards/mathematics](http://www.corestandards.org/the-standards/mathematics)

The Archdiocese of Louisville Mathematics Curriculum Framework provides teachers with guidelines that focus on a balance between conceptual understanding and procedural skills. In addition, mathematical skills are not intended to be taught in isolation. Connections should be made within the mathematics curriculum, as well as with other content areas, whenever appropriate.

### **Problem Solving**

Problem solving should be a daily occurrence used to provide students with the opportunity to develop concepts and skills and apply them to real-world situations. Students will learn to determine and apply appropriate strategies for problem solving and explain their reasoning.

### **Vocabulary and Communication**

Teachers and students will use the language of mathematics to express mathematical ideas precisely. This includes consistent and appropriate use of vocabulary throughout the curriculum in both written and oral expression.

### **Spiral Review**

This mathematics curriculum framework focuses on concepts and skills to be learned at each grade level. However, new concepts always build upon previously learned concepts. Therefore, continuous review is essential in a spiraling format for retention, consistency, and continuity.

In the Archdiocese of Louisville Mathematics Curriculum Framework, Performance Standards listed in bold print indicate first exposure.

# ALGEBRA IN THE ARCHDIOCESE OF LOUISVILLE

Algebra is often referred to as the gatekeeper subject and is the prerequisite for the higher-level mathematics courses students need in order to be successful in college and life in the 21<sup>st</sup> century. The transition from concrete arithmetic to the symbolic language of Algebra enables students to develop the abstract reasoning skills they need for mathematics and science. In the Archdiocese of Louisville, the mathematics program, including 8<sup>th</sup> grade Algebra, is based on the belief that mathematics literacy is a key component in preparing students for future success academically and in life situations.

In 2008, the Archdiocese of Louisville formed a Mathematics Task Force. After extensive study and deliberation, the Mathematics Task Force recommended Algebra instruction for all 8<sup>th</sup> graders and Pre-Algebra instruction for all 7<sup>th</sup> graders beginning in the 2010-11 school year. In addition, the task force recommended that an emphasis be placed on the development of increased algebraic reasoning at every grade level in order to prepare the student for success. The decisions stemmed from the recognition that students in all grade levels must develop the deep conceptual understanding, problem-solving skills, and computational fluency related to Algebra. Through algebraic thinking, students focus on patterning, data analysis, simple functions, and coordinate systems.

Each elementary school is unique. In schools with more than one section of Pre-Algebra and Algebra, students may be organized into sections based on readiness and the level of mathematics achievement. The sections may move toward mastery of the algebraic concepts at varied paces. Schools may choose to offer one section each of Pre-Algebra and Algebra where instruction is differentiated to meet the needs of the students. Students again may move at varied paces.

At the end of the 7<sup>th</sup> grade year, students take an online Algebra readiness exam. Elementary schools use the results of the test to evaluate their own program and to determine placement and course of action for their students.

At the end of the 8<sup>th</sup> grade year, students take an online, nationally-normed Algebra proficiency exam. Elementary schools use the results of the test to evaluate their own programs. The high schools use the results as one tool to help determine freshman mathematics placement. Results are communicated to the student's destination high school. In addition to the results, the report sent from the elementary school to the high school includes the student's mathematics total on the 7<sup>th</sup> grade Terra Nova test, Algebra GPA through April, and input from the 8<sup>th</sup> grade Algebra teacher. **All of this information is used to determine the student's high school mathematics placement.**

Enrollment in 8<sup>th</sup> grade Algebra does not ensure an equivalent course to 9<sup>th</sup> grade Algebra I. In some cases, students move right into the second year of high school mathematics (Algebra II, Geometry, or a combination course). In others, students are placed in an Algebra I course. A number of factors will be considered by the high school when determining the appropriate level of Algebra for the student. **The elementary school does not make this decision. The high schools make their own decisions about mathematics placement and communicate that decision to the families.**

## **Philosophy**

The program is based on the belief that mathematics literacy is a key component in preparing students for future success academically and in life situations. The local school is responsible for developing and maintaining a rigorous K-8 mathematics program that is based on standards, has clearly stated core content and outcomes, aligns instruction and assessment, and culminates in a comprehensive and rigorous eighth grade Algebra I program.

## Mathematics and Logical Thinking – Pre-Kindergarten

Essential Understandings	Guided Questions
<ul style="list-style-type: none"> <li>• Application of knowledge of numbers and quantities during play and activities reflects understanding.</li> <li>• Mathematical reasoning is used in everyday tasks.</li> <li>• Building upon the understanding of quantities leads to a stronger foundation for future mathematical learning.</li> </ul>	<ul style="list-style-type: none"> <li>• How can numbers be incorporated into this play activity?</li> <li>• How can we use mathematical concepts to help us solve problems?</li> <li>• How can we use numbers to simplify our lives?</li> </ul>
Content Guidelines	Performance Standards
<p>Number Concepts and Operations</p> <p>Patterns and Relationships</p> <p>Spatial Relationships/Geometry</p> <p>Measurement</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate increasing interest in numbers and counting</li> <li>• show understanding of numbers and quantities during play and other activities</li> <li>• count by rote to 20</li> <li>• demonstrate understanding of one-to-one correspondence between objects and numbers</li> <li>• state the number that follows a number from 1-9</li> <li>• recognize numerals 0-10</li> <li>• understand concepts of more, less, and same</li> <li>• demonstrate beginning ability to add and subtract numbers with manipulatives</li> <li>• recognize, duplicate, and continue simple patterns using sounds, objects, and attributes of objects</li> <li>• sort objects into groups by one or more characteristics</li> <li>• order or sequence several objects on the basis of one characteristic (e.g., height, weight)</li> <li>• identify and name common shapes</li> <li>• identify and use common shapes and position words during play</li> <li>• understand and use words for the order of objects (e.g., first, second)</li> <li>• understand and use position words (e.g., above, below, in front of)</li> <li>• demonstrate understanding of directional movement (e.g., left, right, up, down)</li> <li>• measure by height, length, and weight using nonstandard and/or standard units</li> <li>• make comparisons between at least two objects (e.g., longest, shorter, thickest)</li> </ul>

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	<ul style="list-style-type: none"><li>• Base Ten</li> <li>• Fractions</li></ul>	<ul style="list-style-type: none"><li>• use concrete objects, pictures, and mental math to solve single digit addition and subtraction stories and number sentences</li><li>• write number sentences using symbols +, -, and =</li><li>• determine the number that makes ten when added to a given number (1-9)</li><li>• decompose numbers less than or equal to 10 into pairs in more than one way (e.g., <math>5 = 2 + 3</math>)</li><li>• fluently add and subtract within five</li> <li>• understand that numbers from 11 to 19 are composed of ten ones and from one to nine additional ones</li><li>• compose and decompose numbers from 11 to 19 into ten ones and some further ones</li> <li>• recognize equal parts of a whole</li><li>• identify simple fractions using pictures</li></ul>
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**Archdiocese of Louisville  
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**Geometry – Kindergarten**

<b>Geometry – Kindergarten</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Geometric shapes and positions of objects are used to describe the world.</li>   <li>• Geometric shapes and relationships are used to design and create.</li> </ul>	<ul style="list-style-type: none"> <li>• How are geometric shapes used to describe things?</li> <li>• How is the location of an object described in relation to other things?</li>   <li>• What are examples of geometric shapes and relationships in architecture, art, and nature?</li> <li>• How can shapes and relationships be used to create things?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Plane figures (two-dimensional)</li>   <li>• Solid figures (three-dimensional)</li>   <li>• Geometric and spatial relationship concepts</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• <b>recognize and name the attributes of these plane figures: circle, square, rectangle, triangle, oval, and hexagon</b></li>   <li>• <b>recognize solid figures: cube, sphere, cone, and cylinder</b></li>   <li>• <b>locate and describe objects and pictures using spatial relationship concepts: inside, outside, right, left, above, below, beside, near, top, middle, bottom, front, behind, over, between, under, on</b></li> <li>• <b>distinguish between two-dimensional and three-dimensional shapes</b></li> <li>• <b>analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., sides, corners, curves)</b></li> <li>• <b>model shapes in the world by building shapes from components and drawing shapes</b></li> <li>• <b>combine simple shapes to form larger shapes (e.g., use two triangles to make a rectangle)</b></li> </ul>

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<b>Measurement – Kindergarten</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Measurement is used to communicate about size and shape.</li> </ul>	<ul style="list-style-type: none"> <li>• How are length, weight, time, and money used to describe and compare things?</li> <li>• How are nonstandard and standard units used to compare things?</li> <li>• When is it useful to estimate measurements?</li> <li>• What kinds of tools are used to find measurements?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.10</b> Students understand measurement concepts and use measurements appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Nonstandard and standard measurement</li>   <li>• Money</li>   <li>• Time</li>   <li>• Calendar skills</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• <b>use nonstandard and standard units to estimate, measure, and compare length and weight</b></li> <li>• <b>identify standard measuring tools</b></li> <li>• <b>describe measurable attributes of objects, such as length or weight</b></li> <li>• <b>directly compare two objects with a measurable attribute in common, to see which object has “more of” or “less of” the attribute, and describe the difference</b></li>   <li>• <b>identify the name and value of a penny, nickel, dime, and quarter</b></li>   <li>• <b>describe the features of an analog clock</b></li> <li>• <b>tell time to the hour and half-hour on an analog and digital clock</b></li>   <li>• <b>name the days of the week and months of the year</b></li> <li>• <b>use a calendar</b></li> </ul>

**Archdiocese of Louisville  
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**Algebra – Kindergarten**

<b>Algebra – Kindergarten</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Patterns are used to investigate, understand, and describe the world.</li>   <li>• Patterns and number relationships are used to understand and solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• What is a pattern?</li> <li>• What kinds of patterns can be found in natural and human-designed environments?</li> <li>• How are patterns in the environment represented by such things as number, color, and shape?</li> <li>• How can objects be classified?</li> <li>• How can patterns be extended or changed?</li>   <li>• How are number patterns used to solve problems?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.10</b> Students organize information through development and use of classification rules and systems.</p> <p><b>Academic Expectation 2.11</b> Students understand mathematical change concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.12</b> Students understand mathematical structure concepts including the properties and logic of various mathematical systems.</p>	<ul style="list-style-type: none"> <li>• Patterns</li>   <li>• Classification</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• <b>extend, describe, and create patterns using pictures, objects, colors, sounds, and movement</b></li>   <li>• <b>sort and order objects by size, color, number, and other properties</b></li> </ul>

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<b>Data Analysis and Probability – Kindergarten</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Data can be used to predict outcomes and support conclusions.</li> </ul>	<ul style="list-style-type: none"> <li>What kinds of data can be collected?</li> <li>How can data be organized?</li> <li>How can data be used to draw conclusions and make decisions?</li> <li>What factors need to be considered in making a prediction?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.13</b> Students understand and appropriately use statistics and probability.</p>	<ul style="list-style-type: none"> <li>Graphing</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li><b>collect and organize data to create tally charts, pictographs, and bar graphs</b></li> <li><b>use graphs to answer questions</b></li> </ul>

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**Number and Operations – Grade One**

<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Numbers are used to name, count, and place objects in order.</li> <li>Estimation is used to approximate exact values.</li> <li>A variety of methods are used to develop understanding and skill in estimation and computation.</li> </ul>	<ul style="list-style-type: none"> <li>How are numbers used to name, count, and place objects in order?</li> <li>How do fractions describe parts of a whole?</li> <li>How does position of a digit in a multi-digit number determine its value?</li> <li>Why is it helpful to be able to count from a given number instead of from one?</li> <li>How do people know if an estimate is reasonable?</li> <li>When is it appropriate to use mental math, pencil and paper, calculators, or computers to do rounding and computation?</li> <li>How are concrete materials used to model and solve mathematical problems?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.8</b> Students understand various mathematical procedures and use them appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>Addition and subtraction</li> <li>Place value</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li><b>use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, and comparing, with unknowns in all positions</b></li> <li><b>solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20</b></li> <li>write and solve <b>vertical and horizontal</b> addition and subtraction problems</li> <li>relate counting to addition <b>and subtraction</b> (e.g., by counting to 2 to add 2)</li> <li><b>master</b> addition and subtraction facts <b>up to 12 using mental math</b></li> <li>use strategies such as counting on, making ten, decomposing a number leading to a ten, and using the relationship between addition and subtraction</li> <li>count <b>to 120</b> starting at any number</li> <li><b>estimate, compare, write, and order numbers to 120</b></li> <li>identify, count, and demonstrate tens and ones using models and pictures</li> <li>understand that the two digits of a two-digit number represent amounts of tens and ones</li> <li>compare two-digit numbers using symbols <math>&lt;</math>, <math>&gt;</math>, or <math>=</math> based on the meanings of the tens and ones digits</li> <li><b>understand that when adding two-digit numbers, add tens with tens, ones with ones, and sometimes it is necessary to compose a ten</b></li> </ul>

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	<ul style="list-style-type: none"><li>• Numbers to 120</li> <li>• Fractions</li></ul>	<ul style="list-style-type: none"><li>• <b>add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and various strategies</b></li><li>• <b>add within 100, including adding a two-digit number and a multiple of 10, using concrete models or drawings and various strategies</b></li> <li>• <b>read and order ordinal numbers from eleventh to twentieth</b></li><li>• <b>master counting and writing by ones, twos, fives, and tens increasing and decreasing the value</b></li> <li>• <b>recognize and model halves, thirds, and fourths of a whole or set understand that decomposing a whole or set into more equal shares creates smaller shares</b></li></ul>
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**Archdiocese of Louisville  
Curriculum Framework  
Mathematics**

**Geometry – Grade One**

<b>Geometry – Grade One</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Geometric shapes and positions of objects are used to describe the world.</li>   <li>• Geometric shapes and relationships are used to design and create.</li> </ul>	<ul style="list-style-type: none"> <li>• How are geometric shapes used to describe things?</li> <li>• How can three-dimensional shapes be combined to create a new shape?</li> <li>• How do plane figures differ from solid figures?</li> <li>• What distinguishes defining attributes from non-defining attributes?</li>   <li>• What are examples of geometric shapes and relationships in architecture, art, and nature?</li> <li>• How can shapes and relationships be used to create things?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Plane and solid figures</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• name and <b>classify</b> plane figures (rectangle, square, triangle, <b>trapezoid, and half-circle</b>) and solid figures (cone, sphere, cube, cylinder, <b>pyramid, and rectangular prism</b>)</li> <li>• <b>distinguish between defining attributes (e.g., closed, three-sided) and non-defining attributes (e.g., color, size)</b></li> <li>• <b>compose two- or three-dimensional shapes to create a composite shape and compose new shapes from the composite shapes</b></li> </ul>



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**Algebra – Grade One**

<b>Algebra – Grade One</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Patterns are used to investigate, understand, and describe the world.</li>   <li>• Patterns and number relationships are used to understand and solve problems.</li>   <li>• Number operations are used to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• What kinds of patterns can be found in natural and human-designed environments?</li> <li>• How are patterns in the environment represented by such things as number, color, and shape?</li> <li>• How can objects be classified?</li> <li>• How can patterns be extended or changed?</li>   <li>• How are number patterns used to solve problems?</li> <li>• In an open sentence, how can the unknown number be determined from the known numbers and the operation?</li>   <li>• How do characteristics of a problem lead to a choice of a number operation?</li> <li>• What rules/properties influence the ways operations can be used to solve problems?</li> <li>• In a number sentence, what does the equal sign mean?</li> <li>• How is subtraction related to addition?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectations 2.11</b> Students understand mathematical change concepts and use them appropriately and accurately.</p> <p><b>Academic Expectations 2.12</b> Students understand mathematical structure concepts including the properties and logic of various mathematical systems.</p>	<ul style="list-style-type: none"> <li>• Missing addends and subtrahends</li>   <li>• Properties of operations</li>   <li>• Patterns</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• <b>understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false</b></li> <li>• <b>determine the missing addend or subtrahend in a problem (<math>3 + \_ = 5</math> or <math>\_ - 2 = 3</math>)</b></li> <li>• <b>understand subtraction as an unknown addend problem</b></li>   <li>• <b>add and subtract using commutative and associative properties</b></li>   <li>• <b>identify and create complex patterns using more than one attribute</b></li> </ul>

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<b>Data Analysis and Probability – Grade One</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Data can be used to predict outcomes and support conclusions.</li>   <li>• Probability describes the likelihood that an event will occur.</li> </ul>	<ul style="list-style-type: none"> <li>• How can data be organized?</li> <li>• How can data be used to draw conclusions and make decisions?</li> <li>• What factors need to be considered in making a prediction?</li>   <li>• Why are some events more likely to occur than others?</li> <li>• How is probability used to make predictions?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectations 2.13</b> Students understand and appropriately use statistics and probability.</p>	<ul style="list-style-type: none"> <li>• Graphs and charts</li>   <li>• Prediction</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• organize, represent, and interpret data with up to three categories using charts, tables, pictographs, and bar graphs</li> <li>• answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another</li>   <li>• predict the likelihood of an event happening</li> </ul>

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<b>Number and Operations – Grade Two</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Place value is used to determine the value of each digit in the number.</li> <li>• Number operations are used to solve problems.</li> <li>• A variety of methods are used to develop understanding and skill in rounding and computation.</li> <li>• Whole figures can be divided into fractional parts.</li> </ul>	<ul style="list-style-type: none"> <li>• How does position of a digit in a multi-digit number determine its value?</li> <li>• When adding two- or three-digit numbers, what happens when the two digits in the ones column equal a number greater than 10?</li> <li>• How do characteristics of a word problem lead to a choice of a number operation?</li> <li>• What rules/properties influence the ways operations can be used to solve problems?</li> <li>• When is it appropriate to use mental math, pencil and paper, and calculators or computers to do estimation and computation?</li> <li>• How are concrete materials used to model and solve mathematical problems?</li> <li>• Why is it possible for equal shares of the same whole to have different shapes?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.8</b> Students understand various mathematical procedures and use them appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Number sense</li> <li>• Place value</li> <li>• Addition and subtraction</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• count by one, five, ten, and <b>one hundred to 1000</b></li> <li>• round and order numbers up to <b>1000</b></li> <li>• identify even and odd numbers</li> <li>• compare numbers, including equality and inequality up to <b>three-digit numbers</b> (&lt;, &gt;, or =)</li> <li>• <b>understand that 100 can be thought of as a bundles of ten tens</b></li> <li>• show place value in standard, word, and <b>expanded</b> forms to <b>1000</b></li> <li>• <b>understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones</b></li> <li>• <b>master</b> addition and subtraction facts to <b>20</b> using mental strategies</li> <li>• <b>mentally add or subtract 10 or 100 to or from a given number between 100 and 900</b></li> <li>• <b>use addition to find the total number of objects arranged in a rectangular array with up to 5 rows and up to 5 columns</b></li> <li>• <b>understand that when adding or subtracting three-digit numbers, add or subtract hundreds and hundreds, tens and tens, ones and ones, and sometimes it is necessary to compose or decompose tens or hundreds</b></li> </ul>

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	<ul style="list-style-type: none"> <li>• Multiplication</li> <li>• Fractions</li> </ul>	<ul style="list-style-type: none"> <li>• use addition and subtraction <b>within 100</b> to solve one- and two-digit word problems involving situations of adding to, taking from, and comparing, with unknowns in all positions</li> <li>• <b>fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction</b></li> <li>• solve <b>two- and three-digit</b> addition and subtraction problems <b>with</b> and without <b>regrouping within 1000</b></li> <li>• <b>add up to four two-digit numbers using strategies based on place value and properties of operations</b></li> <li>• solve one- and two-step word problems involving addition and subtraction</li> <li>• explain why addition and subtraction strategies work, using place value and the properties of operations</li>   <li>• <b>model basic multiplication concepts for 2, 5, and 10</b></li>   <li>• draw and compare fractions using models and pictures</li> <li>• recognize and model parts of a whole or set using the words halves, thirds, half of, a third of, etc.</li> <li>• <b>recognize that equal shares of identical wholes need not have the same shape</b></li> </ul>
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**Geometry – Grade Two**

<b>Geometry – Grade Two</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Geometric shapes are used to describe the world.</li>   <li>• Geometric shapes and relationships are used to design and create.</li> </ul>	<ul style="list-style-type: none"> <li>• How are geometric shapes used to describe things?</li> <li>• How are symmetry and congruence used to describe and compare things?</li>   <li>• What are examples of geometric shapes and relationships in architecture, art, and nature?</li> <li>• How can shapes and relationships be used to create things?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Plane and solid figures</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• identify triangles, hexagons, cubes, <b>quadrilaterals, and pentagons</b></li> <li>• identify patterns, <b>symmetry, and congruency</b></li> <li>• <b>recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces</b></li> </ul>



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**Algebra – Grade Two**

<b>Algebra – Grade Two</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Patterns are used to investigate, understand, and describe the world.</li>   <li>• Patterns and number relationships are used to understand and solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• What is a pattern?</li> <li>• How are patterns in the environment represented by number, color, and shape?</li> <li>• How can patterns be extended or changed?</li>   <li>• How are number patterns used to solve problems?</li> <li>• In an open sentence, how can the unknown number be determined from the known numbers and the operation?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.11</b> Students understand mathematical change concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.12</b> Students understand mathematical structure concepts including the properties and logic of various mathematical systems.</p>	<ul style="list-style-type: none"> <li>• Algebraic equations</li>   <li>• Patterns</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• calculate equations by finding missing addend and subtrahend with the unknown in all positions</li>   <li>• extend and create patterns with more than <b>two attributes</b></li> </ul>

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<b>Data Analysis and Probability – Grade Two</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Data can be used to predict outcomes and support conclusions.</li>   <li>• Probability describes the likelihood that an event will occur.</li> </ul>	<ul style="list-style-type: none"> <li>• What kind of data can be collected?</li> <li>• How can data be organized?</li> <li>• How is data used to draw conclusions and make decisions?</li>   <li>• What factors need to be considered in making a prediction?</li> <li>• Why are some events more likely to occur than others?</li> <li>• How is probability used to make predictions?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.13</b> Students understand and appropriately use statistics and probability.</p>	<ul style="list-style-type: none"> <li>• Graphs and charts</li>   <li>• Probability</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• collect, record, and interpret data (<b>up to four categories</b>) with bar graphs, pictographs, and tally charts</li>   <li>• <b>interpret data to predict probability</b></li> </ul>

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<b>Number and Operations – Grade Three</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Mathematics can be used to describe, understand, and communicate about the world in order to solve problems and make decisions.</li> <li>• Characteristics of a situation or problem influence the choice of numbers, operations, strategies, and tools.</li> </ul>	<ul style="list-style-type: none"> <li>• What does mathematics reveal about the world?</li> <li>• What situations require the use of mathematical understanding?</li> <li>• How can concrete materials model mathematical situations?</li> <li>• How can patterns and properties of operations be used when adding and subtracting?</li> <li>• What is the relationship between multiplication and division?</li> <li>• How can strategies be used to determine the reasonableness of an answer?</li> <li>• How do the characteristics of a problem influence the choice of numbers, operations, strategies, and tools?</li> <li>• What strategies help determine if a solution is reasonable, accurate, and complete?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.8</b> Students understand various mathematical procedures and use them appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Place value</li> <li>• Addition and subtraction</li> <li>• Multiplication and division</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• interpret the value of whole numbers up to <b>100,000</b></li> <li>• order and compare whole numbers using <math>&gt;</math>, <math>&lt;</math>, or <math>=</math></li> <li>• apply place value concepts to round numbers (up to four digits) to the nearest 10 and 100</li> <li>• estimate by rounding for self-checking and approximation</li> <li>• fluently add and subtract whole numbers with <b>three or more digits</b> (with and without regrouping) using strategies and algorithms</li> <li>• apply patterns and properties of operations as strategies to add and subtract including <b>commutative, associative, and distributive properties</b></li> <li>• <b>apply properties of operations as strategies to multiply and divide including commutative, associative, and distributive properties</b></li> <li>• <b>master multiplication facts up to 10</b></li> <li>• <b>multiply one-digit numbers by a multiple of ten (10-90) using strategies based on place value and properties of operations</b></li> <li>• <b>interpret products of whole numbers (e.g., interpret <math>5 \times 7</math> as the total number of objects in 5 groups of 7 objects each)</b></li> <li>• <b>interpret whole number quotients (e.g., interpret <math>56 \div 8</math> as the number of objects in each share when 56 objects are partitioned equally into 8 shares)</b></li> <li>• <b>recognize that division is the inverse of multiplication and is an unknown factor problem</b></li> <li>• <b>fluently divide within 100</b></li> </ul>

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	<ul style="list-style-type: none"><li>• Problem solving</li> <li>• Fractions</li></ul>	<ul style="list-style-type: none"><li>• <b>use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities</b></li> <li>• synthesize number and operation concepts to solve <b>complex, multi-step word problems using all four operations</b></li><li>• assess the reasonableness of answers using mental computation and estimation strategies including rounding</li> <li>• understand a fraction as a quantity formed when a whole is divided into equal parts</li><li>• <b>understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line</b></li><li>• use models to compare and order <b>equivalent</b> fractions</li><li>• <b>express whole numbers as fractions and recognize fractions that are equivalent to whole numbers</b></li><li>• <b>use models to add and subtract fractions with like denominators</b></li></ul>
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<b>Geometry – Grade Three</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Attributes and relationships of shapes, objects, and patterns can be used to describe, understand, and communicate about the world.</li>   <li>• Geometry has many real-world applications including design, architecture, and art.</li> </ul>	<ul style="list-style-type: none"> <li>• How can objects in the natural and human-designed world be identified and described in geometric terms?</li> <li>• How do models and drawings enhance understanding?</li> <li>• How can shared attributes help to define categories of shapes?</li>   <li>• How do the attributes of geometric shapes and figures influence their use in aesthetic and functional designs?</li> <li>• How are geometric shapes and relationships manipulated to create different visual effects?</li> <li>• How are models and drawings used in problem solving and design?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Plane and solid figures</li>   <li>• Symmetry</li>   <li>• Perimeter</li>   <li>• Area</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• describe and build plane (two-dimensional) and solid (three-dimensional) figures</li> <li>• recognize and check figures for congruency and similarities</li> <li>• explain that shapes in different categories (e.g., rectangle, rhombus) may share attributes (e.g., having four sides) and that the shared attributes can define a larger category (e.g., quadrilaterals)</li> <li>• classify the subcategories of quadrilaterals (e.g., rectangle, rhombus, and square) as quadrilaterals and draw quadrilaterals that do not belong to any of these subcategories</li>   <li>• find symmetry in figures and create symmetrical drawings (line, flip, slide, rotational)</li>   <li>• recognize perimeter as an attribute of plane figures</li> <li>• calculate the perimeter of a plane figure by using whole number side lengths or finding an unknown side length</li> <li>• solve real-world problems involving perimeter</li>   <li>• recognize area as an attribute of plane figures</li> <li>• measure area by counting unit squares</li> <li>• relate area to the operations of multiplication and addition</li> <li>• <b>solve real-world problems about area</b></li> </ul>

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<b>Measurement – Grade Three</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Measurement allows description, understanding, and communication about the world.</li> </ul>	<ul style="list-style-type: none"> <li>How is measurement used to quantify information about objects and events?</li> <li>How do characteristics of objects and events influence the choice of measurement strategies and tools?</li> <li>How does the precision required for a measurement influence the choice of strategies and tools?</li> <li>How is understanding and communication about measurement used to solve problems and make decisions?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.10</b> Students understand measurement concepts and use measurements appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>Linear measurement</li> <li>Customary and metric weight and capacity</li> <li>Temperature</li> <li>Time</li> <li>Money</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>measure using customary and metric linear units to nearest <b>1/2</b> or <b>1/4</b> or whole inch or whole centimeter</li> <li><b>measure mass of an object using customary and metric capacity units (ounces, pounds, grams, and kilograms)</b></li> <li><b>measure and estimate liquid volume using customary and metric capacity units (cups, pints, quarts, gallons, milliliters, liters)</b></li> <li><b>add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units</b></li> <li><b>read and interpret temperature using Fahrenheit scale</b></li> <li>tell and write time to the <b>nearest minute</b> using analog and digital clocks</li> <li><b>solve word problems involving addition and subtraction of elapsed time</b></li> <li>calculate the value of coins and bills and apply to real-world situations</li> <li><b>determine equivalency among coins and bills</b></li> <li><b>add and subtract decimals with money</b></li> </ul>

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<b>Algebra – Grade Three</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Patterns aid description, understanding, and communication about the world.</li>   <li>• Patterns and number relationships can be used to investigate, understand, and solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• How and why are patterns used?</li> <li>• How are patterns and number relationships represented with symbols?</li> <li>• How are tables and equations used to represent, analyze, and extend patterns?</li>   <li>• How do patterns help to solve problems and communicate information?</li> <li>• What kinds of strategies help to reveal patterns and number relationships?</li> <li>• How are tables, graphs, and equations used to discover, analyze, and extend patterns and number relationships?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.11</b> Students understand mathematical change concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.12</b> Students understand mathematical structure concepts including the properties and logic of various mathematical systems.</p>	<ul style="list-style-type: none"> <li>• Fact families</li>   <li>• Variables</li>         <li>• Equality and inequality</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• use fact families <b>to relate the four operations</b></li>   <li>• solve for one variable in addition, subtraction, <b>multiplication, and division (<math>a + 4 = 12</math>)</b></li> <li>• <b>solve real-world problems involving one variable</b></li> <li>• represent word problems using equations with a letter standing for the unknown quantity</li> <li>• <b>solve simple function tables (input/output)</b></li>   <li>• <b>recognize that the equal sign means that both sides of the equation are balanced (<math>6 + 2 = 5 + 3</math>, <math>8 = 6 + 2</math>)</b></li> <li>• <b>determine the unknown number in multiplication and division equations (e.g., <math>8 \times \square = 48</math>, <math>5 = \square \div 3</math>, <math>6 \times 6 = \square</math>)</b></li> </ul>

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<b>Data Analysis and Probability – Grade Three</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Data collection and analysis can be used to predict outcomes, solve problems, and make decisions.</li>   <li>• Probability supports making predictions, drawing conclusions, and solving problems.</li> </ul>	<ul style="list-style-type: none"> <li>• What factors influence the way data is collected and organized?</li> <li>• How is the reliability of data affected by the source, quantity, and method of collection?</li> <li>• How is the analysis of data used to solve problems?</li> <li>• How is the presentation used to support different kinds of data?</li> <li>• Why would one style of graph, chart, or table be more appropriate than another when depicting data?</li>   <li>• How is the probability of an event determined and expressed?</li> <li>• What factors influence the certainty or uncertainty?</li> <li>• How is probability used to make predictions and draw conclusions?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.13</b> Students understand and appropriately use statistics and probability.</p>	<ul style="list-style-type: none"> <li>• Data Analysis</li>   <li>• Probability</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• collect, record, and interpret data</li> <li>• build and interpret scaled graphs (pictograph, bar, <b>line, circle</b>), charts, and tables with <b>several categories</b></li>   <li>• investigate outcomes (<b>likely / unlikely, certain / impossible</b>)</li> </ul>

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<b>Number and Operations – Grade Four</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Mathematics can be used to describe, understand, and communicate about the world in order to solve problems and make decisions.</li>   <li>• Characteristics of a situation or problem influence the choice of numbers, operations, strategies, and tools.</li> </ul>	<ul style="list-style-type: none"> <li>• What does mathematics reveal about the world?</li> <li>• How is mathematics used in the everyday world?</li> <li>• What situations require the use of mathematical understanding?</li> <li>• How can concrete materials model mathematical situations?</li> <li>• Using place value, what does the position of each digit reveal about its value?</li>   <li>• How do the characteristics of a problem influence the choice of numbers, operations, strategies, and tools?</li> <li>• What strategies help determine if a solution is reasonable, accurate, and complete?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.8</b> Students understand various mathematical procedures and use them appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Whole numbers</li>   <li>• Place value</li>         <li>• Multiplication</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• use place value understanding to identify, order, round, read, and write (in all forms) numbers through <b>one million</b></li> <li>• recognize that in a multi-digit whole number, the digit in one place represents ten times what it represents in the place to its right</li> <li>• read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form</li> <li>• compare two multi-digit numbers based on meanings of the digits in each place, using <math>&gt;</math>, <math>&lt;</math>, or <math>=</math> symbols</li> <li>• fluently add and subtract <b>multi-digit</b> whole numbers using place value understanding and properties of operations</li>   <li>• calculate and explain products multiplying 2-, <b>3-, and 4-</b> digit numbers by 1-digit numbers with regrouping, using strategies based on place value and the properties of operations</li> <li>• master multiplication facts of <b>11 and 12</b></li> <li>• <b>find all factor pairs for a whole number in the range 1-100</b></li> <li>• <b>recognize that a whole number is a multiple of each of its factors</b></li> <li>• <b>determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number</b></li> <li>• <b>determine whether a given whole number in the range 1-100 is prime or composite</b></li> <li>• apply problem solving skills in multi-step word problems, using the four operations</li> </ul>



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<b>Geometry – Grade Four</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Geometry has many real-world applications including design, architecture, and art.</li> </ul>	<ul style="list-style-type: none"> <li>How do the characteristics of geometric figures influence their use in designs?</li> <li>How are models and drawings used in problem solving and design?</li> <li>How can attributes be used to classify figures?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.10</b> Students understand measurement concepts and use measurements appropriately and accurately</p>	<ul style="list-style-type: none"> <li>Plane and solid figures</li>   <li>Triangles</li>   <li>Angles</li>         <li>Symmetry</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li><b>classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size</b></li> <li><b>draw and identify points, lines, line segments, rays, angles (right, acute, obtuse) and perpendicular and parallel lines</b></li>   <li><b>recognize right triangles as a category and identify right triangles</b></li>   <li><b>measure angles in whole number degrees using a protractor</b></li> <li><b>sketch angles of specified measures</b></li> <li><b>recognize angles as geometric shapes that are formed wherever two rays share a common endpoint</b></li> <li><b>understand that an angle is measured with reference to a circle with its center at the common endpoint of the rays</b></li> <li><b>understand that an angle that turns through <math>n</math> one-degree angles is said to have an angle measure of <math>n</math> degrees</b></li> <li><b>solve unknown angle measurements</b></li> <li><b>recognize that angle measure is additive and is the sum of the angle measures of the parts</b></li>   <li>recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into two matching parts</li> <li>identify line-symmetric figures and draw lines of symmetry</li> </ul>

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<b>Measurement– Grade Four</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Measurement allows description, understanding, and communication about the world.</li> </ul>	<ul style="list-style-type: none"> <li>How do the characteristics of objects and events influence the choice of measurement strategies and tools?</li> <li>How does the precision required for a measurement influence the choice of strategies and tools?</li> <li>How is the understanding and communication about measurement used to solve problems and make decisions?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.10</b> Students understand measurement concepts and use measurements appropriately and accurately</p>	<ul style="list-style-type: none"> <li>Linear measurement</li> <li>Units of measure</li> <li>Perimeter</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li><b>make a line plot to display a data set of measurements in fractions of a unit (<math>\frac{1}{2}, \frac{1}{4}, \frac{1}{8}</math>)</b></li> <li><b>express measurements in a larger unit in terms of a smaller unit within a single system of units</b></li> <li><b>record measurement equivalents in a conversion table</b></li> <li>use the four operations to solve word problems involving distances, <b>intervals of time</b>, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals</li> <li><b>apply the perimeter and area formulas for rectangles in real-world and mathematical problems</b></li> <li>calculate perimeter of <b>polygons</b></li> </ul>

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<b>Algebra – Grade Four</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Patterns aid description, understanding, and communication about the world.</li>   <li>• Patterns and number relationships can be used to investigate, understand, and solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• How and why are patterns used?</li> <li>• How are patterns and number relationships represented symbolically?</li> <li>• How are tables and equations used to represent, analyze, and extend patterns?</li> <li>• Why do the components of a pattern continue to alternate in a particular way?</li>   <li>• How do patterns help to solve problems and communicate information?</li> <li>• What kinds of strategies help to reveal patterns and number relationships?</li> <li>• What is the meaning of a variable in an equation or number expression?</li> <li>• How are strategies used to assess the reasonableness of an answer?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.11</b> Students understand mathematical change concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.12</b> Students understand mathematical structure concepts including the properties and logic of various mathematical systems.</p>	<ul style="list-style-type: none"> <li>• Variables</li>   <li>• Patterns</li>   <li>• Order of operations</li>   <li>• Mental computation and estimation</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• <b>differentiate between algebraic expressions and equations</b></li> <li>• use fact families to determine the value of a variable in multiplication and division equations (<math>6x = 36</math>, <math>x \div 3 = 9</math>)</li> <li>• use a letter to represent the unknown quantity in an equation</li>   <li>• <b>generate number or shape patterns that follow a given rule</b></li> <li>• <b>identify features of the pattern that are not explicit in the rule</b></li> <li>• <b>explain informally why the components of a pattern will continue to alternate in a particular way</b></li> <li>• <b>identify rules to complete function tables and understand two variable relationships</b></li>   <li>• <b>solve equations beginning with the operations inside the parentheses</b></li>   <li>• assess the reasonableness of answers using mental computation and estimation strategies, including rounding</li> </ul>

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<b>Data Analysis and Probability – Grade Four</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Data collection and analysis can be used to predict outcomes, solve problems, and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>How is the analysis of data used to solve problems?</li> <li>How is the presentation of data used or misused to support an outcome or decision?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.13</b> Students understand and appropriately use statistics and probability.</p>	<ul style="list-style-type: none"> <li>Measures of central tendency</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li><b>define and find the mean (average), median, and mode of a set of data</b></li> </ul>

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<b>Number and Operations – Grade Five</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Mathematics can be used to describe, understand, and communicate about the world in order to solve problems and make decisions.</li> <li>• Characteristics of a situation or problem influence the choice of numbers, operations, strategies, and tools.</li> </ul>	<ul style="list-style-type: none"> <li>• What does mathematics reveal about the world?</li> <li>• What situations require the use of mathematical understandings?</li> <li>• How does mathematics enable people to work with things they cannot see?</li> <li>• How do concrete materials model mathematical situations?</li> <li>• What does the position in a multi-digit number reveal about its value?</li> <li>• How do the characteristics of a situation influence the choice of numbers, operations, strategies, and tools?</li> <li>• How is a solution determined to be reasonable, accurate, and complete?</li> <li>• Why are comparisons of two fractions only valid when they refer to the same whole?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.8</b> Students understand various mathematical procedures and use them appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Whole numbers</li> <li>• Place value</li> <li>• Decimals</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• <b>fluently multiply multi-digit whole numbers using the standard algorithm</b></li> <li>• find whole number quotients with <b>2-digit divisors (4-digit by 2-digit)</b> using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division</li> <li>• show remainders as <b>fractions and decimals</b></li> <li>• <b>recognize and determine the greatest common factor (GCF) and least common multiple (LCM) and interpret remainders in problem solving</b></li> <li>• estimate quotients using compatible numbers</li> <li>• <b>apply divisibility rules for 2, 3, 4, 5, 6, 9, 10</b></li> <li>• recognize that in a multi-digit number, a digit in one place represents ten times as much as it represents in the place to its right and <b>1/10 of what it represents in the place to its left</b></li> <li>• <b>explain patterns in the number of zeros of the product when multiplying a number by powers of 10</b></li> <li>• <b>explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10</b></li> <li>• read, write, compare, and order decimals to the <b>ten-thousandths place</b> using base-ten numerals, number names, and expanded form</li> <li>• compare decimals using <b>&gt;, &lt;, or =</b> and symbols</li> <li>• round decimals to the indicated place value position</li> </ul>

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	<ul style="list-style-type: none"> <li>• Fractions</li> </ul>	<ul style="list-style-type: none"> <li>• <b>add, subtract, and multiply, and divide decimals through the hundredths place</b> using concrete models or drawings and strategies based on place value, properties of operations, rounding, and/or the relationship between addition and subtraction and explain the reasoning</li> <li>• add and subtract fractions and mixed numbers with <b>unlike denominators by replacing given fractions with equivalent fractions in order to produce an equivalent sum or difference of fractions with like denominators</b></li> <li>• <b>apply greatest common factor (GCF) to express sums and differences in simplest form</b> <ul style="list-style-type: none"> <li>• recognize that comparisons are valid only when the two fractions refer to the same whole</li> </ul> </li> <li>• solve real-world problems involving addition and subtraction of fractions, <b>including cases of unlike denominators</b> (e.g., by using visual fraction models or equations)</li> <li>• <b>solve real-world problems involving multiplication of fractions and mixed numbers</b> (e.g., by using visual fraction models or equations)</li> <li>• <b>use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers</b></li> <li>• <b>interpret a fraction as division of the numerator by the denominator</b></li> <li>• <b>interpret multiplication of fractions as scaling (resizing) by comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication</b></li> <li>• <b>explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number</b></li> <li>• <b>explain why multiplying a given number by a fraction less than 1 results in a product smaller than the given number</b></li> <li>• <b>interpret division of a whole number by a unit fraction</b> (e.g., <math>4 \div \frac{1}{5} = 20</math> because <math>20 \times \frac{1}{5} = 4</math>) and a unit fraction by a whole number or non-zero number, compute, and apply to real-world problem solving</li> </ul>
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<b>Geometry – Grade Five</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Attributes and relationships of shapes, objects, and patterns can be used to describe, understand, and communicate about the world.</li>   <li>• Geometry has many real-world applications including design, architecture, and art.</li> </ul>	<ul style="list-style-type: none"> <li>• How can objects in the natural and human-designed world be identified and described in geometric terms?</li> <li>• How are distance, direction, and coordinates used to understand and explain the arrangement of objects and locations?</li> <li>• How do models and drawings enhance understanding?</li>   <li>• How do the characteristics of geometric shapes and figures influence their use in aesthetic and functional designs?</li> <li>• How are geometric shapes and relationships manipulated to create a visual or emotional effect?</li> <li>• How are models and drawings used in problem solving and design?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Plane and solid figures</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• <b>identify the following attributes: sides, vertices, faces, edges, and angles (obtuse, acute, right, or straight)</b></li> <li>• <b>understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category (e.g., all squares are rectangles but not all rectangles are squares)</b></li> <li>• <b>classify two-dimensional figures in a hierarchy based on properties</b></li> </ul>

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<b>Measurement – Grade Five</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Measurement allows description, understanding, and communication about the world.</li> </ul>	<ul style="list-style-type: none"> <li>How is measurement used to quantify information about objects and events?</li> <li>How do the characteristics of objects and events influence the choice of measurement strategies and tools?</li> <li>How does the precision required for a measurement influence the choice of strategies and tools?</li> <li>How is the understanding and communication about measurement used to solve problems and make decisions?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.10</b> Students understand measurement concepts and use measurements appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>Customary system</li> <li>Metric system</li> <li>Area</li> <li>Volume</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>apply conversion of linear units from inches through miles</li> <li>apply conversion of mass units from ounces through tons</li> <li>apply conversion of capacity units from fluid ounces through gallons</li> <li>use conversions to solve multi-step real-world problems</li> <li>apply conversion of linear units from millimeters through kilometers, excluding decimals</li> <li>apply conversion of mass units from milligrams through kilograms, excluding decimals</li> <li>apply conversion of capacity units from milliliters through liters, excluding decimals</li> <li>use conversions to solve multi-step real-world problems</li> <li>find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths</li> <li>multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas</li> <li>recognize volume as an attribute of solid figures and understand concepts of volume measurement</li> <li>find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as it would be by multiplying the edge lengths</li> <li>develop and apply formula for volume of a rectangular prism (<math>V = l \times w</math> and <math>V = b \times h</math>) to find volumes of right rectangular prisms, using whole numbers and decimals to solve real-world and mathematical problems</li> <li>measure volume by counting unit cubes, using cubic cm., cubic in., cubic ft., and improvised units</li> <li>recognize volume as additive in three-dimensional figures</li> <li>determine volume of solid figures composed of two non-overlapping right rectangular prisms by adding the volume of the non-overlapping parts, and apply to real-world problems</li> </ul>

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<b>Algebra – Grade Five</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Patterns aid description, understanding, and communication about the world.</li>   <li>• Patterns and number relationships can be used to investigate, understand, and solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• How and why are patterns used?</li> <li>• How are patterns and number relationships represented symbolically?</li> <li>• What kinds of patterns can be found in natural and human-designed environments?</li> <li>• How are tables and equations used to represent, analyze, and extend patterns?</li>   <li>• How do patterns help people to solve problems and communicate information?</li> <li>• What kinds of strategies help to reveal patterns and number relationships?</li> <li>• How are function tables and equations used to discover, analyze, and extend patterns and number relationships?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.11</b> Students understand mathematical change concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.12</b> Students understand mathematical structure concepts including the properties and logic of various mathematical systems.</p>	<ul style="list-style-type: none"> <li>• Expressions and equations</li>   <li>• Coordinate system</li>   <li>• Patterns and relationships</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• differentiate between numeric and algebraic expressions and equations</li> <li>• translate word problems into algebraic expressions</li> <li>• <b>use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols using order of operations</b></li> <li>• write and interpret simple numerical expressions</li>   <li>• <b>understand that the first number in an ordered pair indicates how far to travel from the origin along the x-axis, and the second number indicates how far to travel along the y-axis</b></li> <li>• <b>form ordered pairs consisting of corresponding terms from two patterns and graph on a coordinate plane</b></li> <li>• <b>represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation</b></li>   <li>• <b>generate two numerical patterns using two given rules</b></li> <li>• identify the apparent relationships between two corresponding terms</li> </ul>

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<b>Data Analysis and Probability – Grade Five</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Data collection and analysis can be used to predict outcomes, solve problems, and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>What factors influence the way data is collected and organized?</li> <li>How is the reliability of data affected by the source, quantity, and method of collection?</li> <li>How is the analysis of data used to solve problems?</li> <li>How is the presentation of data used or misused to support different points of view?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.13</b> Students understand and appropriately use statistics and probability.</p>	<ul style="list-style-type: none"> <li>Data analysis</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>collect, organize, and interpret data for the creation and interpretations of <b>stem and leaf plots</b></li> <li>make a line plot to display a data set of measurements in fractions of a unit (<math>1/2, 1/4, 1/8</math>)</li> <li><b>use operations on fractions to solve problems involving information presented in line plots</b></li> <li>calculate and apply <b>range</b>, median, mode, and mean with whole numbers</li> </ul>

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<b>Number and Operations – Grade Six</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Mathematics can be used to describe, understand, and communicate about the world in order to solve problems and make decisions.</li>   <li>• Characteristics of a situation or problem influence the choice of numbers, operations, strategies, and tools.</li> </ul>	<ul style="list-style-type: none"> <li>• What does mathematics reveal about the world?</li> <li>• What situations require the use of mathematical understandings?</li> <li>• How do concrete materials model mathematical situations?</li>   <li>• How do the characteristics of a situation influence the choice of numbers, operations, strategies, and tools?</li> <li>• How is a solution determined to be reasonable, accurate, and complete?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.8</b> Students understand various mathematical procedures and use them appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Whole numbers</li>   <li>• Decimals</li>   <li>• Fractions</li>   <li>• Ratios</li> </ul>	<p>Student will:</p> <ul style="list-style-type: none"> <li>• <b>determine the prime factorization of any whole number</b></li> <li>• determine the greatest common factor and least common multiple <b>using prime factorization</b></li>   <li>• compare and order decimals</li> <li>• multiply a whole number by a decimal or multiply two decimals using the standard algorithm</li> <li>• divide a whole number by a decimal or divide two decimals using the standard algorithm</li> <li>• <b>convert decimals to fractions</b></li>   <li>• compare and order fractions</li> <li>• multiply and divide fractions (proper, improper, mixed numbers)</li> <li>• <b>convert fractions to decimals</b></li>   <li>• <b>understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities</b></li> <li>• <b>understand and solve real-world and mathematical ratio and rate problems</b></li> <li>• <b>make tables of equivalent ratios relating quantities and use tables to compare ratios</b></li> <li>• <b>solve unit rate problems including those involving unit pricing and constant speed</b></li> </ul>

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	<ul style="list-style-type: none"><li>• Integers and rational numbers</li></ul>	<ul style="list-style-type: none"><li>• find a percent of a quantity as a rate per 100</li><li>• solve problems involving finding the whole, given a part and the percent</li><li>• use ratio reasoning to convert measurement units</li> <li>• understand that positive and negative numbers are used together to describe quantities having opposite directions or values</li><li>• use positive and negative numbers to represent quantities in real-world context</li><li>• understand the absolute value of a rational number as its distance from 0 on the number line</li><li>• understand ordering and absolute value of rational numbers</li><li>• write, interpret, and explain statements of order for rational numbers in real-world contexts</li></ul>
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<b>Geometry and Measurement – Grade Six</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Attributes and relationships of plane and solid figures, objects, and patterns can be used to describe, understand, and communicate about the world.</li>   <li>• Geometry has many real-world applications including design, architecture, and art.</li>   <li>• Measurement allows description, understanding, and communication about the world.</li> </ul>	<ul style="list-style-type: none"> <li>• How can geometry be seen in the natural and human-designed world?</li> <li>• How are distance, direction, coordinates, and scale used to understand and explain the arrangement of objects and locations?</li>   <li>• How do the characteristics of plane and solid figures influence their use in aesthetic and functional designs?</li> <li>• How can one shape be used to calculate the area of another?</li>   <li>• How is measurement used to quantify information about objects and events?</li> <li>• How do the characteristics of objects and events influence the choice of measurement strategies and tools?</li> <li>• How does the precision required for a measurement influence the choice of strategies and tools?</li> <li>• How is the understanding and communication about measurement used to solve problems and make decisions?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.10</b> Students understand measurement concepts and use measurements appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Coordinate system</li>   <li>• Plane figures</li> </ul>	<p>Student will:</p> <ul style="list-style-type: none"> <li>• locate, plot, and name ordered pairs in <b>all four quadrants</b> on the coordinate grid</li> <li>• <b>use coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate</b></li> <li>• <b>draw polygons in the coordinate plane given coordinates for the vertices</b></li>   <li>• draw angles using protractors</li> <li>• <b>calculate the sum of angle measures in triangles</b></li> <li>• <b>estimate angle measurement</b></li> <li>• <b>identify, describe, classify, name, and draw pairs of angles (adjacent, vertical, complementary, supplementary, and alternate interior and alternate exterior angles)</b></li> <li>• <b>calculate area of a right triangle, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes</b></li> </ul>

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	<ul style="list-style-type: none"><li>• Solid figures</li></ul>	<ul style="list-style-type: none"><li>• <b>calculate surface area</b> and volume <b>of simple geometric solids as they apply to real-world and mathematical problems</b></li><li>• find the volume of a right rectangular prism <b>with fractional edge lengths</b> by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as it would be by multiplying the edge lengths of the prism</li><li>• apply formula for volume of a rectangular prism (<math>V = l \times w</math> and <math>V = b \times h</math>) to find volumes of right rectangular prisms <b>with fractional edge lengths</b> to solve real-world and mathematical problems</li></ul>
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<b>Algebra – Grade Six</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Patterns aid description, understanding, and communication about the world.</li>   <li>• Patterns and number relationships can be used to investigate, understand, and solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• How and why are patterns used and where can they be found in human-designed environments?</li> <li>• How are patterns and number relationships represented symbolically (such as consecutive odd numbers)?</li> <li>• How are tables, graphs, and equations used to represent, analyze, and extend patterns?</li>   <li>• How are patterns used to solve problems and communicate information?</li> <li>• What kinds of strategies help reveal patterns and number relationships?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.11</b> Students understand mathematical change concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.12</b> Students understand mathematical structure concepts including the properties and logic of various mathematical systems.</p>	<ul style="list-style-type: none"> <li>• Order of operations</li>   <li>• Expressions</li>     <li>• Exponents</li>     <li>• One-variable linear equations</li> </ul>	<p>Student will:</p> <ul style="list-style-type: none"> <li>• apply the <b>complete order</b> of operations in evaluating expressions</li>   <li>• <b>simplify and evaluate expressions using substitution, following the order of operations</b></li> <li>• translate and evaluate written and verbal expressions to algebraic expressions</li> <li>• <b>identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, and coefficient)</b></li> <li>• <b>understand that a variable can represent an unknown number</b></li> <li>• <b>evaluate expressions at specific values of their variables in formulas (<math>2x + 7</math> when <math>x = 3</math>)</b></li> <li>• <b>recognize two expressions as equivalent (e.g., <math>y + y + y</math> and <math>3y</math> are equivalent expressions)</b></li>   <li>• <b>write and evaluate numerical expressions involving whole-number exponents</b></li> <li>• <b>write in exponential format</b></li> <li>• <b>evaluate an exponential expression</b></li>   <li>• <b>apply the addition, subtraction, multiplication, and division properties of equality to solve and check one-step algebraic equations (<math>2x = 4</math>; <math>x + 5 = 8</math>)</b></li> <li>• solve real-world and mathematical problems by writing and solving equations</li> <li>• <b>recognize that inequalities of the form <math>x &gt; c</math> or <math>x &lt; c</math> have infinitely many solutions</b></li> <li>• <b>represent solutions of inequalities on number line diagrams</b></li> </ul>

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	<ul style="list-style-type: none"><li>• Properties</li></ul>	<ul style="list-style-type: none"><li>• <b>represent and analyze quantitative relationships between dependent and independent variables</b></li><li>• recognize, identify, and apply the inverse property of addition and multiplication</li><li>• recognize, identify, and apply the addition, subtraction, multiplication, and division properties of equality</li><li>• recognize, identify, and apply the identity properties of addition and multiplication</li><li>• identify and apply the distributive property of addition and multiplication</li></ul>
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<b>Data Analysis and Probability – Grade Six</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Data collection and analysis can be used to predict outcomes, solve problems, and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>What factors influence the way data is collected and organized?</li> <li>How is the analysis of data used to solve problems?</li> <li>How is the reliability of data affected by the source, quantity, and method of collection?</li> <li>How is the presentation of data used or misused to support different points of view?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.13</b> Students understand and appropriately use statistics and probability.</p>	<ul style="list-style-type: none"> <li>Graphs</li>   <li>Measures of central tendency</li> </ul>	<p>Student will:</p> <ul style="list-style-type: none"> <li>determine the appropriate or best use of bar, line, and circle graphs</li> <li>summarize, describe, and answer questions with regard to data in <b>histograms</b>, bar, line, circle, stem and leaf, <b>dot plots</b>, and <b>box and whisker graphs</b></li> <li>construct <b>complex</b> bar, line, or circle graphs on gathered or given data sets</li>   <li><b>develop an understanding of statistical variability</b></li> <li>calculate mean, median, mode, and range and <b>interpret and explain their meaning</b></li> <li><b>determine the appropriate or best use of mean, median, mode, and range</b></li> <li><b>interpret the meaning of fractional and decimal values as related to mean</b></li> </ul>

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<b>Number and Operations – Grade Seven</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Mathematics can be used to describe, understand, and communicate about the world in order to solve problems and make decisions.</li>   <li>• Characteristics of a situation or problem influence the choice of numbers, operations, strategies, and tools.</li> </ul>	<ul style="list-style-type: none"> <li>• What does mathematics reveal about the world?</li> <li>• What situations require the use of mathematical understandings?</li> <li>• How does mathematics enable people to work with intangible phenomena (such as distance, space, and nanosecond)?</li> <li>• How do concrete materials model mathematical situations?</li>   <li>• How do the characteristics of a situation influence the choice of operations, strategies, and tools?</li> <li>• How is a solution determined to be reasonable, accurate, and complete?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.8</b> Students understand various mathematical procedures and use them appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Integers</li>   <li>• Rational numbers</li>   <li>• Real numbers</li>   <li>• Percents</li> </ul>	<p>Student will:</p> <ul style="list-style-type: none"> <li>• identify, order, and compare integers</li> <li>• <b>graph integers on a number line</b></li> <li>• <b>add, subtract, multiply, and divide integers and explain their operational processes</b></li>   <li>• identify, order, and compare rational numbers</li> <li>• <b>graph rational numbers on a number line</b></li> <li>• <b>apply properties of operations as strategies to add, subtract, multiply, and divide rational numbers and explain their operational processes</b></li> <li>• <b>describe situations in which opposite quantities combine to make 0</b></li> <li>• <b>understand subtraction of rational numbers as adding the additive inverse</b></li> <li>• <b>convert rational numbers to decimals and classify as terminating, non-terminating, and repeating</b></li> <li>• <b>solve real-world and mathematical problems involving the four operations of rational numbers</b></li>   <li>• <b>classify real numbers as rational, irrational, whole, integer, or natural</b></li>   <li>• <b>convert between decimal, fraction, and percent formats</b></li> <li>• <b>compare and order percents (including those less than one and greater than 100)</b></li> </ul>

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	<ul style="list-style-type: none"> <li>• Ratios</li>   <li>• Exponents and roots</li> </ul>	<ul style="list-style-type: none"> <li>• <b>calculate the percent of a number (20% of 50) including applications to</b> <ul style="list-style-type: none"> <li>○ <b>tax and discount</b></li> <li>○ <b>simple interest</b></li> <li>○ <b>commissions</b></li> <li>○ <b>gratuities</b></li> <li>○ <b>percent of change</b></li> </ul> </li> <li>• recognize and represent proportional relationships between quantities</li> <li>• identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships</li> <li>• solve ratio equations <b>using cross-multiplication</b></li> <li>• solve word problems involving <b>ratios and proportions, including the percent proportion</b> (16 is what percent of 90)</li> <li>• <b>apply ratios and solve problems involving scale, models, and unit rates</b></li> <li>• <b>calculate perfect square roots</b></li> <li>• <b>estimate the value of a non-perfect square root to a given decimal point value</b></li> </ul>
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<b>Geometry and Measurement – Grade Seven</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Attributes and relationships of plane and solid figures, objects, and patterns can be used to describe, understand, and communicate about the world.</li>   <li>• Geometry has many real-world applications including design, architecture, and art.</li>   <li>• Measurement allows description, understanding, and communication about the world.</li> </ul>	<ul style="list-style-type: none"> <li>• How can geometry be seen in the natural and human-designed environments?</li> <li>• How are distance, direction, coordinates, and scale used to understand and explain the arrangement of objects and locations?</li> <li>• How do models and scale drawings enhance understanding used in problem-solving and design?</li>   <li>• How do the characteristics of geometric shapes and figures influence their use in aesthetic and functional designs?</li>   <li>• How is measurement used to quantify information about objects and events?</li> <li>• How do the characteristics of objects and events influence the choice of measurement strategies and tools?</li> <li>• How does the precision required for a measurement influence the choice of strategies and tools?</li> <li>• How is the understanding and communication about measurement used to solve problems and make decisions?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.10</b> Students understand measurement concepts and use measurements appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Plane figures</li>   <li>• Solid figures</li>   <li>• Formulas</li> </ul>	<p>Student will:</p> <ul style="list-style-type: none"> <li>• prove the similarity of plane figures <b>by identifying congruent angles and proportional sides</b></li> <li>• <b>solve problems involving scale drawings</b></li> <li>• calculate the lengths of sides of similar plane figures</li> <li>• <b>sketch, draw, and construct geometric shapes with given conditions using ruler, protractor, compass, and technology</b></li> <li>• <b>construct triangles from three measures of angles or sides</b></li> <li>• <b>verify the properties of dilations, rotations, reflections, and translations and use these properties to compare two-dimensional figures</b></li>   <li>• <b>describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids</b></li>   <li>• <b>develop and/or use formulas</b> to calculate surface area and volume for solid figures (cone, sphere, pyramid, prism, cylinders)</li> <li>• <b>develop and/or use formulas to calculate the area and circumference of circles</b></li> <li>• <b>develop and/or use formulas</b> to calculate the area and perimeter of plane figures</li> </ul>

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<b>Algebra – Grade Seven</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Patterns aid description, understanding, and communication about the world.</li>   <li>• Patterns and number relationships can be used to investigate, understand, and solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• How and why are patterns used and where can they be found in human-designed environments?</li> <li>• How are patterns and number relationships represented symbolically (such as consecutive odd numbers)?</li> <li>• How are tables, graphs, and equations used to represent, analyze, and extend patterns?</li>   <li>• How are patterns used to solve problems and communicate information?</li> <li>• What kinds of strategies help to reveal patterns and number relationships?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.11</b> Students understand mathematical change concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.12</b> Students understand mathematical structure concepts including the properties and logic of various mathematical systems.</p>	<ul style="list-style-type: none"> <li>• Expressions</li>   <li>• One-variable linear equations and inequalities</li> </ul>	<p>Student will:</p> <ul style="list-style-type: none"> <li>• <b>apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients</b></li> <li>• <b>translate an expression from written to algebraic form and from algebraic to written form</b></li> <li>• <b>identify and combine like terms</b> (<math>2x + 3x = 5x</math>)</li>   <li>• solve and check <b>two-step equations</b> (<math>2x + 3 = 5</math>) <b>using rational numbers and the distributive property</b> [<math>2(x + 3) = 8</math>]</li> <li>• <b>solve, check, and graph the solution to one- and two-step one-variable linear inequalities, excluding multiplication or division by a negative</b> [<math>2x &gt; 8</math>; <math>x - 5 &lt; -9</math>]</li> <li>• solve <b>multi-step</b> real-life mathematical problems posed with positive and negative rational numbers in any form by constructing simple equations and inequalities</li> <li>• evaluate solutions for reasonableness, accuracy, and completeness</li> </ul>



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<b>Algebra – Grade Eight</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Mathematics can be used to describe, understand, and communicate about the world in order to solve problems and make decisions.</li> <li>• Characteristics of a situation or problem influence the choice of numbers, operations, strategies, and tools.</li> </ul>	<ul style="list-style-type: none"> <li>• What does mathematics reveal about the world?</li> <li>• What situations require the use of mathematical understandings?</li> <li>• How does mathematics enable people to work with intangible phenomena (such as distance, space, and nanosecond)?</li> <li>• How do concrete materials model mathematical situations?</li> <li>• How do the characteristics of a situation influence the choice of numbers, operations, strategies, and tools?</li> <li>• How is it determined that a solution is reasonable, accurate, and complete?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.8</b> Students understand various mathematical procedures and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.10</b> Students understand measurement concepts and use measurements appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Expressions</li> </ul>	<p>Student will:</p> <ul style="list-style-type: none"> <li>• <b>interpret parts of an expression, such as terms, factors, and coefficients</b></li> <li>• <b>apply the appropriate properties of real numbers and the steps for order of operations to write, evaluate, simplify, add, subtract, multiply, and divide expressions:</b> <ul style="list-style-type: none"> <li>○ polynomial</li> <li>○ rational</li> <li>○ radical</li> <li>○ exponential including concept of scientific notation</li> </ul> </li> <li>• <b>derive the formula for the sum of a finite geometric series and use to solve problems</b></li> <li>• <b>understand that a function, <math>y = f(x)</math>, is a rule that assigns to each input (domain) exactly one output (range) – the graph of a function is the set of ordered pairs consisting of an input and the corresponding output</b> <ul style="list-style-type: none"> <li>○ compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal description)</li> </ul> </li> <li>• <b>use function notation to evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context</b></li> </ul>

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<p><b>Academic Expectation 2.11</b> Students understand mathematical change concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 2.12</b> Students understand mathematical structure concepts including the properties and logic of various mathematical systems.</p> <p><b>Academic Expectation 2.13</b> Students understand and appropriately use statistics and probability.</p>	<ul style="list-style-type: none"> <li>• Equations, functions, and inequalities</li> </ul>	<ul style="list-style-type: none"> <li>• <b>solve one-variable linear equations and inequalities</b> <ul style="list-style-type: none"> <li>○ interpret the solution to identify the number of acceptable solutions (e.g., zero, one, infinitely many solutions)</li> <li>○ solve, graph, and check the solution to any one-variable linear equation or inequality</li> <li>○ solve and graph the solution to compound linear equations and inequalities including absolute value (<math>x &gt; 2</math> and <math>x &lt; 3</math>; <math> x  = 3</math>)</li> <li>○ rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations (linear equations)</li> </ul> </li> <li>• <b>analyze and solve linear equations, functions, and pairs of linear equations and functions</b> <ul style="list-style-type: none"> <li>○ understand the connections between proportional relationships, lines, linear equations, and inequalities with relation to slope</li> <li>○ solve two-variable linear equations, functions, and inequalities           <ul style="list-style-type: none"> <li>• interpret the solution to identify the number of acceptable solutions (e.g., zero, one, infinitely many solutions)</li> <li>• solve, graph, and check the solution to two-variable linear equations and inequalities including absolute value</li> <li>• understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously</li> <li>• solve, graph, and check the solution to two-variable systems of linear equations and inequalities using:               <ul style="list-style-type: none"> <li>• substitution</li> <li>• graphing</li> <li>• linear combination (elimination)</li> </ul> </li> <li>• write the equation of a line using:               <ul style="list-style-type: none"> <li>• data table</li> <li>• linear graph</li> <li>• point-slope form</li> <li>• slope-intercept form</li> <li>• standard form</li> <li>• slope formula</li> <li>• x-intercept and y-intercept</li> <li>• parallel and perpendicular slopes</li> </ul> </li> <li>• construct a viable argument to justify a solution method</li> </ul> </li> <li>• <b>solve quadratic equations</b> <ul style="list-style-type: none"> <li>○ understand that solutions to a quadratic equation correspond to the x-intercepts of their graphs</li> </ul> </li> </ul> </li></ul>
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	<ul style="list-style-type: none"> <li>• Problem solving</li> </ul>	<ul style="list-style-type: none"> <li>○ interpret the solution to identify the number of acceptable solutions (e.g., zero, one, and two)</li> <li>○ solve and check the solution to any quadratic equation and inequality using:             <ul style="list-style-type: none"> <li>• graphing – intercepts, vertex, maxima, minima, and line of symmetry</li> <li>• quadratic formula: <math>x = [-b \pm (b^2 - 4ac)^{1/2}] / 2a</math></li> <li>• factoring</li> <li>• formula for the line of symmetry: <math>x = -b/2a</math></li> <li>• completing the square</li> <li>• standard graphing form: <math>y = a(x-b)^2 + c</math></li> <li>• standard form: <math>y = ax^2 + bx + c</math></li> </ul> </li> <li>○ construct a viable argument to justify a solution method</li> <li>○ write a quadratic equation given a graph of a parabola or set of values</li> <li>• radical equations             <ul style="list-style-type: none"> <li>○ interpret the solution to identify the number of acceptable solutions (e.g., extraneous solutions)</li> <li>○ solve and check the solution to radical equations by:                 <ul style="list-style-type: none"> <li>• completing the square</li> <li>• squaring both sides of the equation</li> <li>• applying Pythagorean Theorem</li> </ul> </li> <li>○ construct a viable argument to justify a solution method</li> </ul> </li> <li>• rational equations             <ul style="list-style-type: none"> <li>○ interpret the solution to identify the number of acceptable solutions (e.g., extraneous solutions)</li> <li>○ solve and check the solution to rational equations using the concepts of:                 <ul style="list-style-type: none"> <li>• the conjugate</li> <li>• least common denominator</li> <li>• cross-multiplication</li> </ul> </li> <li>○ construct a viable argument to justify a solution method</li> </ul> </li> <li>• create equations and inequalities in one or two variables and use them to solve problems</li> <li>• solve standard word problems using one or two variables including:             <ul style="list-style-type: none"> <li>○ uniform motion or distance</li> <li>○ consecutive integers</li> <li>○ geometric properties of perimeter, area, and Pythagorean Theorem</li> <li>○ mixture or solution</li> <li>○ work</li> </ul> </li> </ul>
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	<ul style="list-style-type: none"><li>• Statistics and probability</li></ul>	<ul style="list-style-type: none"><li>○ combination</li><li>○ place value or digit</li><li>○ age</li><li>○ scientific notation</li><li>• interpret the solution to identify the number of acceptable solutions (e.g., extraneous solutions)</li><li>• evaluate solutions for reasonableness, accuracy, and completeness</li><li>• investigate patterns of association in two-variable data<ul style="list-style-type: none"><li>○ construct and interpret scatter plots to investigate patterns of association such as positive and negative correlation, linear and nonlinear associations, and outliers</li></ul></li></ul>
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<b>Examples of Formative and Summative Assessments</b>		
<b>Primary</b>	<b>Intermediate</b>	<b>Middle School</b>
Observations Anecdotal records Pre- and post-assessments Multiple choice assessments Open response questions Drawing software Oral presentations Graphic organizers K-W-L charts Summaries Entry / exit tickets Models Video productions Dramatizations Mobiles Brochures Diagrams Groups projects Art, dance, and music performances Math portfolio entries Math talks PowerPoint presentations Math centers Collages and posters	Pre- and post-assessments Simple Solutions (or similar type of daily spiral review) Problem solving Word problems Student generated questions "Where's the Math?" Math-related current events Estimation jars Math centers Group projects Anchor activities Open response questions Brochures Art, dance, and music performances Textbook and teacher created tests and quizzes Diagrams Persuasive, informative, and descriptive essays File folder games Concept mapping Real-life applications Function machines Problems or number of the day WebPages PowerPoint presentations Oral presentations Graphic organizers Models K-W-L charts Debates Interviews Poetry Entry / exit tickets Video productions Multiple choice assessments	Teacher created / book generated tests and quizzes Posters / graphic organizers / brochures Student created tests and quizzes Student written word problems Speeches ("How does the real world use order of operations?") Songs related to mathematical topics Real-life task performances related to taxes, cooking, sports, investments, etc. Geometric models / mobiles Essays Error analysis Student taught lessons Oral response Scale maps / drawings Cumulative exams / tests K-W-L charts Pre-assessment of prior knowledge Slide show presentations Cooperative group presentations Self-evaluation Informal observations Homework Warm-up activities Data gathered to model function rules

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**Examples of Applications for Technology/Library Media – Primary**

**General Applications**

- Use applicable software and web pages for problem solving and skills practice.
- Create multimedia presentations and web pages on topics in mathematics.
- Use alternate technologies to reinforce content curriculum (e.g., scanners, interactive whiteboards, projectors, computers, calculators, cameras, videos, and microphones).
- Use student response systems to assess student understanding.

**Number and Operations**

- Use books to expand on skills (e.g., counting books, pattern books, and shape books).
- Relate place value and ordering with call numbers.

**Geometry**

- Use content appropriate electronic tools (e.g., use camera to photograph shapes around learning environment).

**Measurement**

- Use applicable computer drawing tools (e.g., paint and graphics).

**Algebra**

- Use graphic applications (e.g., use clip art to make patterns).

**Data Analysis**

- Use database, templates, and spreadsheets (e.g., record information from class graphs, surveys, and daily observations).

**Archdiocese of Louisville  
Curriculum Framework  
Mathematics**

**Examples of Applications for Technology/Library Media – Intermediate**

**General Applications**

- Use grade appropriate problem solving and skills practice software.
- Create multimedia presentations on topics in mathematics.
- Use alternate technologies to reinforce content curriculum (e.g., electronic white boards, scanners, projectors, calculators, etc.).
- Use student response systems to assess student understanding.

**Number and Operations**

- Create a spreadsheet to demonstrate knowledge of operations (+, -,  $\times$ ,  $\div$ ).
- Use calculator to search for numerical patterns.
- Relate call numbers/Dewey Decimal System to ordering and place value.

**Geometry**

- Create geometric figures using a drawing program.
- Use camera to find examples of geometric shapes in the world.

**Measurement**

- Use encyclopedias, almanacs, and other reference tools to find real world measurements (e.g., perimeter, volume, area).
- Use drawing program to demonstrate knowledge of measurement (e.g., area of a room).

**Algebra**

- Use spreadsheet to create a function machine.
- Use a drawing program to design arrays to demonstrate multiplicative properties.

**Data Analysis and Probability**

- Use grade appropriate software to create different graphs/charts and compare/interpret data in multiple layouts.

**Archdiocese of Louisville  
Curriculum Framework  
Mathematics**

**Examples of Applications for Technology/Library Media – Middle School**

**General Applications**

- Use applicable software and online resources for problem solving, skill practice, supplemental lessons, and simple programming.
- Research mathematics topics using library media or Internet resources.
- Create multimedia presentation or web pages on topics in mathematics.
- Reinforce content using alternate technologies (e.g., scanners, electronic white boards, projection devices, computers, calculators, cameras, videos).
- Use student response systems to assess student understanding.

**Number and Operations**

- Use spreadsheet software to solve real-world or simulated real-world problems (e.g., balancing a check book, calculating credit card or loan payments with interest).

**Geometry**

- Use geometry web sites or software to demonstrate geometric principles or theorems.
- Use software to create tessellations.

**Algebra**

- Use a spreadsheet to demonstrate functional relationships.
- Use a graphing calculator for graphing equations and exploring algebraic concepts.

**Measurement**

- Use a spreadsheet to create a conversion table for different units of measurement.
- Use CAD or home design software to design a room or house and calculate area, volume, and costs.

**Data Analysis and Probability**

- Use Internet resources to gather real-world data for statistical analysis.
- Use spreadsheet software to collect and represent data in a variety of forms (e.g., compile survey results and display information in appropriate graph format).

# **Science Curriculum Framework**

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# Science Curriculum Framework

## Archdiocese of Louisville

In 2010, the National Academy of Sciences, Achieve, the American Association for the Advancement of Science, and the National Science Teachers Association embarked on a two-step process to develop the *Next Generation Science Standards* (NGSS). The first step of the process was the creation of *A Framework for K-12 Science Education* report. The *Framework* is grounded in the most current research on science and scientific learning. The second step in the process was the development of the *Next Generation Science Standards*, grounded in the *Framework*.

*A Framework for K-12 Science Education* outlines the three dimensions that are needed to provide students with a high-quality science education. The integration of these three dimensions provides students with a context for the content of science, how science knowledge is acquired and understood, and how the individual sciences are connected through concepts that have universal meaning across disciplines. The three dimensions are:

- Dimension 1: Practices – Dimension 1 describes the major practices that scientists employ as they investigate and build models and theories about the world and a key set of engineering practices.
- Dimension 2: Crosscutting Concepts – The crosscutting concepts have application across all domains of science. They reflect the ideas and practices that cut across the science disciplines.
- Dimension 3: Disciplinary Core Ideas – An important role of science today is to prepare students with sufficient core knowledge so that they can later acquire additional information on their own.

Performance Expectations reflect the three dimensions. For instance, the 1<sup>st</sup> grade Performance Expectation 1-PS4-1 – Waves and Their Applications in Technologies for Information Transfer, states that:

**Students who demonstrate understanding can:**

Plan and conduct investigations (*Science and Engineering Practice – Dimension 1*)

to provide evidence that (*Crosscutting Concept – Dimension 2*)

vibrating materials can make sound and sound can make materials vibrate. (*Disciplinary Core Idea – Dimension 3*)

In addition, the Dimension Boxes located below the Performance Expectations contain the information regarding the three dimensions as they relate to a particular Performance Expectation.

A small set of core ideas in science and engineering were developed and evaluated based on four key criteria. To be regarded as core, an idea had to meet at least two of the criteria. A core idea for K-12 science instruction should:

1. Have broad importance across multiple science or engineering disciplines or be a key organizing principle of a single discipline.
2. Provide a key tool for understanding or investigating more complex ideas and solving problems.
3. Relate to the interests and life experiences of students or be connected to societal or personal concerns that require scientific or technology knowledge.
4. Be teachable and learnable over multiple grades at increasing levels of depth and sophistication. That is, the idea can be made accessible to younger students but is broad enough to sustain continued investigation over the years.

In order to create standards aligned to the *Framework*, the chief state school officers and the state board of education chairs formed a state partnership. The *Framework* formed the basis for the development of the *Next Generation Science Standards*. The NGSS writing team was composed of K-20 classroom teachers, scientists, and science education researchers.

Catholic schools have a long-standing commitment to academic excellence that is rooted in the faith-based mission of Catholic education. The Archdiocese of Louisville engaged in a period of extensive study in 2015. **The Archdiocese of Louisville Science Curriculum Framework is adapted from the *Next Generation Science Standards*.** Considerable attention was given to the connections between Catholic Identity and Science, outlining ways the particular Science Performance Expectations are lived out through our Catholic beliefs .

The Science Curriculum Framework reflects the interconnected nature of science as it is practiced and experienced in the real world. The focus is on a smaller, more teachable number of disciplinary core ideas rather than an abundance of facts and the details associated with them. The emphasis is on a deeper understanding of each. The standards are written as learning progressions that integrate the three dimensions. They serve as the guidelines for assessment, not instructional tasks or curriculum mandates. The new standards provide teachers with the opportunity to challenge learners through authentic, meaningful learning contexts through an inquiry-based approach.

Adapted from *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas*,  
National Research Council of the National Academies, 2012,  
and the *Next Generation Science Standards*,  
The National Academies Press, 2013.

## Science Standards Arranged by Disciplinary Core Ideas

### Life Science

- LS1 From Molecules to Organisms: Structures and Processes
- LS2 Ecosystems: Interactions, Energy, and Dynamics
- LS3 Heredity: Inheritance and Variation of Traits
- LS4 Biological Evolution: Unity and Diversity

### Physical Science

- PS1 Matter and Its Interactions
- PS2 Motion and Stability: Forces and Interactions
- PS3 Energy
- PS4 Waves and Their Applications in Technologies for Information Transfer

### Earth Science

- ESS1 Earth's Place in the Universe
- ESS2 Earth's Systems
- ESS3 Earth and Human Activity

### Engineering and Technology

- ETS1 Engineering Design
- ETS2 Links Among Engineering, Technology, Science, and Society

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## Scientific Thinking and Problem-Solving – Pre-Kindergarten

Essential Understandings	Guided Questions
<ul style="list-style-type: none"> <li>• Using the five senses helps us to develop awareness of the world around us.</li> <li>• Learning the body parts and their functions helps to develop personal health habits.</li> <li>• The development of foundational scientific concepts helps develop critical thinking skills.</li> <li>• Self-help skills promote independence and lead to a safe environment.</li> </ul>	<ul style="list-style-type: none"> <li>• How do the five senses help us to learn more about our world?</li> <li>• How can practicing personal health habits keep us safe and healthy?</li> <li>• How can understanding specific scientific concepts help us understand the world around us?</li> <li>• Why is it important to care for ourselves?</li> </ul>
Content Guidelines	Performance Standards
<p>Observation</p> <p>Investigation</p> <p>Scientific Concepts</p> <p>Personal Health and Wellness</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• use the five senses to observe and explore</li> <li>• name the five senses and their functions</li> <li>• explore the natural world by observing and making predictions</li> <li>• use the senses to investigate and describe properties of material objects (color, size, shape, texture, flexibility)</li> <li>• recognize and use a variety of tools for investigation of the environment</li> <li>• recognize and name body parts and their functions</li> <li>• understand weather and seasons</li> <li>• recognize and name the basic colors</li> <li>• participate in a variety of physical activities that enhance personal health and fitness</li> <li>• engage in active physical play indoors and outdoors</li> <li>• identify and practice personal health habits (e.g., washing hands, caring for teeth and eyes, covering coughs and sneezes, blowing nose) which affect self and others</li> <li>• demonstrate healthy eating habits by eating a variety of nutritious foods</li> <li>• exhibit ability to be separated from parent for an extended period</li> </ul>

Self-Help Skills	<ul style="list-style-type: none"><li>• develop awareness of own needs and the ability to communicate those needs</li><li>• develop inter-dependence in caring for self and the environment</li><li>• demonstrate increasing independence with basic self-care skills</li><li>• care for self in the restroom</li> <li>• use fork or spoon as appropriate for eating</li><li>• clean up after work/play period</li><li>• keep track of personal belongings</li><li>• fasten and unfasten own clothing without assistance (zipper, shoes, jacket)</li></ul>
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**Archdiocese of Louisville  
Curriculum Framework  
Science**

<b>K-PS2-1 Motion and Stability: Forces and Interactions</b>		
<p>Students who demonstrate understanding can:</p> <p><b>K-PS2-1 Plan and conduct investigations to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.</b></p> <p><i>Clarification Statement: Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other.</i></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <p>* With guidance, plan and conduct an investigation in collaboration with peers.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Investigations Use a Variety of Methods</b> * Scientists use different ways to study the world.</p>	<p><b>PS2.A Forces and Motion</b> * Pushes and pulls can have different strengths and directions. * Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it.</p> <p><b>PS2.B Types of Interactions</b> * When objects touch or collide, they push on one another and can change motion.</p> <p><b>PS3.C Relationship Between Energy and Forces</b> * A bigger push or pull makes things speed up or slow down more quickly. <i>(secondary emphasis)</i></p>	<p><b>Cause and Effect</b> * Simple tests can be designed to gather evidence to support or refute student ideas about causes.</p>
<b>Guided Questions</b>		
<p>* How does the motion of the object change based on the strength of the push or pull? * How does the motion of the object change based on the direction of the push or pull?</p>		
<b>Catholic Identity Connections</b>		
<p>* We are sometimes pushed from the path of doing what is right and pulled toward making bad decisions. * Choices are made for the good of all.</p>		

**Archdiocese of Louisville  
Curriculum Framework  
Science**

<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>	
<b>ELA Literacy</b>	
<b>W.K.7</b>	<i>Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).</i>
<b>Mathematics</b>	
<b>MP</b>	<i>Reason abstractly and quantitatively.</i>
<b>M</b>	<i>Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.</i>
<b>M</b>	<i>Directly compare two objects with a measurable attribute in common to see which object has "more of"/"less of" the attribute, and describe the difference.</i>
<b>Connections to Other DCIs in Kindergarten</b>	
<b>NA</b>	
<b>Articulation to DCIs across Grade Levels</b>	
<b>3.PS2.A; 3.PS2.B; 4.PS2.B</b>	

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**K-PS2-2 Motion and Stability: Forces and Interactions**

Students who demonstrate understanding can:

**K-PS2-2 Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.**

*Clarification Statement: Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, and knock down other objects. Examples of solutions could include tools such as a ramp to increase the speed of the object and a structure that would cause an object such as a marble or ball to turn.*

*Assessment Boundary: Assessment does not include friction as a mechanism for change in speed.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</p> <p>* Analyze data from tests of an object or tool to determine if it works as intended.</p>	<p><b>PS2.A Forces and Motion</b> * Pushes and pulls can have different strengths and directions. * Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it.</p> <p><b>ETS1.A Defining Engineering Problems</b> * A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have acceptable solutions.</p>	<p><b>Cause and Effect</b> * Simple tests can be designed to gather evidence to support or refute student ideas about causes.</p>

**Guided Questions**

\* With the help of Jesus, we are able to follow the path in the direction of love and kindness.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RI.K.1** *With prompting and support, ask and answer questions about key details in a text.*

**SL.K.3** *Ask and answer questions in order to seek help, get information, or clarify something that is not understood.*

**Connections to Other DCIs in Kindergarten**

**K.ETS1.A; K.ETS1.B**

**Articulation to DCIs across Grade Levels**

**2.ETS1.B; 2.PS2.A; 4.ETS1.A**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**K-PS3-1 Energy**

Students who demonstrate understanding can:

**K-PS3-1 Make observations to determine the effect of sunlight on Earth's surface.**

*Clarification Statement: Examples of Earth's surface could include sand, soil, rocks, and water.*

*Assessment Boundary: Assessment of temperature is limited to relative measures such as warmer/cooler.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <p>* Make observations (firsthand or from media) to collect data that can be used to make comparisons.</p> <p style="text-align: center;">----- <b>Connections to Nature of Science</b></p> <p><b>Scientific Investigations Use a Variety of Methods</b> * Scientists use different ways to study the world.</p>	<p><b>PS3.B Conservation of Energy and Energy Transfer</b> * Sunlight warms Earth's surface.</p>	<p><b>Cause and Effect</b> * Events have causes that generate observable patterns.</p>

**Guided Questions**

- \* What are ways to reduce the warming effect of sunlight on Earth's surfaces?
- \* What are positive effects of the sun's warmth on the Earth?

**Catholic Identity Connections**

- \* God created the sun to provide the Earth with warmth and light.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**  
**W.K.7** *Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).*

**Mathematics**  
**M** *Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference.*

**Archdiocese of Louisville  
Curriculum Framework  
Science**

<b>Connections to Other DCIs in Kindergarten</b>
<b>NA</b>
<b>Articulation to DCIs across Grade Levels</b>
<b>1.PS4.B; 3.ESS2.D</b>

**Archdiocese of Louisville  
Curriculum Framework  
Science**

<b>K-PS3-2 Energy</b>		
Students who demonstrate understanding can: <b>K-PS3-2 Use tools and materials provided to design and build a structure that will reduce the warming effect of sunlight on Earth's surface.</b> <i>Clarification Statement: Examples of structures could include umbrellas, canopies, and tents that minimize the warming effect of the sun.</i>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.  * Use tools and materials provided to design and build a device that solves a specific problem or a solution to a specific problem.	<b>PS3.B Conservation of Energy and Energy Transfer</b> * Sunlight warms the Earth's surface.	<b>Cause and Effect</b> * Events have causes that generate observable patterns.
<b>Guided Questions</b>		
* We each have a responsibility to do our part to make the world a better place.		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<b>ELA Literacy</b>		
<b>W.K.7</b> <i>Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).</i>		
<b>Mathematics</b>		
<b>M</b> <i>Directly compare two objects with a measurable attribute in common to see which object has "more of"/"less of" the attribute, and describe the difference.</i>		
<b>Connections to Other DCIs in Kindergarten</b>		
<b>K.ETS1.A; K.ETS1.B</b>		
<b>Articulation to DCIs across Grade Levels</b>		
<b>1.PS4.B; 2.ETS1.B; 4.ETS1.A</b>		

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**K-LS1-1 From Molecules to Organisms: Structures and Processes**

Students who demonstrate understanding can:

**K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.**

*Clarification Statement: Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</p> <p>* Use observations (firsthand and from media) to describe patterns in the natural world in order to answer scientific questions.</p> <p style="text-align: center;">----- <b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Is Based on Empirical Evidence</b> * Scientists look for patterns and order when making observations about the world.</p>	<p><b>LS1.C Organization for Matter and Energy Flow in Organisms</b> * All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow.</p>	<p><b>Patterns</b> * Patterns in the natural and human-designed world can be observed and used as evidence.</p>

**Guided Questions**

- \* What do plants and animals need to survive?
- \* How are plants and animals interdependent?

**Catholic Identity Connections**

- \* We are called to respect and care for all creation because it is a gift of God's love.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.K.7** *Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).*

**Mathematics**

**M** *Directly compare two objects with a measurable attribute in common to see which object has "more of"/"less of" the attribute, and describe the difference.*

**Archdiocese of Louisville  
Curriculum Framework  
Science**

<b>Connections to Other DCIs in Kindergarten</b>
<b>NA</b>
<b>Articulation to DCIs across Grade Levels</b>
<b>1.LS1.A; 2.LS2.A; 3.LS2.C; 5.LS1.C; 5.LS2.A</b>

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**K-ESS2-1 Earth's Systems**

Students who demonstrate understanding can:

**K-ESS2-1 Use and share observations of local weather conditions to describe patterns over time.**

*Clarification Statement: Examples of qualitative observations could include descriptions of the weather (such as sunny, cloudy, rainy, and warm); examples of quantitative observations could include numbers of sunny, windy, and rainy days in a month. Examples of patterns could include that it is usually cooler in the morning than in the afternoon and the number of sunny days versus cloudy days is different in different months.*

*Assessment Boundary: Assessment of quantitative observations are limited to whole numbers and relative measures such as warmer/cooler.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</p> <p>* Use observations (firsthand and from media) to describe patterns in the natural world in order to answer scientific questions.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Science Knowledge Is Based on Empirical Evidence</b> * Scientists look for patterns and order when making observations about the world.</p>	<p><b>ESS2.D Weather and Climate</b> * Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time.</p>	<p><b>Patterns</b> * Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.</p>
<b>Guided Questions</b>		
<p>* How does the weather change throughout the year? * How can knowing about the weather of a certain time of year in the past help us to predict the weather for that same time this year?</p>		
<b>Catholic Identity Connections</b>		
<p>* The world God created for us has various types of weather at various times of the year.</p>		

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.K.7** *Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).*

**Mathematics**

**MP** *Reason abstractly and quantitatively.*

**MP** *Model with mathematics.*

**N&O** *Read numerals up to 100.*

**N&O** *Count by ones, fives, and tens to 100.*

**M** *Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.*

**M** *Sort and order objects by size, color, number, and other properties.*

**Connections to Other DCIs in Kindergarten**

**NA**

**Articulation to DCIs across Grade Levels**

**2.ESS2.A; 3.ESS2.D**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**K-ESS2-2 Earth's Systems**

Students who demonstrate understanding can:

**K-ESS2-2 Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.**

*Clarification Statement: Examples of plants and animals changing their environment could include that a squirrel digs in the ground to hide its food and tree roots can break concrete.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in K-2 builds on prior experiences and progresses to comparing ideas and representations about the natural and designed world.</p> <p>* Construct an argument with evidence to support a claim.</p>	<p><b>ESS2.E Biogeology</b> * Plants and animals can change the environment.</p> <p><b>ESS3.C Human Impacts on Earth Systems</b> * Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, and air, and other living things.</p>	<p><b>Systems and System Models</b> * Systems in the natural and designed world have parts that work together.</p>
<b>Guided Questions</b>		
* How do plants, animals, and people change their environment?		
<b>Catholic Identity Connections</b>		
* We are called to respect and care for all creation because it is a gift of God's love. * The choices we make can affect the world that God has created for us.		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<p><b>ELA Literacy</b></p> <p><b>RI.K.1</b> <i>With prompting and support, ask and answer questions about key details in a text.</i></p> <p><b>W.K.1</b> <i>Use a combination of drawing, dictating, pre-writing, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book.</i></p> <p><b>W.K.2</b> <i>Use a combination of drawing, dictating, pre-writing, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.</i></p>		
<b>Connections to Other DCIs in Kindergarten</b>		
NA		
<b>Articulation to DCIs across Grade Levels</b>		
4.ESS2.E; 5.ESS2.A		

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**K-ESS3-1 Earth and Human Activity**

Students who demonstrate understanding can:

**K-ESS3-1 Use a model to represent the relationship between the needs of different plants and animals.**

*Clarification Statement: Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in K-2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, dramatization, storyboard) that represent concrete events or design solutions.</p> <p>* Use a model to represent relationships in the natural world.</p>	<p><b>ESS3.A Natural Resources</b> * Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do.</p>	<p><b>Systems and System Models</b> * Systems in the natural and designed world have parts that work together.</p>

**Guided Questions**

- \* How are the needs of different plants and animals met by the various places in which they live?
- \* What factors determine the optimal environment for a living thing?

**Catholic Identity Connections**

- \* We must use God's gifts responsibly, seeing them as a reflection of God's love.
- \* We are called to care for the world around us.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**SL.K.5** *Add drawings or other visual displays to descriptions as desired to provide additional detail.*

**Mathematics**

**MP** *Reason abstractly and quantitatively.*

**MP** *Model with mathematics.*

**Connections to Other DCIs in Kindergarten**

**NA**

**Articulation to DCIs across Grade Levels**

**1.LS1.A; 5.LS2.A; 5.ESS2.A**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**K-ESS3-2 Earth and Human Activity**

Students who demonstrate understanding can:

**K-ESPS3-2 Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.**

*Clarification Statement: Emphasis is on local forms of severe weather.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in grades K-2 builds on prior experiences and progresses to simple descriptive questions that can be tested.</p> <p>* Ask questions based on observations to find more information about the designed world.</p> <p><b>Obtaining, Evaluating, and Communicating Information</b> Obtaining, evaluating, and communicating information in K-2 builds on prior experiences and uses observations and texts to communicate new information.</p> <p>* Read grade-appropriate texts and/or use media to obtain scientific information to describe patterns in the natural world.</p>	<p><b>ESS3.B Natural Hazards</b> * Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events.</p> <p><b>ETS1.A Defining and Delimiting an Engineering Problem</b> * Asking questions, making observations, and gathering information are helpful in thinking about problems. <i>(secondary emphasis)</i></p>	<p><b>Cause and Effect</b> * Events have causes that generate observable patterns. ----- <b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Interdependence of Science, Engineering, and Technology</b> * People encounter questions about the natural world every day.</p> <p><b>Influence of Engineering, Technology, and Science on Society and the Natural World</b> * People depend on various technologies in their lives; human life would be very different without technology.</p>
<b>Guided Questions</b>		
<p>* How can weather forecasting help people plan for, and respond to, specific types of local weather? * How can practice severe weather drills help us to be prepared?</p>		
<b>Catholic Identity Connections</b>		
<p>* Through prayer, we can ask for God's help and protection when we are frightened.</p>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<b>ELA Literacy</b>		
<b>Connections to Other DCIs in Kindergarten</b>		
<b>K.ETS1.A</b>		
<b>Articulation to DCIs across Grade Levels</b>		
<b>2.ESS1.C; 3.ESS3.B; 4.ESS3.B</b>		

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**K-ESS3-3 Earth and Human Activity**

Students who demonstrate understanding can:

**K-ESS3-3 Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.**

*Clarification Statement: Examples of human impact on the land could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Obtaining, Evaluating, and Communicating Information</b> Obtaining, evaluating, and communicating information in K-2 builds on prior experiences and uses observations and texts to communicate new information.</p> <p>* Communicate solutions with others in oral and/or written forms using models and/or drawings that provide detail about scientific ideas.</p>	<p><b>ESS3.C Human Impacts on Earth Systems</b> * Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things.</p> <p><b>ETS1.B Developing Possible Solutions</b> * Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. <i>(secondary emphasis)</i></p>	<p><b>Cause and Effect</b> * Events have causes that generate observable patterns.</p>

**Guided Questions**

- \* How can humans cause change to the local environment?
- \* What choices can people make to reduce negative impacts on the local environment?

**Catholic Identity Connections**

- \* God counts on us to make good decisions when it comes to taking care of our place in the world.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.K.2** *Use a combination of drawing, dictating, pre-writing, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.*

**Connections to Other DCIs in Kindergarten**

**K.ETS1.A**

**Articulation to DCIs across Grade Levels**

**2.ETS1.B; 4.ESS3.A; 5.ESS3.C**

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**Kindergarten Standards**

**K-PS2 Motion and Stability: Forces and Interactions**

- K-PS2-1** Plan and conduct an investigation to compare the effects of different strengths on different directions of pushes and pulls on the motion of an object.
- K-PS2-2** Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or pull.

**K-PS3 Energy**

- K-PS3-1** Make observations to determine the effect of sunlight on Earth's surface.
- K-PS3-2** Use tools and materials to design and build a structure that will reduce the warming effects of sunlight on an area.

**K-LS1 From Molecules to Organisms: Structures and Processes**

- K-LS1-1** Use observations to describe patterns of what plants and animals (including humans) need to survive.

**K-ESS2 Earth's Systems**

- K-ESS2-1** Use and share observations of local weather conditions to describe patterns over time.
- K-ESS2-2** Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

**K-ESS3 Earth and Human Activity**

- K-ESS3-1** Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.
- K-ESS3-2** Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.
- K-ESS3-3** Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.

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**K-2-ETS1 Engineering Design**

Students who demonstrate understanding can:

- K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.**
- K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.**
- K-2-ETS1-3 Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.**

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Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in K-2 builds on prior experiences and progresses to simple descriptive questions.</p> <ul style="list-style-type: none"> <li>* Ask questions based on observations to find more information about the natural and/or designed world.</li> <li>* Define a simple problem that can be solved through the development of a new or improved object or tool.</li> </ul> <p><b>Developing and Using Models</b> Modeling in K-2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, dramatization, or storyboard) that represent concrete events or design solutions.</p> <ul style="list-style-type: none"> <li>* Develop a simple model based on evidence to represent a proposed object or tool.</li> </ul> <p><b>Analyzing and Interpreting Data</b> Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</p> <ul style="list-style-type: none"> <li>* Analyze data from tests of an object or tool to determine if it works as intended.</li> </ul>	<p><b>ETS1.A Defining and Delimiting Engineering Problems</b></p> <ul style="list-style-type: none"> <li>* A situation that people want to change or create can be approached as a problem to be solved through engineering.</li> <li>* Asking questions, making observations, and gathering information are helpful in thinking about problems.</li> <li>* Before beginning to design a solution, it is important to clearly understand the problem.</li> </ul> <p><b>ETS1.B Developing Possible Solutions</b></p> <ul style="list-style-type: none"> <li>* Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.</li> </ul> <p><b>ETS1.C Optimizing the Design Solution</b></p> <ul style="list-style-type: none"> <li>* Because there is always more than one possible solution to a problem, it is useful to compare and test designs.</li> </ul>	<p><b>Structure and Function</b></p> <ul style="list-style-type: none"> <li>* The shape and stability of structures of natural and designed objects are related to their function(s).</li> </ul>

**Guided Questions**

- \* How can creativity and curiosity help people to solve problems?

**Catholic Identity Connections**

- \* God has given each of us talents that allow us to make the world a better place.

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**1-PS4-1 Waves and Their Applications in Technologies for Information Transfer**

Students who demonstrate understanding can:  
**1-PS4-1 Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.**  
*Clarification Statement: Examples of vibrating materials that make sound include tuning forks and plucking a stretched string. Examples of how sound can make matter vibrate could include holding a piece of paper near a speaker making sound and holding an object near a vibrating tuning fork.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b>                      Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <p>* Plan and conduct investigations collaboratively to produce evidence to answer a question.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Investigations Use a Variety of Methods</b>                      * Science investigations begin with a question.                      * Scientists use different ways to study the world.</p>	<p><b>PS4.A Wave Properties</b>                      * Sound can make matter vibrate, and vibrating matter can make sound.</p>	<p><b>Cause and Effect</b>                      * Simple tests can be designed to gather evidence to support or refute student ideas about causes.</p>

**Guided Questions**

- \* How do vibrating materials cause sound?
- \* How does sound cause materials to vibrate?

**Catholic Identity Connections**

- \* God gave us our senses which allow us to hear sound and see and feel vibrations.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

- ELA Literacy**
- W.1.7** *Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).*
  - W.1.8** *With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.*
  - SL.1.1** *Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.*

**Connections to Other DCIs in First Grade**

**NA**

**Articulation to DCIs across Grade Levels**

**NA**

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<b>1-PS4-2 Waves and Their Applications in Technologies for Information Transfer</b>		
Students who demonstrate understanding can:		
<b>1-PS4-2 Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated.</b>		
<i>Clarification Statement: Examples of observations could include those made in a completely dark room, a pinhole box, and a video of a cave explorer with a flashlight. Illumination could be from an eternal light source or by an object giving off its own light.</i>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.  * Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.	<b>PS4.B Electromagnetic Radiation</b> * Objects can be seen if light is available to illuminate them or if they give off their own light.	<b>Cause and Effect</b> * Simple tests can be designed to gather evidence to support or refute student ideas about causes.
Guided Questions		
* Why is light necessary for us to see objects?		
Catholic Identity Connections		
* God gave us the gift of sight so that we can see and appreciate the world around us. * We delight in the world around us.		
Archdiocese of Louisville ELA and Mathematics Standards Connections		
<b>ELA Literacy</b> <b>W.1.2</b> Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. <b>W.1.7</b> Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions). <b>W.1.8</b> With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. <b>SL.1.1</b> Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.		
Connections to Other DCIs in First Grade		
NA		
Articulation to DCIs across Grade Levels		
<b>4.PS4.B</b>		

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<b>1-PS4-3 Waves and Their Applications in Technologies for Information Transfer</b>		
<p>Students who demonstrate understanding can:</p> <p><b>1-PS4-3 Plan and conduct investigations to determine the effect of placing objects made with different materials in the path of a beam of light.</b>  <i>Clarification Statement: Examples of materials could include those that are transparent (such as clear plastic), translucent (such as wax paper), opaque (such as cardboard) and reflective (such as a mirror).</i>  <i>Assessment Boundary: Assessment does not include the speed of light.</i></p>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<p><b>Planning and Carrying Out Investigations</b>            Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <p>* Plan and conduct investigations collaboratively to produce evidence to answer a question.</p>	<p><b>PS4.B Electromagnetic Radiation</b>            * Some materials allow light to pass through them, others allow only some light through, and others block all the light and create a dark shadow on any surface beyond them, where the light cannot reach. Mirrors can be used to redirect a light beam. <i>(Boundary: The idea that light travels from place to place is developed through experiences with light sources, mirrors, and shadows, but no attempt is made to discuss the speed of light.)</i></p>	<p><b>Cause and Effect</b>            * Simple tests can be designed to gather evidence to support or refute student ideas about causes.</p>
<b>Guided Questions</b>		
<p>* What happens when light is directed toward different types of materials?</p>		
<b>Catholic Identity Connections</b>		
<p>* We are each called to let our light shine for all to see.</p>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<p><b>ELA Literacy</b>  <b>W.1.7</b> <i>Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).</i>  <b>W.1.8</b> <i>With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.</i></p>		
<b>Connections to Other DCIs in First Grade</b>		
<p><b>NA</b></p>		
<b>Articulation to DCIs across Grade Levels</b>		
<p><b>2.PS1.A</b></p>		

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<b>1-PS4-4 Waves and Their Applications in Technologies for Information Transfer</b>		
<p>Students who demonstrate understanding can:</p> <p><b>1-PS4-4 Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.</b></p> <p><i>Clarification Statement: Examples of devices could include a light source to send signals, paper cup and string "telephones", and a pattern of drum beats.</i></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.</p> <p>* Use tools and materials provided to design a device that solves a specific problem.</p> <p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in K-2 builds on prior experiences and progresses to simple descriptive questions.</p> <p>* Define a simple problem that can be solved through the development of a new or improved object or tool.</p>	<p><b>PS4.C Information Technologies and Instrumentation</b> * People use a variety of devices to communicate (send and receive information) over long distances.</p>	<p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Engineering, Technology, and Science on Society and the Natural World</b> * People depend on various technologies in their lives; human life would be very different without technology.</p>
Guided Questions		
<p>* How can people communicate over a long distance using light or sound? * How does communicating over long distances help people?</p>		
Catholic Identity Connections		
<p>* We demonstrate our love for others through respectful communication. * Prayer is the way we communicate with God.</p>		
Archdiocese of Louisville ELA and Mathematics Standards Connections		
<p><b>ELA Literacy</b> <b>W.1.7</b> <i>Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).</i></p> <p><b>Mathematics</b> <b>MP</b> <i>Use appropriate tools strategically.</i> <b>M</b> <i>Order three objects by length; compare the lengths of two objects indirectly by using a third object.</i> <b>M</b> <i>Understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps.</i></p>		

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<b>Connections to Other DCIs in First Grade</b>
<b>NA</b>
<b>Articulation to DCIs across Grade Levels</b>
<b>K.ETS1.A, 2.ETS1.B, 4.PS4.C, 4.ETS1.A</b>

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<b>1-LS1-1 From Molecules to Organisms: Structures and Processes</b>		
<p>Students who demonstrate understanding can:</p> <p><b>1-LS1-1 Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.</b></p> <p><i>Clarification Statement: Examples of human problems that can be solved by mimicking plant or animal solutions could include designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells, and animal scales; stabilizing structures by mimicking animal tails and roots on plants; keeping out intruders by mimicking thorns on branches and animal quills.</i></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.</p> <p>* Use materials to design a device that solves a specific problem or a solution to a specific problem.</p>	<p><b>LS1.A Structure and Function</b> * All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.</p> <p><b>LS1.D Information Processing</b> * Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs.</p>	<p><b>Structure and Function</b> * The shape and stability of structures of natural and designed objects are related to their function(s). -----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b> * Every human-made product is designed by applying some knowledge of the natural world and is built using materials derived from the natural world.</p>
<b>Guided Questions</b>		
<p>* How do plants and animals respond to information they receive from the environment? * How do their external structures help plants and animals survive? * What human problem could be solved by mimicking plant or animal parts?</p>		
<b>Catholic Identity Connections</b>		
<p>* God's gifts can be used by all living things daily. * God has given plants and animals the capabilities to survive.</p>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<p><b>ELA Literacy</b> <b>W.1.7</b> <i>Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).</i></p>		

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<b>Connections to Other DCIs in First Grade</b>
<b>NA</b>
<b>Articulation to DCIs across Grade Levels</b>
<b>K.ETS1.A; 4.LS1.A; 4.LS1.D; 4.ETS1.A</b>

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**1-LS1-2 From Molecules to Organisms: Structures and Processes**

Students who demonstrate understanding can:  
**1-LS1-2 Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.**  
*Clarification Statement: Examples of patterns of behaviors could include the signals that offspring make (such as crying, chirping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring).*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Obtaining, Evaluating, and Communicating Information</b>            Obtaining, evaluating, and communicating information in K-2 builds on prior experiences and uses observations and texts to communicate new information.</p> <p>* Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Is Based on Empirical Evidence</b>            * Scientists look for patterns and order when making observations about the world.</p>	<p><b>LS1.B Growth and Development of Organisms</b>            * Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.</p>	<p><b>Patterns</b>            * Patterns in the natural and human-designed world can be observed, used to describe phenomena, and used as evidence.</p>

**Guided Questions**

\* What patterns are observed that demonstrate the care of an offspring in order to help it survive?

**Catholic Identity Connections**

\* God, our Heavenly Father, helps us to live happy, healthy lives.  
 \* God provides animal parents with the necessary behaviors to help their offspring survive and thrive.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**  
**RI.1.1** Ask and answer questions about key details in a text.  
**RI.1.2** Identify the main topic and retell key details of a text.  
**RI.1.10** With prompting and support, read informational texts appropriately complex for grade.  
**W.1.7** Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).

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<i>Connections to Other DCIs in First Grade</i>	
<b>NA</b>	
<i>Articulation to DCIs across Grade Levels</i>	
<b>3.LS2.D</b>	

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<b>1-LS3-1 Heredity: Inheritance and Variation of Traits</b>		
<p>Students who demonstrate understanding can:</p> <p><b>1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.</b></p> <p><i>Clarification Statement: Examples of patterns could include features plants or animals share. Examples of observations could include that leaves from the same kind of plant are the same shape but can differ in size; and, a particular breed of dog looks like its parents but is not exactly the same.</i></p> <p><i>Assessment Boundary: Assessment does not include inheritance or animals that undergo metamorphosis or hybrids.</i></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b></p> <p>Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.</p> <p>* Make observations (firsthand and from media) to construct an evidence-based account for natural phenomena.</p>	<p><b>LS3.A Inheritance of Traits</b></p> <p>* Young animals are very much, but not exactly, like their parents. Plants also are very much, but not exactly, like their parents.</p> <p><b>LS3.B Variation of Traits</b></p> <p>* Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways.</p>	<p><b>Patterns</b></p> <p>* Patterns in the natural and human-designed world can be observed, used to describe phenomena, and used as evidence.</p>
Guided Questions		
* How are plants and animals like and different from their parents?		
Catholic Identity Connections		
<p>* Students demonstrate an understanding that God is the creator of all things.</p> <p>* God made all people in His likeness.</p>		
Archdiocese of Louisville ELA and Mathematics Standards Connections		
<p><b>ELA Literacy</b></p> <p><b>RI.1.1</b> Ask and answer questions about key details in a text.</p> <p><b>W.1.7</b> Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).</p> <p><b>W.1.8</b> With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.</p> <p><b>Mathematics</b></p> <p><b>MP.2</b> Reason abstractly and quantitatively.</p> <p><b>MP.5</b> Use appropriate tools strategically.</p> <p><b>M</b> Order three objects by length; compare the lengths of two objects indirectly by using a third object.</p>		
Connections to Other DCIs in First Grade		
NA		
Articulation to DCIs across Grade Levels		
3.LS2.A; 3.LS3.B		

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**1-ESS1-2 Earth's Place in the Universe**

Students who demonstrate understanding can:  
**1-ESS1-2 Make observations at different times of year to relate the amount of daylight to the time of year.**  
*Clarification Statement: Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.*  
*Assessment Boundary: Assessment is limited to relative amounts of daylight, not quantifying the hours or time of daylight.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b>            Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <p>* Make observations (firsthand or from media) to collect data that can be used to make comparisons.</p>	<p><b>ESS1.B Earth and the Solar System</b>            * Seasonal patterns of sunrise and sunset can be observed, described, and predicted.</p>	<p><b>Patterns</b>            * Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.</p>

**Guided Questions**

\* How does the relative length of the day change compared to the amount of daylight at different times of the year?

**Catholic Identity Connections**

\* Signs of God's love are abundant in the universe.  
 \* God created the world in a way that different times of the year experience different amounts of daylight and dark.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**  
**W.1.7** *Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).*  
**W.1.8** *With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.*

**Mathematics**  
**MP** *Reason abstractly and quantitatively.*  
**MP** *Model with mathematics.*  
**MP** *Use appropriate tools strategically.*  
**N&O** *Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and composing, with unknowns in all positions (e.g., by using objects, drawings, and equations to represent the problem).*  
**DA&P** *Organize, represent, and interpret data with up to three categories using charts, tables, pictographs, and bar graphs.*  
**DA&P** *Answer questions about the total number of data points, know how many in each category, and how many more or less in one category than in another.*

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<b>Connections to Other DCIs in First Grade</b>	
<b>NA</b>	
<b>Articulation to DCIs across Grade Levels</b>	
<b>5.PS2.B; 5.ESS1.B</b>	

**Archdiocese of Louisville  
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**First Grade Standards**

**1-PS4 Waves and Their Applications in Technologies for Information Transfer**

- 1-PS4-1** Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.
- 1-PS4-2** Make observations to construct an evidence-based account that objects can be seen only when illuminated.
- 1-PS4-3** Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.
- 1-PS4-4** Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.

**1-LS1 From Molecules to Organisms: Structures and Processes**

- 1-LS1-1** Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
- 1-LS1-2** Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

**1-LS3 Heredity: Inheritance and Variation of Traits**

- 1-LS3-1** Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

**1-ESS1 Earth's Place in the Universe**

- 1-ESS1-1** Use observations of the sun, moon, and stars to describe patterns that can be predicted.
- 1-ESS1-2** Make observations at different times of year to relate the amount of daylight to the time of year.

**Archdiocese of Louisville  
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<b>K-2-ETS1 Engineering Design</b>		
<p>Students who demonstrate understanding can:</p> <p><b>K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.</b></p> <p><b>K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.</b></p> <p><b>K-2-ETS1-3 Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.</b></p>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in K-2 builds on prior experiences and progresses to simple descriptive questions.</p> <ul style="list-style-type: none"> <li>* Ask questions based on observations to find more information about the natural and/or designed world.</li> <li>* Define a simple problem that can be solved through the development of a new or improved object or tool.</li> </ul> <p><b>Developing and Using Models</b> Modeling in K-2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, dramatization, or storyboard) that represent concrete events or design solutions.</p> <ul style="list-style-type: none"> <li>* Develop a simple model based on evidence to represent a proposed object or tool.</li> </ul> <p><b>Analyzing and Interpreting Data</b> Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</p> <ul style="list-style-type: none"> <li>* Analyze data from tests of an object or tool to determine if it works as intended.</li> </ul>	<p><b>ETS1.A Defining and Delimiting Engineering Problems</b> * A situation that people want to change or create can be approached as a problem to be solved through engineering. * Asking questions, making observations, and gathering information are helpful in thinking about problems. * Before beginning to design a solution, it is important to clearly understand the problem.</p> <p><b>ETS1.B Developing Possible Solutions</b> * Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.</p> <p><b>ETS1.C Optimizing the Design Solution</b> * Because there is always more than one possible solution to a problem, it is useful to compare and test design.</p>	<p><b>Structure and Function</b> * The shape and stability of structures of natural and designed objects are related to their function(s).</p>

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**Guided Questions**

\* How can creativity and curiosity help people to solve problems?

**Catholic Identity Connections**

\* God has given each of us talents that allow us to make the world a better place.

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<b>2-PS1-1 Matter and Its Interactions</b>		
<p>Students who demonstrate understanding can:</p> <p><b>2-PS1-1 Plan and conduct investigations to describe and classify different kinds of materials by their observable properties.</b></p> <p><i>Clarification Statement: Observations could include color, texture, hardness, and flexibility. Patterns could include the similar properties that different materials share.</i></p>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<p><b>Planning and Carrying Out Investigations</b></p> <p>Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <p>* Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question.</p>	<p><b>PS1.A Structure and Properties of Matter</b></p> <p>* Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties.</p>	<p><b>Patterns</b></p> <p>* Patterns in the natural and human-designed world can be observed.</p>
<b>Guided Questions</b>		
<p>* How can materials be described by their observable properties?</p> <p>* How can materials be classified by the pattern of the properties?</p>		
<b>Catholic Identity Connections</b>		
<p>* God is the creator of all things.</p> <p>* The value of things and people comes from being created by God.</p>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<p><b>ELA Literacy</b></p> <p><b>W.2.7</b> <i>Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).</i></p> <p><b>W.2.8</b> <i>Recall information from experiences or gather information from provided sources to answer a question.</i></p> <p><b>Mathematics</b></p> <p><b>MP</b> <i>Model with mathematics.</i></p> <p><b>DA&amp;P</b> <i>Collect, record, and interpret data (up to four categories) with bar graphs, pictographs, and tally charts.</i></p>		
<b>Connections to Other DCIs in Second Grade</b>		
<b>NA</b>		
<b>Articulation to DCIs across Grade Levels</b>		
<b>5.PS1.A</b>		

**Archdiocese of Louisville  
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**2-PS1-2 Matter and Its Interactions**

Students who demonstrate understanding can:

**2-PS1-2 Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.**

*Clarification Statement: Examples of properties could include strength, flexibility, hardness, texture, and absorbency.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</p> <p>* Analyze data from tests of an object or tool to determine if it works as intended.</p>	<p><b>PS1.A Structure and Properties of Matter</b> * Different properties are suited to different purposes.</p>	<p><b>Cause and Effect</b> * Simple tests can be designed to gather evidence to support or refute student ideas about causes.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influences of Engineering, Technology, and Science on Society and the Natural World</b> * Every human-made product is designed by applying some knowledge of the natural world and is built using materials derived from the natural world.</p>

**Guided Questions**

- \* What properties could be used in determining how suitable an object is for a given purpose?

**Catholic Identity Connections**

- \* Students will explore man-made products using natural materials created by God.
- \* God gives us the freedom to make choices.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RI.2.8** *Describe how reasons support specific points the author makes in a text.*
- W.2.7** *Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).*
- W.2.8** *Recall information from experiences or gather information from provided sources to answer a question.*
- SL.1.1** *Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.*

**Mathematics**

- MP** *Reason abstractly and quantitatively.*
- MP** *Model with mathematics.*
- MP** *Use appropriate tools strategically.*
- DA&P** *Collect, record, and interpret data (up to four categories) with bar graphs, pictographs, and tally charts.*

**Connections to Other DCIs in Second Grade**

**NA**

**Articulation to DCIs across Grade Levels**

**S.PS1.A**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**2-PS1-3 Matter and Its Interactions**

Students who demonstrate understanding can:

**2-PS1-3 Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.**

*Clarification Statement: Examples of pieces could include building blocks or other assorted small objects.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.</p> <p>* Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.</p>	<p><b>PS1.A Structure and Properties of Matter</b> * Different properties are suited to different purposes. * A great variety of objects can be built from a small set of pieces.</p>	<p><b>Energy and Matter</b> * Objects may break into smaller pieces and be put together into larger pieces, or change shapes.</p>

**Guided Questions**

- \* How can a set of materials be reassembled to make a new object?
- \* How are the characteristics of two objects built from the same materials alike and different?

**Catholic Identity Connections**

- \* People use the talents given by God to create objects for the betterment of the world around them.
- \* When we reuse items and create new ones with recycled materials, we show our care for our environment.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- W.1.7** *Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).*  
**W.1.8** *With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.*

**Connections to Other DCIs in Second Grade**

NA

**Articulation to DCIs across Grade Levels**

**4.ESS2.A; 5.PS1.A; 5.LS2.A**

**Archdiocese of Louisville  
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Science**

**2-PS1-4 Matter and Its Interactions**

Students who demonstrate understanding can:

**2-PS1-4 Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.**

*Clarification Statement: Examples of reversible changes could include materials such as water and butter at different temperatures. Examples of irreversible changes could include cooking an egg or freezing a plant leaf.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in K-2 builds on prior experiences and progresses to comparing ideas and representations about the natural and designed world.</p> <ul style="list-style-type: none"> <li>* Construct an argument with evidence to support a claim.</li> </ul> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena</b></p> <ul style="list-style-type: none"> <li>* Scientists search for cause and effect relationships to explain natural events.</li> </ul>	<p><b>PS1.B Chemical Reactions</b></p> <ul style="list-style-type: none"> <li>* Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not.</li> </ul>	<p><b>Cause and Effect</b></p> <ul style="list-style-type: none"> <li>* Events have causes that generate observable patterns.</li> </ul>

**Guided Questions**

- \* How do heating and cooling change the characteristics of materials?
- \* What are some examples of changes that can be reversed by heating and cooling?
- \* What are some examples of changes that cannot be reversed by heating and cooling?

**Catholic Identity Connections**

- \* Some of the changes we make to the world around us can be reversed and some can't.
- \* We have a responsibility to respect all of God's creation.
- \* God gives us the freedom to make choices.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RI.2.1** Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- RI.2.3** Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
- RI.2.8** Describe how reasons support specific points the author makes in a text.
- W.2.1** Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section).

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<b>Connections to Other DCIs in Second Grade</b>
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<b>NA</b>
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<b>Articulation to DCIs across Grade Levels</b>
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<b>5.PS1.B</b>
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**Archdiocese of Louisville  
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**2-LS2-1 Ecosystems: Interactions, Energy, and Dynamics**

Students who demonstrate understanding can:

**2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow.**

*Assessment Boundary: Assessment is limited to testing one variable at a time.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <p>* Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question.</p>	<p><b>LS2.A Interdependent Relationships in Ecosystems</b> * Plants depend on water and light to grow.</p>	<p><b>Cause and Effect</b> * Events have causes that generate observable patterns.</p>

**Guided Questions**

- \* What do plants need to survive and thrive?
- \* How do light and darkness affect the growth of a plant?
- \* How does withholding water affect the growth of a plant?

**Catholic Identity Connections**

- \* Plant growth is dependent on God's gifts of light and water.
- \* Students understand God created what our world needs.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.2.7** *Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).*

**W.2.8** *Recall information from experiences or gather information from provided sources to answer a question.*

**Mathematics**

**MP** *Reason abstractly and quantitatively.*

**MP** *Model with mathematics.*

**MP** *Use appropriate tools strategically.*

**DA&P** *Collect, record, and interpret data (up to four categories) with bar graphs, pictographs, and tally charts.*

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<b>Connections to Other DCIs in Second Grade</b>
<b>NA</b>
<b>Articulation to DCIs across Grade Levels</b>
<b>K.LS1.C; K.ESS3.A; 5.LS1.C</b>

**Archdiocese of Louisville  
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**2-LS2-2 Ecosystems: Interactions, Energy, and Dynamics**

Students who demonstrate understanding can:

**2-LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.**

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in K-2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, dramatization, or storyboard) that represent concrete events or design solutions.</p> <p>* Develop a simple model based on evidence to represent a proposed object or tool.</p>	<p><b>LS2.A Interdependent Relationships in Ecosystems</b> * Plants depend on animals for pollination or to move their seeds around.</p> <p><b>ETS1.B Developing Possible Solutions</b> * Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. <i>(secondary emphasis)</i></p>	<p><b>Structure and Function</b> * The shape and stability of structures of natural and designed objects are related to their functions.</p>

**Guided Questions**

- \* How do animals help disperse seeds or pollinate plants?
- \* How do models help us learn about the function of a structure?

**Catholic Identity Connections**

- \* Animals are created in ways that allow them to help plants.
- \* God made plants and animals dependent on each other for regrowth.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**SL.2.5** *Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.*

**Mathematics**

**MP** *Model with mathematics.*

**DA&P** *Collect, record, and interpret data (up to four categories) with bar graphs, pictographs, and tally charts.*

**Connections to Other DCIs in Second Grade**

**NA**

**Articulation to DCIs across Grade Levels**

**K.ETS1.A; 5.LS1.C; 5.LS2.A**

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**2-LS4-1 Biological Evolution: Unity and Diversity**

Students who demonstrate understanding can:

**2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.**

*Clarification Statement: Emphasis is on the diversity of living things in each of a variety of different habitats.*

*Assessment Boundary: Assessment does not include specific animal and plant names in specific habitats.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <p>* Make observations (firsthand or from media) to collect data which can be used to make comparisons.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Is Based on Empirical Evidence</b> * Scientists look for patterns and order when making observations about the world.</p>	<p><b>LS4.D Biodiversity and Humans</b> * There are many different kinds of living things in any area, and they exist in different places on land and in water.</p>	

**Guided Questions**

- \* How do habitats differ to support different types of plants and animals?
- \* What types of living things are found in different habitats?

**Catholic Identity Connections**

- \* Diversity is found in the plants and animals that God created.
- \* The various habitats created by God are suited to the plants and animals found in them.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.2.7** *Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).*

**W.2.8** *Recall information from experiences or gather information from provided sources to answer a question.*

**Mathematics**

**MP** *Reason abstractly and quantitatively.*

**MP** *Model with mathematics.*

**DA&P** *Collect, record, and interpret data (up to four categories) with bar graphs, pictographs, and tally charts.*

**Connections to Other DCIs in Second Grade**

**NA**

**Articulation to DCIs across Grade Levels**

**3.LS4.C; 3.LS4.D; 5.LS2.A**

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**2-ESS1-1 Earth's Place in the Universe**

Students who demonstrate understanding can:

**2-ESS1-1 Use information from several sources to provide evidence that Earth events can occur quickly or slowly.**

*Clarification Statement: Examples of events and timescales could include volcanic explosions and earthquakes, which happen quickly, and erosion of rocks, which occurs slowly.*

*Assessment Boundary: Assessment does not include quantitative measurements of timescales.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.</p> <p>* Make observations from several sources to construct an evidence-based account for natural phenomena.</p>	<p><b>ESS1.C The History of Planet Earth</b> * Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe.</p>	<p><b>Stability and Change</b> * Things may change slowly or rapidly.</p>

**Guided Questions**

- \* How can Earth events change the Earth's surface?
- \* What are some changes that happen quickly?
- \* What are some changes that happen slowly?
- \* What are effects of Earth events?

**Catholic Identity Connections**

- \* Students, with guidance and support, will find comfort with prayer and God's presence.
- \* Natural Earth events happen that are out of our control and so are placed in the hands of God.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RI.2.1** *Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.*
- RI.2.3** *Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.*
- W.2.6** *With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.*
- W.2.7** *Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).*
- W.2.8** *Recall information from experiences or gather information from provided sources to answer a question.*
- SL.2.2** *Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.*

**Mathematics**

- MP** *Reason abstractly and quantitatively.*
- MP** *Model with mathematics.*

**Connections to Other DCIs in Second Grade**

**NA**

**Articulation to DCIs across Grade Levels**

**3.LS2.C; 4.ESS1.C; 4.ESS2.A**

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**2-ESS2-1 Earth's Systems**

Students who demonstrate understanding can:

**2-ESS2-1 Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.**

*Clarification Statement: Examples of solutions could include different designs of dikes and windbreaks to hold back wind and water, and different designs for using shrubs, grass, and trees to hold back the land.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.</p> <p>* Compare multiple solutions to a problem.</p>	<p><b>ESS2.A Earth Materials and Systems</b> * Wind and water can change the shape of the land.</p> <p><b>ETS1.C Optimizing the Design Solution</b> * Because there is always more than one possible solution to a problem, it is useful to compare and test designs. <i>(secondary emphasis)</i></p>	<p><b>Stability and Change</b> * Things may change slowly or rapidly.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influences of Engineering, Technology, and Science on Society and the Natural World</b> * Developing and using technology has impacts on the natural world.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Science Addresses Questions About the Natural and Material World</b> * Scientists study the natural and material world.</p>

**Guided Questions**

\* How can changes caused by wind or water in the shape of the land be slowed or prevented?

**Catholic Identity Connections**

- \* God's world is ever changing.
- \* God's presence is everywhere.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RI.2.3** *Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.*

**RI.2.9** *Compare and contrast the most important points presented by two texts on the same topic.*

**Mathematics**

**MP** *Reason abstractly and quantitatively.*

**MP** *Model with mathematics.*

**MP** *Use appropriate tools strategically.*

**N&O** *Use addition and subtraction within 100 to solve one- and two-digit word problems involving situations of adding to, taking from, and comparing, with unknowns in all positions.*

**Connections to Other DCIs in Second Grade**

**NA**

**Articulation to DCIs across Grade Levels**

**K.ETS1.A; 4.ESS2.A; 4.ETS1.A; 4.ETS1.B; 4.ETS1.C; 5.ESS2.A**

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**2-ESS2-2 Earth's Systems**

Students who demonstrate understanding can:

**2-ESS2-2 Develop a model to represent the shapes and kinds of land and bodies of water in an area.**

*Assessment Boundary: Assessment does not include quantitative scaling in models.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in K-2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, dramatization, or storyboard) that represent concrete events or design solutions.</p> <p>* Develop a model to represent patterns in the natural world.</p>	<p><b>ESS2.B Plate Tectonics and Large-Scale System Interactions</b> * Maps show where things are located. One can map the shapes and kinds of land and water in any area.</p>	<p><b>Patterns</b> * Patterns in the natural world can be observed.</p>

**Guided Questions**

\* What is the relationship between shapes and kinds of land and bodies of water within a given area?

**Catholic Identity Connections**

\* Various kinds of land and bodies of water were created by God.  
\* All creation is a gift from God.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**SL.2.5** *Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.*

**Mathematics**

**MP** *Reason abstractly and quantitatively.*

**MP** *Model with mathematics.*

**Connections to Other DCIs in Second Grade**

**NA**

**Articulation to DCIs across Grade Levels**

**4.ESS2.B; 5.ESS2.C**

**Archdiocese of Louisville  
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**Second Grade Standards**

**2-PS1 Matter and Its Interactions**

- 2-PS1-1** Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
- 2-PS1-2** Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.
- 2-PS1-3** Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.
- 2-PS1-4** Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.

**2-LS2 Ecosystems: Interactions, Energy, and Dynamics**

- 2-LS2-1** Plan and conduct an investigation to determine if plants need sunlight and water to grow.
- 2-LS2-2** Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

**2-LS4 Biological Evolution: Unity and Diversity**

- 2-LS4-1** Make observations of plants and animals to compare the diversity of life in different habitats.

**2-ESS1 Earth's Place in the Universe**

- 2-ESS1-1** Use information from several sources to provide evidence that Earth events can occur quickly or slowly.

**2-ESS2 Earth's Systems**

- 2-ESS2-1** Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
- 2-ESS2-2** Develop a model to represent the shapes and kinds of land and bodies of water in an area.
- 2-ESS2-3** Obtain information to identify where water is found on Earth and that it can be solid or liquid.

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**K-2-ETS1 Engineering Design**

Students who demonstrate understanding can:

- K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.**
  
- K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.**
  
- K-2-ETS1-3 Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.**

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Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in K-2 builds on prior experiences and progresses to simple descriptive questions.</p> <ul style="list-style-type: none"> <li>* Ask questions based on observations to find more information about the natural and/or designed world.</li> <li>* Define a simple problem that can be solved through the development of a new or improved object or tool.</li> </ul> <p><b>Developing and Using Models</b> Modeling in K-2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, dramatization, or storyboard) that represent concrete events or design solutions.</p> <ul style="list-style-type: none"> <li>* Develop a simple model based on evidence to represent a proposed object or tool.</li> </ul> <p><b>Analyzing and Interpreting Data</b> Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</p> <ul style="list-style-type: none"> <li>* Analyze data from tests of an object or tool to determine if it works as intended.</li> </ul>	<p><b>ETS1.A Defining and Delimiting Engineering Problems</b></p> <ul style="list-style-type: none"> <li>* A situation that people want to change or create can be approached as a problem to be solved through engineering.</li> <li>* Asking questions, making observations, and gathering information are helpful in thinking about problems.</li> <li>* Before beginning to design a solution, it is important to clearly understand the problem.</li> </ul> <p><b>ETS1.B Developing Possible Solutions</b></p> <ul style="list-style-type: none"> <li>* Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.</li> </ul> <p><b>ETS1.C Optimizing the Design Solution</b></p> <ul style="list-style-type: none"> <li>* Because there is always more than one possible solution to a problem, it is useful to compare and test designs.</li> </ul>	<p><b>Structure and Function</b></p> <ul style="list-style-type: none"> <li>* The shape and stability of structures of natural and designed objects are related to their function(s).</li> </ul>
<b>Guided Questions</b>		
* How can creativity and curiosity help people to solve problems?		
<b>Catholic Identity Connections</b>		
* God has given each of us talents that allow us to make the world a better place.		

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**3-PS2-1 Motion and Stability: Forces and Interactions**

Students who demonstrate understanding can:

**3-PS2-1 Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.**

*Clarification Statement: Examples could include that an unbalanced force on one side of a ball can make it start moving; and, balanced forces pushing on a box from both sides will not produce any motion at all.*

*Assessment Boundary: Assessment is limited to gravity being addressed as a force that pulls objects down.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in 3-5 builds on K-2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.</p> <p>* Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Investigations Use a Variety of Methods</b> * Science investigations use a variety of methods, tools, and techniques.</p>	<p><b>PS2.A Forces and Motion</b> * Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. <i>(Boundary: Qualitative and conceptual, but not quantitative addition of forces, are used at this level.)</i></p> <p><b>PS2.B Types of Interactions</b> * Objects in contact exert forces on each other.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships are routinely identified.</p>

**Guided Questions**

- \* How do you explain and investigate the effect of balanced and unbalanced forces on an object?
- \* Why don't balanced forces pushing on an object result in any motion?

**Catholic Identity Connections**

- \* God calls each of us to constantly move toward a life of grace.
- \* All creation is a system of interrelated parts.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RI.3.1** *Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.*
- W.3.7** *Conduct short research projects that build knowledge about a topic.*
- W.3.8** *Recall information from experiences or legally and ethically gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.*

**Mathematics**

- MP** *Reason abstractly and quantitatively.*
- MP** *Use appropriate tools strategically.*

**Connections to Other DCIs in Third Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**K.PS2.A; K.PS2.B; K.PS3.C; 5.PS2.B; MS.ESS1.B; MS.ESS2.C**

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**3-PS2-2 Motion and Stability: Forces and Interactions**

Students who demonstrate understanding can:

**3-PS2-2 Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.**

*Clarification Statement: Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl, and two children on a see-saw.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in 3-5 builds on K-2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.</p> <p>* Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Science Knowledge is Based on Empirical Evidence</b> * Science findings are based on recognizing patterns.</p>	<p><b>PS2.A Forces and Motion</b> * The patterns of an object's motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it. <i>(Boundary: Technical terms, such as magnitude, velocity, momentum, and vector quantity, are not introduced at this level, but the concept that some quantities need both size and direction to be described is developed.)</i></p>	<p><b>Patterns</b> * Patterns of change can be used to make predictions.</p>
<b>Guided Questions</b>		
<p>* How do you explain and investigate the effect of an outside force on an object's pattern of motion? * How do you predict the future motion of an object based on past patterns of motion?</p>		
<b>Catholic Identity Connections</b>		
<p>* God created a world in which predictable patterns can be observed all around us. * We live in a world of harmony and balance.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.3.7** *Conduct short research projects that build knowledge about a topic.*

**W.3.8** *Recall information from experiences or legally and ethically gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.*

**Connections to Other DCIs in Third Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**1.ESS1.A; 4.PS2.2; MS.PS2.A; MS.ESS1.B**

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<b>3-PS2-3 Motion and Stability: Forces and Interactions</b>		
<p>Students who demonstrate understanding can:</p> <p><b>3-PS2-3 Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.</b></p> <p><i>Clarification Statement: Examples of an electric force could include the force on hair from an electrically charged balloon and the electrical forces between a charged rod and pieces of paper; examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paperclips, and the force exerted by one magnet versus the force exerted by two magnets. Examples of cause and effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.</i></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in 3-5 builds on K-2 experiences and progresses to specifying qualitative relationships.</p> <p>* Ask questions that can be investigated based on patterns such as cause and effect relationships.</p>	<p><b>PS2.B Types of Interactions</b> * Electric forces, and magnetic forces between a pair of objects, do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, on their orientation relative to each other.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships are routinely identified, tested, and used to explain change.</p>
<b>Guided Questions</b>		
<p>* How do variables affect the relationship between electric and magnetic forces? * How can you determine the cause and effect relationships of electric and magnetic interactions between two objects not in contact with each other?</p>		
<b>Catholic Identity Connections</b>		
<p>* Even when we are not in direct contact with another, our actions can still have an impact. * All creation is interdependent.</p>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<p><b>ELA Literacy</b> <b>RI.3.1</b> Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. <b>RI.3.3</b> Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.</p>		
<b>Connections to Other DCIs in Third Grade</b>		
NA		
<b>Articulation to DCIs across Grade-Levels</b>		
MS.PS2.B		

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**3-PS2-4 Motion and Stability: Forces and Interactions**

Students who demonstrate understanding can:

**3-PS2-4 Define a simple design problem that can be solved by applying scientific ideas about magnets.**

*Clarification Statement: Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in 3-5 builds on K-2 experiences and progresses to specifying qualitative relationships.</p> <p>* Define a simple problem that can be solved through the development of a new or improved object or tool.</p>	<p><b>PS2.B Types of Interactions</b> * Electric, and magnetic forces between a pair of objects, do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, on their orientation relative to each other.</p>	<p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Interdependence of Science, Engineering, and Technology</b> * Scientific discoveries about the natural world can often lead to new and improved technologies, which are developed through the engineering design process.</p>

**Guided Questions**

- \* How do you create a simple design to explain and apply understanding of magnetic forces?
- \* How can objects not in contact with each other still demonstrate the effects of magnetic force?

**Catholic Identity Connections**

- \* God has given us the capabilities to examine and consider problems from multiple perspectives.
- \* God gives us the freedom to make choices.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**Connections to Other DCIs in Third Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**K.ETS1.A; 4.ETS1.A; MS.PS2.B**

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**3-LS1-1 From Molecules to Organisms: Structures and Processes**

Students who demonstrate understanding can:

**3-LS1-1 Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.**

*Clarification Statement: Changes organisms go through during their life form a pattern.*

*Assessment Boundary: Assessment of plant life cycles is limited to those of flowering plants. Assessment does not include details of human reproduction.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 3-5 builds on K-2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.</p> <p>* Develop models to describe phenomena.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge is Based on Empirical Evidence</b> * Science findings are based on recognizing patterns.</p>	<p><b>LS1.B Growth and Development of Organisms</b> * Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles.</p>	<p><b>Patterns</b> * Patterns of change can be used to make predictions.</p>
<b>Guided Questions</b>		
* How does the life cycle of a plant or animal support the continuation of the species?		
<b>Catholic Identity Connections</b>		
<p>* We are interconnected with all creation.</p> <p>* Without birth, growth, and reproduction, plants and animals created by God would cease to exist.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RI.3.7** *Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).*
- SL.3.5** *Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.*

**Mathematics**

- MP** *Model with mathematics.*

**Connections to Other DCIs in Third Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**MS.LS1.B**

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**3-LS2-1 Ecosystems: Interactions, Energy, and Dynamics**

Students who demonstrate understanding can:

**3-LS2-1 Construct an argument that some animals form groups to help members survive.**

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 3-5 builds on K-2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world.</p> <p>* Construct an argument with evidence, data, and/or a model.</p>	<p><b>LS2.D Social Interactions and Group Behavior</b> * Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships are routinely identified and used to explain change.</p>
<b>Guided Questions</b>		
<p>* What are the factors that enable groups to survive while those alone become extinct or endangered? * How can organisms interact in groups to benefit individuals?</p>		
<b>Catholic Identity Connections</b>		
<p>* Animals, including humans, can experience positive results when they live in groups and work for the good of each other. * All creation is mutually dependent for survival.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RI.3.1** *Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.*

**RI.3.3** *Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.*

**W.3.1** *Write opinion pieces on topics or texts, supporting a point of view with reasons.*

**Mathematics**

**MP** *Model with mathematics.*

**Connections to Other DCIs in Third Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**1.LS1.B; MS.LS2.A**

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**3-LS3-1 Heredity: Inheritance and Variation of Traits**

Students who demonstrate understanding can:

**3-LS3-1 Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.**

*Clarification Statement: Patterns are the similarities and differences in traits shared between offspring and their parents, or among siblings. Emphasis is on organisms other than humans.*

*Assessment Boundary: Assessment does not include genetic mechanisms of inheritance and prediction of traits. Assessment is limited to non-human examples.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing and interpreting data in 3-5 builds on K-2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used.</p> <p>* Analyze and interpret data to make sense of the phenomena using logical reasoning.</p>	<p><b>LS3.A Inheritance of Traits</b> * Many characteristics of organisms are inherited from their parents.</p> <p><b>LS3.B Variation of Traits</b> * Different organisms vary in how they look and function because they have different inherited information.</p>	<p><b>Patterns</b> * Similarities and differences in patterns can be used to sort and classify natural phenomena.</p>
<b>Guided Questions</b>		
<p>* How do you organize data using graphical displays to identify and explain the idea that plants and animals have traits inherited from parents, including similarities and variances of these traits?</p>		
<b>Catholic Identity Connections</b>		
<p>* Plants and animals inherit traits from their parents, yet life is varied and sacred.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RI.3.1** *Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.*
- RI.3.2** *Determine the main idea of a text; recount the key details and explain how they support the main idea.*
- RI.3.3** *Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.*
- W.3.2** *Write informative/explanatory texts to examine a topic and convey ideas and information clearly.*
- SL.3.4** *Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.*

**Mathematics**

- MP** *Reason abstractly and quantitatively.*
- MP** *Model with mathematics.*
- M** *Measure using customary and linear units to nearest 1/2 or 1/4 or whole inch or whole centimeter.*

**Connections to Other DCIs in Third Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**1.LS3.A; 1.LS3.B; MS.LS3.A; MS.LS3.B**

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**3-LS3-2 Heredity: Inheritance and Variation of Traits**

Students who demonstrate understanding can:

**3-LS3-2 Use evidence to support the explanation that traits can be influenced by the environment.**

*Clarification Statement: Examples of the environment affecting a trait could include normally tall plants grown with insufficient water are stunted; and, a pet dog that is given too much food and little exercise may become overweight.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 3-5 builds on K-2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.</p> <p>* Use evidence (e.g., observations, patterns) to support an explanation.</p>	<p><b>LS3.A Inheritance of Traits</b> * Other characteristics result from individuals' interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment.</p> <p><b>LS3.B Variation of Traits</b> * The environment also affects the traits that an organism develops.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships are routinely identified and used to explain change.</p>

**Guided Questions**

- \* What evidence can you use to explain how different environmental factors influence traits of an organism?

**Catholic Identity Connections**

- \* The growth and development of plants and animals depends on their ability to find sufficient types and amounts of the things they need.
- \* God is always present in creation.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RI.3.1** *Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.*
- RI.3.2** *Determine the main idea of a text; recount the key details and explain how they support the main idea.*
- RI.3.3** *Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.*
- W.3.2** *Write informative/explanatory texts to examine a topic and convey ideas and information clearly.*
- SL.3.4** *Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.*

**Mathematics**

- MP** *Reason abstractly and quantitatively.*
- MP** *Model with mathematics.*
- M** *Measure using customary and linear units to nearest 1/2 or 1/4 or whole inch or whole centimeter.*

**Connections to Other DCIs in Third Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**1.LS3.A; 1.LS3.B; MS.LS3.A; MS.LS3.B**

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**3-LS4-1 Biological Evolution: Unity and Diversity**

Students who demonstrate understanding can:

**3-LS4-1 Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.**

*Clarification Statement: Examples of data could include type, size, and distributions of fossil organisms. Examples of fossils and environments could include marine fossils found on dry land, tropical plant fossils found in Arctic areas, and fossils of extinct organisms.*

*Assessment Boundary: Assessments do not include identification of specific fossils or present plants and animals. Assessment is limited to major fossil types and relative ages.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing and interpreting data in 3-5 builds on K-2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used.</p> <p>* Analyze and interpret data to make sense of phenomena using logical reasoning.</p>	<p><b>LS4.A Evidence of Common Ancestry and Diversity</b> * Some kinds of plants and animals that once lived on Earth are no longer found anywhere. * Fossils provide evidence about all types of organisms that lived long ago and also about the nature of their environments.</p>	<p><b>Scale, Proportion, and Quantity</b> * Observable phenomena exist from very short to very long time periods.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</b> * Science assumes consistent patterns in natural systems.</p>

**Guided Questions**

- \* How do you use graphic displays to describe and analyze data on fossils from long ago?
- \* How do fossil records show patterns of change over time?

**Catholic Identity Connections**

- \* God is the creator of all things.
- \* Fossils provide evidence that God created a world that continues to change over time.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RI.3.1** *Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.*
- RI.3.2** *Determine the main idea of a text; recount the key details and explain how they support the main idea.*
- RI.3.3** *Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.*
- W.3.1** *Write opinion pieces on topics or texts, supporting a point of view with reasons.*
- W.3.2** *Write informative/explanatory texts to examine a topic and convey ideas and information clearly.*
- W.3.8** *Recall information from experiences or legally and ethically gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.*
- SL.3.4** *Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.*

**Mathematics**

- MP** *Reason abstractly and quantitatively.*
- MP** *Model with mathematics.*
- MP** *Use appropriate tools strategically.*
- DA&P** *Build and interpret scaled graphs (pictograph, bar, line, circle), charts, and tables with several categories.*

**Connections to Other DCIs in Third Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**4.ESS1.C; MS.LS2.A; MS.LS4.A; MS.ESS1.C; MS.ESS2.B**

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**3-LS4-2 Biological Evolution: Unity and Diversity**

Students who demonstrate understanding can:

**3-LS4-2 Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.**

*Clarification Statement: Examples of cause and effect relationships could be plants that have longer thorns than other plants may be less likely to be eaten by predators; and, animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 3-5 builds on K-2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.</p> <p>* Use evidence (e.g., observations, patterns) to construct an explanation.</p>	<p><b>LS4.B Natural Selection</b> * Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships are routinely identified and used to explain change.</p>

**Guided Questions**

- \* How does the unique design of an organism enable the survival in a specific environment?
- \* How do adaptations and characteristics provide organisms advantages for survival?

**Catholic Identity Connections**

- \* We are called to care for and respect all creation.
- \* Some plants and animals were created with characteristics that make it easier for them to survive than other plants and animals.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RI.3.2** *Determine the main idea of a text; recount the key details and explain how they support the main idea.*
- RI.3.3** *Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.*
- W.3.1** *Write opinion pieces on topics or texts, supporting a point of view with reasons.*
- W.3.2** *Write informative/explanatory texts to examine a topic and convey ideas and information clearly.*
- SL.3.4** *Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.*

**Mathematics**

- MP** *Reason abstractly and quantitatively.*
- MP** *Model with mathematics.*
- DA&P** *Build and interpret scaled graphs (pictograph, bar, line, circle), charts, and tables with several categories.*
- M** *Measure using customary and linear units to nearest 1/2 or 1/4 or whole inch or whole centimeter.*

**Connections to Other DCIs in Third Grade**

**3.LS4.C**

**Articulation to DCIs across Grade-Levels**

**MS.LS2.A; MS.LS3.B; MS.LS4.B**

**Archdiocese of Louisville  
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**3-LS4-3 Biological Evolution: Unity and Diversity**

Students who demonstrate understanding can:

**3-LS4-3 Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.**

*Clarification Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 3-5 builds on K-2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world.</p> <p>* Construct an argument with evidence.</p>	<p><b>LS4.C Adaptation</b> * For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships are routinely identified and used to explain change.</p>
<b>Guided Questions</b>		
<p>* How do you explain the idea that an organism may or may not survive in a given environment, depending on the needs of the organism and characteristics of the environment? * How do the parts of living systems work together to sustain life?</p>		
<b>Catholic Identity Connections</b>		
<p>* God is the creator of all things. * Various plants and animals are more or less suited to the diverse habitats that God created. * We live in a world of balance.</p>		

**Archdiocese of Louisville  
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Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RI.3.1** *Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.*
- RI.3.2** *Determine the main idea of a text; recount the key details and explain how they support the main idea.*
- RI.3.3** *Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.*
- W.3.1** *Write opinion pieces on topics or texts, supporting a point of view with reasons.*
- W.3.2** *Write informative/explanatory texts to examine a topic and convey ideas and information clearly.*
- SL.3.4** *Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.*

**Mathematics**

- MP** *Reason abstractly and quantitatively.*
- MP** *Model with mathematics.*
- DA&P** *Build and interpret scaled graphs (pictograph, bar, line, circle), charts, and tables with several categories.*

**Connections to Other DCIs in Third Grade**

**3.ESS2.D**

**Articulation to DCIs across Grade-Levels**

**K.ESS3.A; 3.LS2.A; 2.LS4.D; MS.LS2.A; MS.LS4.B; MS.LS4.C; MS.ESS1.C**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**3-LS4-4 Biological Evolution: Unity and Diversity**

Students who demonstrate understanding can:

**3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there change.**

*Clarification Statement: Examples of environmental changes could include changes in land characteristics, water distribution, temperature, food, and other organisms.*

*Assessment Boundary: Assessment is limited to a single environmental change. Assessment does not include the greenhouse effect or climate change.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 3-5 builds on K-2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world.</p> <p>* Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem.</p>	<p><b>LS4.D Biodiversity and Humans</b> * Populations live in a variety of habitats, and change in those habitats affects the organisms living there.</p> <p><b>LS2.C Ecosystem Dynamics, Functioning, and Resilience</b> * When the environment changes in ways that affect a place's physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. <i>(secondary emphasis)</i></p>	<p><b>Systems and System Models</b> * A system can be described in terms of its components and their interactions.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Interdependence of Engineering, Technology, and Science on Society and the Natural World</b> * Knowledge of relevant scientific concepts and research findings is important in engineering.</p>

**Guided Questions**

- \* Why do changes to a given environment impact the plants and animals living there?
- \* What can humans do about the changes they cause to the environment?

**Catholic Identity Connections**

- \* God calls each of us to consider the well-being of other people, as well as plants, animals, and the environment when making choices.
- \* Choices must be made for the good of God's creation.

**Archdiocese of Louisville  
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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RI.3.1** *Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.*
- RI.3.2** *Determine the main idea of a text; recount the key details and explain how they support the main idea.*
- RI.3.3** *Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.*
- W.3.1** *Write opinion pieces on topics or texts, supporting a point of view with reasons.*
- W.3.2** *Write informative/explanatory texts to examine a topic and convey ideas and information clearly.*
- SL.3.4** *Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.*

**Mathematics**

- MP** *Reason abstractly and quantitatively.*
- MP** *Model with mathematics.*

**Connections to Other DCIs in Third Grade**

**3.ESS3.B**

**Articulation to DCIs across Grade-Levels**

**K.ESS3.A; K.ETS1.A; 2.LS2.A; 2.LS4.D; 4.ESS3.B; 4.ETS1.A; MS.LS2.A; MS.LS2.C; MS.LS4.B; MS.LS4.C; MS.ESS1.C; MS.ESS3.C**

**Archdiocese of Louisville  
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Science**

**3-ESS2-1 Earth's Systems**

Students who demonstrate understanding can:

**3-ESS2-1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.**

*Clarification Statement: Examples of data could include average temperature, precipitation, wind direction, and understanding of the water cycle.*

*Assessment Boundary: Assessment does not include climate change.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing and interpreting data in 3-5 builds on K-2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used.</p> <p>* Represent data in tables and various graphical displays (bar graphs and pictographs) to reveal patterns that indicate relationships.</p>	<p><b>ESS2.D Weather and Climate</b> * Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next.</p>	<p><b>Patterns</b> * Patterns of change can be used to make predictions.</p>

**Guided Questions**

- \* How do you use graphical displays to organize weather data by season in a particular area?
- \* How can weather cycles and patterns be used to understand history or predict future events?

**Catholic Identity Connections**

- \* God created a world in which weather conditions vary by season and location.
- \* God's presence is everywhere.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**Mathematics**

- MP** Reason abstractly and quantitatively.
- MP** Model with mathematics.
- M** Measure and estimate liquid volume using customary and metric capacity units (cups, pints, quarts, gallons, milliliters, liters).
- M** Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units.
- DA&P** Build and interpret scaled graphs (pictograph, bar, line, circle), charts, and tables with several categories.

**Connections to Other DCIs in Third Grade**

NA

**Articulation to DCIs across Grade-Levels**

**K.ESS2.D; 4.ESS2.A; 5.ESS2.A; MS.ESS2.C; MS.ESS2.D**

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**3-ESS2-2 Earth's Systems**

Students who demonstrate understanding can:

**3-ESS2-2 Obtain and combine information to describe climates in different regions of the world.**

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Obtaining, Evaluating, and Communicating Information</b> Obtaining, evaluating, and communicating information in 3-5 builds on K-2 experiences and progresses to evaluating the merit and accuracy of ideas and methods.</p> <p>* Obtain and combine information from books and other reliable media to explain phenomena.</p>	<p><b>ESS2.D Weather and Climate</b> * Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years.</p>	<p><b>Patterns</b> * Patterns of change can be used to make predictions.</p>
<b>Guided Questions</b>		
<p>* How can you use reliable media, tools, and technology to gather information and describe climate in different regions of the world?</p>		
<b>Catholic Identity Connections</b>		
<p>* The climate in different regions of the world that God created for us varies, and the climate within a given region also varies. * God gives us the freedom to make choices.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RI.3.1** *Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.*
- RI.3.2** *Compare and contrast the most important points and key details presented in two texts on the same topic.*
- W.3.8** *Recall information from experiences or legally and ethically gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.*

**Mathematics**

- MP** *Reason abstractly and quantitatively.*
- MP** *Model with mathematics.*

**Connections to Other DCIs in Third Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**MS.ESS2.C; MS.ESS2.D**

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**3-ESS3-1 Earth and Human Activity**

Students who demonstrate understanding can:

**3-ESS3-1 Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.**

*Clarification Statement: Examples of design solutions to weather-related hazards could include barriers to prevent flooding, wind resistant roofs, and lightning rods.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 3-5 builds on K-2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world.</p> <p>* Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem.</p>	<p><b>ESS3.B Natural Hazards</b> * A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships are routinely identified, tested, and used to explain change.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Engineering, Technology, and Science on Society and the Natural World</b> * Engineers improve existing technologies or develop new ones to increase their benefits (e.g., better artificial limbs), decrease known risks (e.g., seatbelts in cars), and meet societal demands (e.g., cell phones).</p> <p style="text-align: center;">-----</p> <p><b>Science Is a Human Endeavor</b> * Science affects everyday life.</p>

**Guided Questions**

\* Given a solution to a problem caused by a weather-related hazard, how can you support or contradict the merit of the solution?

**Catholic Identity Connections**

- \* By using their God-given talents, people can design solutions that reduce the impact of weather-related hazards.
- \* We have a responsibility to respect all of God's creation.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.3.1** *Write opinion pieces on topics or texts, supporting a point of view with reasons.*

**W.3.7** *Conduct short research projects that build knowledge about a topic.*

**Mathematics**

**MP** *Reason abstractly and quantitatively.*

**MP** *Model with mathematics.*

**Connections to Other DCIs in Third Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**K.ESS3.B; K.ETS1.A; 4.ESS3.B; 4.ETS1.A; MS.ESS3.B**

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**Third Grade Standards**

**3-PS2 Motion and Stability: Forces and Interactions**

- 3-PS2-1** Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.
- 3-PS2-2** Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.
- 3-PS2-3** Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.
- 3-PS2-4** Define a simple design problem that can be solved by applying scientific ideas about magnets.

**3-LS1 From Molecules to Organisms: Structures and Processes**

- 3-LS1-1** Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

**3-LS2 Ecosystems: Interactions, Energy, and Dynamics**

- 3-LS2-1** Construct an argument that some animals form groups that help members survive.

**3-LS3 Heredity: Inheritance and Variation of Traits**

- 3-LS3-1** Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.
- 3-LS3-2** Use evidence to support the explanation that traits can be influenced by the environment.

**3-LS4 Biological Evolution: Unity and Diversity**

- 3-LS4-1** Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.
- 3-LS4-2** Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
- 3-LS4-3** Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
- 3-LS4-4** Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there change.

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**3-ESS2 Earth's Systems**

**3-ESS2-1** Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

**3-ESS2-2** Obtain and combine information to describe climates in different regions of the world.

**3-ESS3 Earth and Human Activity**

**3-ESS3-1** Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

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**3-5-ETS1 Engineering Design**

Students who demonstrate understanding can:

- 3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for successes and constraints on materials, time, or cost.**
- 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.**
- 3-5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.**

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Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in 3-5 builds on K-2 experiences and progresses to specifying qualitative relationships.</p> <p>* Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost.</p> <p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in 3-5 builds on K-2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.</p> <p>* Plan and conduct an investigation collaboratively to produce data to save as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.</p> <p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 3-5 builds on K-2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.</p> <p>* Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design problem.</p>	<p><b>ETS1.A Defining and Delimiting Engineering Problems</b> * Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account.</p> <p><b>ETS1.B Developing Possible Solutions</b> * Research on a problem should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions. * At whatever stage, communicating with peers about proposed solutions to an important part of the design process, and shared ideas can lead to improved designs. * Tests are often designed to identify failure points or difficulties, which suggest the elements of the design that need to be improved.</p> <p><b>ETS1.C Optimizing the Design Solution</b> * Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints.</p>	<p><b>Influence of Engineering, Technology, and Science on Society and the Natural World</b> * People's needs and wants change over time, as do their demands for new and improved technologies. * Engineers improve existing technologies or develop new ones to increase their benefits, decrease known risks, and meet societal demands.</p>

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**Guided Questions**

- \* How have engineers developed new products and technologies to meet the ever-changing needs and wants of people?
- \* How have the needs and wants of people changed over time?
- \* How can we distinguish between our wants and our needs?
- \* Why is it important to consider multiple solutions before determining the best possible solution for a given problem?

**Catholic Identity Connections**

- \* God has given different people different gifts and talents which allow some to design solutions to problems that exist in the world.
- \* God has given us the mental capacity to consider solutions from various angles to determine which best meets the criteria and constraints of the problem.

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<b>4-PS3-1 Energy</b>		
Students who demonstrate understanding can:		
<b>4-PS3-1 Use evidence to construct an explanation relating the speed of an object to the energy of that object.</b>		
<i>Assessment Boundary: Assessment does not include quantitative measures of changes in the speed of an object or on any precise or quantitative definition of energy.</i>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 3-5 builds on K-2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.  * Use evidence (e.g., measurements, observations, patterns) to construct an explanation.	<b>PS3.A Definitions of Energy</b> * The faster a given object is moving, the more energy it possesses.	<b>Energy and Matter</b> * Energy can be transferred in various ways and between objects.
<b>Guided Questions</b>		
* How is the speed of an object related to the energy of that object?		
<b>Catholic Identity Connections</b>		
* All creation is a system of interrelated parts. * We live in a world of balance and harmony.		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<b>ELA Literacy</b>		
<b>RI.4.1</b> <i>Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.</i> <b>RI.4.3</b> <i>Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.</i> <b>RI.4.9</b> <i>Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.</i> <b>W.4.2</b> <i>Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</i> <b>W.4.8</b> <i>Recall relevant information from experiences or legally and ethically gather relevant information from print and digital sources; take notes, categorize information, and provide a list of sources.</i> <b>W.4.9</b> <i>Draw evidence from literary or informational texts to support analysis, reflection, and research.</i>		
<b>Connections to Other DCIs in Fourth Grade</b>		
<b>NA</b>		
<b>Articulation to DCIs across Grade-Levels</b>		
<b>MS.PS3.A</b>		

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<b>4-PS3-2 Energy</b>		
Students who demonstrate understanding can:		
<b>4-PS3-2 Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.</b>		
<i>Assessment Boundary: Assessment does not include quantitative measurements of energy.</i>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in 3-5 builds on K-2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.</p> <p>* Make observations to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution.</p>	<p><b>PS3.A Definitions of Energy</b> * Energy can be moved from place to place by moving objects or through sound, light, or electric currents.</p> <p><b>PS3.B Conservation of Energy and Energy Transfer</b> * Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced. * Light also transfers energy from place to place. * Energy can also be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy.</p>	<p><b>Energy and Matter</b> * Energy can be transferred in various ways and between objects.</p>
<b>Guided Questions</b>		
* Using an investigation plan, how can you describe and provide evidence to support that energy can be transferred from place to place by sound, light, heat, and electrical currents?		
<b>Catholic Identity Connections</b>		
<p>* God has given us our senses, allowing us to see, hear, and feel the transfer of energy.</p> <p>* We are called to be totally present to the world around us.</p>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<b>Connections to Other DCIs in Fourth Grade</b>		
NA		
<b>Articulation to DCIs across Grade-Levels</b>		
MS.PS2.B; MS.PS3.A; MS.PS3.B; MS.PS4.B		

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**4-PS3-3 Energy**

Students who demonstrate understanding can:

**4-PS3-3 Ask questions and predict outcomes about the changes in energy that occur when objects collide.**

*Clarification Statement: Emphasis is on the change in the energy due to the change in speed, not on the forces, as objects interact.*

*Assessment Boundary: Assessment does not include quantitative measurements of energy.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in 3-5 builds on K-2 experiences and progresses to specifying qualitative relationships.</p> <p>* Ask questions that can be investigated and predict reasonable outcomes based on patterns such as cause and effect relationships.</p>	<p><b>PS3.A Definitions of Energy</b> * Energy can be moved from place to place by moving objects or through sound, light, or electric currents.</p> <p><b>PS3.B Conservation of Energy and Energy Transfer</b> * Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced.</p> <p><b>PS3.C Relationship Between Energy and Forces</b> * When objects collide, the contact forces transfer energy so as to change the objects' motions.</p>	<p><b>Energy and Matter</b> * Energy can be transferred in various ways and between objects.</p>
<b>Guided Questions</b>		
<p>* How is energy transferred when objects collide? * What predictions can you make about the changes in energy when two objects collide?</p>		
<b>Catholic Identity Connections</b>		
<p>* God has given us the ability to reason and predict the outcome when objects collide.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.4.7** *Conduct short research projects that build knowledge through investigation of different aspects of a topic.*

**W.4.8** *Recall relevant information from experiences or legally and ethically gather relevant information from print and digital sources; take notes and organize information, and provide a list of sources.*

**Connections to Other DCIs in Fourth Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**K.PS2.B; 3.PS2.A; MS.PS2.A; MS.PS2.B; MS.PS3.A; MS.PS3.B; MS.PS3.C**

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**4-PS3-4 Energy**

Students who demonstrate understanding can:

**4-PS3-4 Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.**

*Clarification Statement: Examples of devices could include electric circuits that convert electrical energy into motion energy of a vehicle, light, or sound; and a passive solar heater that converts light into heat. Examples of constraints could include the materials, cost, or time to design the device.*

*Assessment Boundary: Devices should be limited to those that convert motion energy to electric energy or use stored energy to cause motion or produce light or sound.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 3-5 builds on K-2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.</p> <p>* Apply scientific ideas to solve design problems.</p>	<p><b>PS3.B Conservation of Energy and Energy Transfer</b> * Energy can be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy.</p> <p><b>PS3.D Energy in Chemical Processes and Everyday Life</b> * The expression "produce energy" typically refers to the conversion of stored energy into a desired form for practical use.</p> <p><b>ETS1.A Defining Engineering Problems</b> * Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account. <i>(secondary emphasis)</i></p>	<p><b>Energy and Matter</b> * Energy can be transferred in various ways and between objects.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Engineering, Technology, and Science on Society and the Natural World</b> * Engineers improve existing technologies or develop new ones.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Science Is a Human Endeavor</b> * Most scientists and engineers work in teams. * Science affects everyday life.</p>

**Guided Questions**

- \* How would you design, analyze, and test devices that convert energy from one form to another?
- \* What is required of a device to convert energy from one form to another?

**Catholic Identity Connections**

- \* God has given us the inquisitiveness and persistence necessary to work with others to design an effective solution to a problem.

**Archdiocese of Louisville  
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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.4.7** *Conduct short research projects that build knowledge through investigation of different aspects of a topic.*

**W.4.8** *Recall relevant information from experiences or legally and ethically gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.*

**Mathematics**

**NO** *Apply problem-solving skills in multi-step word problems, including problems in which remainders must be interpreted, using the four operations.*

**Connections to Other DCIs in Fourth Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**K.ETS1.A; 2.ETS1.B; 5.PS3.D; 5.LS1.C; MS.PS3.A; MS.PS3.B; MS.ETS1.B; MS.ETS1.C**

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<b>4-PS4-1 Waves and Their Applications in Technologies for Information Transfer</b>		
<p>Students who demonstrate understanding can:</p> <p><b>4-PS4-1 Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.</b></p> <p><i>Clarification Statement: Examples of models could include diagrams, analogies, and physical models using wire to illustrate wavelength and amplitude of waves.</i></p> <p><i>Assessment Boundary: Assessment does not include interference effects, electromagnetic waves, non-periodic waves, or qualitative models of amplitude and wavelength.</i></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 3-5 builds on K-2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.</p> <p>* Develop a model using an analogy, example, or abstract representation to describe a scientific principle.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Is Based on Empirical Evidence</b> * Science findings are based on recognizing patterns.</p>	<p><b>PS4.A Wave Properties</b> * Waves, which are regular patterns of motion, can be made in water by disturbing the surface. When waves move across the surface of deep water, the water goes up and down in place; there is no net motion in the direction of the wave except when the water meets a beach. * Waves of the same type can differ in amplitude (height of the wave) and wavelength (spacing between wave peaks).</p>	<p><b>Patterns</b> * Similarities and differences in patterns can be used to sort, classify, and analyze simple rates of change for natural phenomena.</p>
<b>Guided Questions</b>		
<p>* How do you develop a model that describes patterns in wave behavior that cause motion?</p>		
<b>Catholic Identity Connections</b>		
<p>* God has created bodies of water that produce waves, and bodies of water that don't produce waves. * God is always present in creation.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**SL.4.5** *Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.*

**Mathematics**

**MP** *Model with mathematics.*

**G** *Draw points, lines, line segments, rays, angles (right, acute, obtuse) and perpendicular and parallel lines.*

**Connections to Other DCIs in Fourth Grade**

**4.PS3.A; 4.PS3.B**

**Articulation to DCIs across Grade-Levels**

**MS.PS4.A**

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<b>4-PS4-2 Waves and Their Applications in Technologies for Information Transfer</b>		
Students who demonstrate understanding can: <b>4-PS4-2 Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.</b> <i>Assessment Boundary: Assessment does not include knowledge of specific colors reflected and seen, the cellular mechanisms of vision, or how the retina works.</i>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<b>Developing and Using Models</b> Modeling in 3-5 builds on K-2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.  * Develop a model to describe phenomena.	<b>PS4.B Electromagnetic Radiation</b> * An object can be seen when light reflected from its surface enters the eyes.	<b>Cause and Effect</b> * Cause and effect relationships are routinely identified.
<b>Guided Questions</b>		
* How do you develop a model that demonstrates the relationship between light reflecting from an object and what is seen by the eye? * What needs to happen in order for us to be able to see an object that does not produce its own light?		
<b>Catholic Identity Connections</b>		
* God has given us the gift of sight which allows us to see objects that receive light from various sources.		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<b>ELA Literacy</b> <b>SL.4.5</b> <i>Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.</i>		
<b>Mathematics</b> <b>MP</b> <i>Model with mathematics.</i> <b>G</b> <i>Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines.</i>		
<b>Connections to Other DCIs in Fourth Grade</b>		
<b>NA</b>		
<b>Articulation to DCIs across Grade-Levels</b>		
<b>1.PS4.B; MS.PS4.B; MS.LS1.D</b>		

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<b>4-PS4-3 Waves and Their Applications in Technologies for Information Transfer</b>		
Students who demonstrate understanding can: <b>4-PS4-3 Generate and compare multiple solutions that use patterns to transfer information.</b> <i>Clarification Statement: Examples of solutions could include drums sending coded information through sound waves, using a grid of 1's and 0's representing black and white to send information about a picture, and using Morse code to send text.</i>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 3-5 builds on K-2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.</p> <p>* Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution.</p>	<p><b>PS4.C Information Technologies and Instrumentation</b> * Digitalized information can be transmitted over long distances without significant degradation. High-tech devices, such as computers or cell phones, can receive and decode information - convert it from digitized form to voice - and vice versa.</p> <p><b>ETS1.C Optimizing the Design Solution</b> * Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints. <i>(secondary emphasis)</i></p>	<p><b>Patterns</b> * Similarities and differences in patterns can be used to sort and classify designed products.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Interdependence of Science, Engineering, and Technology</b> * Knowledge of relevant scientific concepts and research findings is important in engineering.</p>
<b>Guided Questions</b>		
<p>* How do tools and technology transfer information? * How do you design and test a system that uses patterns to transfer information?</p>		
<b>Catholic Identity Connections</b>		
<p>* We have a responsibility to communicate with others verbally, in print, and digitally in a respectful and considerate manner. * We are called to care for and respect all creation.</p>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<p><b>ELA Literacy</b> <b>RI.4.1</b> Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. <b>RI.4.9</b> Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.</p>		
<b>Connections to Other DCIs in Fourth Grade</b>		
<b>4.PS4.3</b>		
<b>Articulation to DCIs across Grade-Levels</b>		
<b>K.ETS1.A; 1.PS4.C; 2.ETS1.B; 2.ETS1.C; 3.PS2.A; MS.PS4.C; MS.ETS1.B</b>		

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<b>4-LS1-1 From Molecules to Organisms: Structures and Processes</b>		
Students who demonstrate understanding can:		
<b>4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.</b>		
<i>Clarification Statement: Examples of structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, skin, and body systems.</i>		
<i>Assessment Boundary: Assessment is limited to macroscopic structures within plant and animal systems.</i>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 3-5 builds on K-2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world.  * Construct an argument with evidence, data, and/or a model.	<b>LS1.A Structure and Function</b> * Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction.	<b>Systems and System Models</b> * A system can be described in terms of its components and their interactions.
<b>Guided Questions</b>		
* How do you support an argument that parts of living systems work together to sustain life?		
<b>Catholic Identity Connections</b>		
* We are called to exercise responsible stewardship toward all creation. * Plants and animals were created with internal and external structures that work together for the good of the plant or animal.		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<b>ELA Literacy</b>		
<b>W.4.1</b> Write opinion pieces on topics or texts, supporting a point of view with reasons and information.		
<b>Mathematics</b>		
<b>G</b> Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded across the line into matching parts.		
<b>G</b> Identify line-symmetric figures and draw lines of symmetry.		
<b>Connections to Other DCIs in Fourth Grade</b>		
<b>NA</b>		
<b>Articulation to DCIs across Grade-Levels</b>		
<b>1.LS1.A; 3.LS3.B; MS.LS1.A</b>		

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<b>4-LS1-2 From Molecules to Organisms: Structures and Processes</b>		
Students who demonstrate understanding can:		
<b>4-LS1-2 Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.</b>		
<i>Clarification Statement: Emphasis is on systems of information transfer.</i>		
<i>Assessment Boundary: Assessment does not include the mechanisms by which the brain stores and recalls information or the mechanisms of how sensory receptors function.</i>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<b>Developing and Using Models</b> Modeling in 3-5 builds on K-2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.  * Use a model to test interactions concerning the functioning of a natural system.	<b>LS1.C Information Processing</b> * Different sense receptors are specialized to particular kinds of information, which may then be processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions.	<b>Systems and System Models</b> * A system can be described in terms of its components and their interactions.
<b>Guided Questions</b>		
* How do you analyze sensory information, skills, and experiences to apply them to real-world situations?		
<b>Catholic Identity Connections</b>		
* God has given animals (including humans) senses that allow them to process information. * God has given animals (including humans) the ability to use memories to guide future actions.		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<b>ELA Literacy</b> <b>SL.4.5</b> <i>Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.</i>		
<b>Connections to Other DCIs in Fourth Grade</b>		
NA		
<b>Articulation to DCIs across Grade-Levels</b>		
1.LS1.D; MS.LS1.A; MS.LS1.D		

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<b>4-ESS1-1 Earth's Place in the Universe</b>		
<p>Students who demonstrate understanding can:</p> <p><b>4-ESS1-1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.</b></p> <p><i>Clarification Statement: Examples of evidence from patterns could include rock layers with marine shell fossils above rock layers with plant fossils and no shells, indicating a change from land to water over time, and, a canyon with different rock layers in the walls and a river in the bottom, indicating that over time a river cut through the rock.</i></p> <p><i>Assessment Boundary: Assessment does not include specific knowledge of the mechanism of rock formation or memorization of specific rock formations and layers. Assessment is limited to relative time.</i></p>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<p><b>Constructing Explanations and Designing Solutions</b></p> <p>Constructing explanations and designing solutions in 3-5 builds on K-2 experiences and progresses to the use of evidence in constructing explanations that specify variables, that describe and predict phenomena, and in designing multiple solutions to design problems.</p> <p>* Identify the evidence that supports particular points in an explanation.</p>	<p><b>ESS1.C The History of Planet Earth</b></p> <p>* Local, regional, and global patterns of rock formations reveal changes over time due to earth forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed.</p> <p><b>ETS1.C Optimizing the Design Solution</b></p> <p>* Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints.</p>	<p><b>Patterns</b></p> <p>* Patterns can be used as evidence to support an explanation.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to the Nature of Science</b></p> <p><b>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</b></p> <p>* Science assumes consistent patterns in natural systems.</p>
<b>Guided Questions</b>		
<p>* How do patterns in rock formations and fossils in rock layers show changes in landscape over time?</p>		
<b>Catholic Identity Connections</b>		
<p>* God created the Earth and all its systems in different phases.</p> <p>* We are called to exercise responsible stewardship toward all creation.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.4.7** *Conduct short research projects that build knowledge through investigation of different aspects of a topic.*

**W.4.8** *Recall relevant information from experiences or legally and ethically gather relevant information from print and digital sources; take notes and organize information, and provide a list of sources.*

**W.4.9** *Draw evidence from literary or informational texts to support analysis, reflection, and research.*

**Mathematics**

**MP** *Reason abstractly and quantitatively.*

**MP** *Model with mathematics.*

**M** *Express measurements in a larger unit in terms of a smaller unit within a single system of units.*

**Connections to Other DCIs in Fourth Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**2.ESS1.C; 3.LS4.A; MS.LS1.C; MS.ESS2.A; MS.ESS2.B**

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<b>4-ESS2-1 Earth's Systems</b>		
<p>Students who demonstrate understanding can:</p> <p><b>4-ESS2-1 Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.</b></p> <p><i>Clarification Statement: Examples of variables to test could include angle of slope in the downhill movement of water, amount of vegetation, speed of wind, relative rate of deposition, cycles of freezing and thawing of water, cycles of heating and cooling, and volume of water flow.</i></p> <p><i>Assessment Boundary: Assessment is limited to a single form of weathering or erosion.</i></p>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<p><b>Planning and Carrying Out Investigations</b>            Planning and carrying out investigations to answer questions or test solutions to problems in 3-5 builds on K-2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.</p> <p>* Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon.</p>	<p><b>ESS2.A Earth Materials and Systems</b>            * Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around.</p> <p><b>ESS2.E Biogeology</b>            * Living things affect the physical characteristics of their regions.</p>	<p><b>Cause and Effect</b>            * Cause and effect relationships are routinely identified, tested, and used to explain change.</p>
<b>Guided Questions</b>		
<p>* Given an investigation plan, what observations and/or measurements can you provide to identify the effects of weathering and erosion?</p>		
<b>Catholic Identity Connections</b>		
<p>* We are called to delight in and care for creation.            * God created a world filled with various land and rock formations that are affected by weathering and erosion.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.4.7** *Conduct short research projects that build knowledge through investigation of different aspects of a topic.*

**W.4.8** *Recall relevant information from experiences or legally and ethically gather relevant information from print and digital sources; take notes and organize information, and provide a list of sources.*

**Mathematics**

**MP** *Reason abstractly and quantitatively.*

**MP** *Model with mathematics.*

**M** *Express measurements in a larger unit in terms of a smaller unit within a single system of units.*

**M** *Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, and money, including problems involving simple fractions or decimals.*

**Connections to Other DCIs in Fourth Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**2.ESS1.C; 2.ESS2.A; 5.ESS2.A**

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<b>4-ESS2-2 Earth's Systems</b>		
<p>Students who demonstrate understanding can:</p> <p><b>4-ESS2-2 Analyze and interpret data from maps to describe patterns of Earth's features.</b></p> <p><i>Clarification Statement: Maps can include topographic maps of Earth's land and ocean floor, as well as maps of the locations of mountains, continental boundaries, volcanoes, and earthquakes.</i></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing and interpreting data in 3-5 builds on K-2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used.</p> <p>* Analyze and interpret data to make sense of phenomena using logical reasoning.</p>	<p><b>ESS2.B Plate Tectonics and Large-Scale System Interactions</b> * The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Most earthquakes and volcanoes occur in bands that are often along the boundaries between continents and oceans. Major mountain chains form inside continents or near their edges. Maps can help locate the different land and water features of Earth.</p>	<p><b>Patterns</b> * Patterns can be used as evidence to support an explanation.</p>
<b>Guided Questions</b>		
<p>* How can topographical maps of various regions help us to determine patterns in Earth's features? * When looking at maps of areas of the world, how can we predict the likely locations for certain landforms?</p>		
<b>Catholic Identity Connections</b>		
<p>* God created a world that is constantly changing. * We live in a world of diverse features that can be identified according to pattern.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RI.4.7** *Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.*

**Mathematics**

**M** *Express measurements in a larger unit in terms of a smaller unit within a single system of units.*

**M** *Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, and money, including problems involving simple fractions or decimals.*

**Connections to Other DCIs in Fourth Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**2.ESS2.B; 2.ESS2.C; 5.ESS2.C; MS.ESS1.C; MS.ESS2.A; MS.ESS2.B**

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<b>4-ESS3-1 Earth and Human Activity</b>		
<p>Students who demonstrate understanding can:</p> <p><b>4-ESS3-1 Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.</b></p> <p><i>Clarification Statement: Examples of renewable energy resources could include wind energy, water behind dams, and sunlight; non-renewable energy resources are fossil fuels and fissile materials. Examples of environmental effects could include loss of habitat due to dams, loss of habitat due to surface mining, and air pollution from burning of fossil fuels.</i></p>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<p><b>Obtaining, Evaluating, and Communicating Information</b> Obtaining, evaluating, and communicating information in 3-5 builds on K-2 experiences and progresses to evaluating the merit and accuracy of ideas and methods.</p> <p>* Obtain and combine information from books and other reliable media to explain phenomena.</p>	<p><b>ESS3.A Natural Resources</b> * Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships are routinely identified and used to explain change.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Interdependence of Science, Engineering, and Technology</b> * Knowledge of relevant scientific concepts and research findings is important in engineering.</p> <p><b>Influence of Engineering, Technology, and Science on Society and the Natural World</b> * Over time, people's needs and wants change, as do their demands for new and improved technologies.</p>
<b>Guided Questions</b>		
<p>* How does our use of energy and fuels impact the environment? * How do renewable and non-renewable sources of energy differ?</p>		
<b>Catholic Identity Connections</b>		
<p>* We have a responsibility to use of energy and fuels in a way that promotes the common good. * God gives us the freedom to make choices.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.4.7** *Conduct short research projects that build knowledge through investigation of different aspects of a topic.*

**W.4.8** *Recall relevant information from experiences or legally and ethically gather relevant information from print and digital sources; take notes and organize information, and provide a list of sources.*

**Connections to Other DCIs in Fourth Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**5.ESS3.C; MS.PS3.D; MS.ESS2.A; MS.ESS3.A; MS.ESS3.C; MS.ESS3.D**

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<b>4-ESS3-2 Earth and Human Activity</b>		
<p>Students who demonstrate understanding can:</p> <p><b>4-ESS3-2 Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.</b></p> <p><i>Clarification Statement: Examples of solutions could include designing an earthquake resistant building and improving monitoring of volcanic activity.</i></p> <p><i>Assessment Boundary: Assessment is limited to earthquakes, floods, tsunamis, and volcanic eruptions.</i></p>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<p><b>Constructing Explanations and Designing Solutions</b></p> <p>Constructing explanations and designing solutions in 3-5 builds on K-2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.</p> <p>* Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution.</p>	<p><b>ESS3.B Natural Hazards</b></p> <p>* A variety of hazards result from natural processes (e.g., earthquakes, tsunamis, volcanic eruptions). Humans cannot eliminate the hazards but can take steps to reduce their impacts.</p> <p><b>ETS1.B Designing Solutions to Engineering Problems</b></p> <p>* Testing a solution involves investigating how well it performs under a range of likely conditions. <i>(secondary emphasis)</i></p>	<p><b>Cause and Effect</b></p> <p>* Cause and effect relationships are routinely identified, tested, and used to explain change.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Engineering, Technology, and Science on Society and the Natural World</b></p> <p>* Engineers improve existing technologies or develop new ones to increase their benefits, to decrease known risks, and to meet societal demands.</p>
<b>Guided Questions</b>		
<p>* What solutions could be designed to reduce the impact of a natural Earth process on people?</p> <p>* How would design solutions differ based on the natural hazard?</p>		
<b>Catholic Identity Connections</b>		
<p>* Although we cannot eliminate the natural hazards, God has given humans the wisdom to determine solutions to reduce the impact.</p> <p>* We are called to make choices that take the good of all creation into consideration.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RI.4.1** *Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.*

**RI.4.9** *Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.*

**Mathematics**

**MP** *Reason abstractly and quantitatively.*

**MP** *Model with mathematics.*

**M** *Express measurements in a larger unit in terms of a smaller unit within a single system of units.*

**Connections to Other DCIs in Fourth Grade**

**4.ETS1.C**

**Articulation to DCIs across Grade-Levels**

**K.ETS1.A; 2.ETS1.B; 2.ESS1.C; MS.ESS2.A; MS.ESS3.B; MS.ETS1.B**

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**Fourth Grade Standards**

**4-PS3 Energy**

- 4-PS3-1** Use evidence to construct an explanation relating the speed of an object to the energy of that object.
- 4-PS3-2** Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
- 4-PS3-3** Ask questions and predict outcomes about the changes in energy that occur when objects collide.
- 4-PS3-4** Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

**4-PS4 Waves and Their Applications to Technologies for Information Transfer**

- 4-PS4-1** Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.
- 4-PS4-2** Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.
- 4-PS4-3** Generate and compare multiple solutions that use patterns to transfer information.

**4-LS1 From Molecules to Organisms: Structures and Processes**

- 4-LS1-1** Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
- 4-LS1-2** Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

**4-ESS1 Earth's Place in the Universe**

- 4-ESS1-1** Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.

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**4-ESS2 Earth's Systems**

- 4-ESS2-1** Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.
- 4-ESS2-2** Analyze and interpret data from maps to describe patterns of Earth's features.

**4-ESS3 Earth and Human Activity**

- 4-ESS3-1** Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.
- 4-ESS3-2** Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

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**3-5-ETS1 Engineering Design**

Students who demonstrate understanding can:

**3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for successes and constraints on materials, time, or cost.**

**3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.**

**3-5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.**

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Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in 3-5 builds on K-2 experiences and progresses to specifying qualitative relationships.</p> <p>* Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost.</p> <p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in 3-5 builds on K-2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.</p> <p>* Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.</p> <p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 3-5 builds on K-2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.</p> <p>* Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design problem.</p>	<p><b>ETS1.A Defining and Delimiting Engineering Problems</b> * Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account.</p> <p><b>ETS1.B Developing Possible Solutions</b> * Research on a problem should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions. * At whatever stage, communicating with peers about proposed solutions to an important part of the design process, and shared ideas can lead to improved designs. * Tests are often designed to identify failure points or difficulties, which suggest the elements of the design that need to be improved.</p> <p><b>ETS1.C Optimizing the Design Solution</b> * Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints.</p>	<p><b>Influence of Engineering, Technology, and Science on Society and the Natural World</b> * People's needs and wants change over time, as do their demands for new and improved technologies. * Engineers improve existing technologies or develop new ones to increase their benefits, decrease known risks, and meet societal demands.</p>

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**Guided Questions**

- \* Why is it important to consider multiple solutions before determining the best possible solution for a given problem?
- \* How have engineers developed new products and technologies to meet the ever-changing needs and wants of people?
- \* How have the needs and wants of people changed over time?
- \* How can we distinguish between our needs and wants?

**Catholic Identity Connections**

- \* God has given us the mental capacity to consider solutions from various angles to determine which best meets the criteria and constraints of the problem.
- \* God has given different people different gifts and talents which allow some to design solutions to problems that exist in the world.

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<b>5-PS1-1 Matter and Its Interactions</b>		
<p>Students who demonstrate understanding can:</p> <p><b>5-PS1-1 Develop a model to describe that matter is made of particles too small to be seen.</b></p> <p><i>Clarification Statement: Examples of evidence supporting a model could include adding air to expand a basketball, dissolving sugar in water, and evaporating salt water.</i></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 3-5 builds on K-2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.</p> <p>* Use models to describe phenomena.</p>	<p><b>PS1.A Structure and Properties of Matter</b> * Matter of any type can be subdivided into particles that are too small to see, but even then the matter still exists and can be detected by other means. A model showing that gases are made from matter particles that are too small to see and are moving freely around in space can explain many observations, including the inflation and shape of a balloon and the effects of air on larger particles or objects.</p>	<p><b>Scale, Proportion, and Quantity</b> * Natural objects exist from the very small to the immensely large.</p>
Guided Questions		
<p>* How do you develop a model to demonstrate that matter is made of particles too small to be seen? * How do you provide evidence from the model to support what happens when matter changes?</p>		
Catholic Identity Connections		
<p>* Students recognize that God is the creator of all things seen and unseen. * Students recognize the interconnectedness of humans with all creation.</p>		
Archdiocese of Louisville ELA and Mathematics Standards Connections		
<p><b>ELA Literacy</b> <b>RI.5.7</b> Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.</p> <p><b>Mathematics</b> <b>MP</b> Reason abstractly and quantitatively. <b>MP</b> Model with mathematics. <b>NO</b> Explain patterns in the number of zeroes of the product when multiplying a number by powers of 10. <b>NO</b> Explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.</p>		
Connections to Other DCIs in Fifth Grade		
<b>NA</b>		
Articulation to DCIs across Grade-Levels		
<b>2.PS1.A; MS.PS1.A</b>		

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<b>5-PS1-2 Matter and Its Interactions</b>		
<p>Students who demonstrate understanding can:</p> <p><b>5-PS1-2 Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.</b></p> <p><i>Clarification Statement: Examples of reactions or changes could include phase changes, dissolving, and mixing that form new substances.</i></p> <p><i>Assessment Boundary: Assessment does not include distinguishing mass and weight.</i></p>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<p><b>Using Mathematics and Computational Thinking</b> Mathematical and computational thinking in 3-5 builds on K-2 experiences and progresses to extending quantitative measurements to a variety of physical properties and using computation and mathematics to analyze data and compare alternative design solutions.</p> <p>* Make observations to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution.</p>	<p><b>PS1.A Structure and Properties of Matter</b> * The amount (weight) of matter is conserved when it changes form, even in transitions in which it seems to vanish.</p> <p><b>PS1.B Chemical Reactions</b> * No matter what reaction or change in properties occurs, the total weight of the substances does not change. <i>(Boundary: Mass and weight are not distinguished at this grade level.)</i></p>	<p><b>Scale, Proportion, and Quantity</b> * Standard units are used to measure and describe physical quantities such as weight, time, temperature, and volume.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to the Nature of Science</b></p> <p><b>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</b> * Science assumes consistent patterns in natural systems.</p>
<b>Guided Questions</b>		
<p>* How do you measure and graph quantities to provide evidence to show what happens to the total weight of matter when substances react and change?</p>		
<b>Catholic Identity Connections</b>		
<p>* Students recognize that God is the creator of all things seen and unseen. * We live in a world of harmony and balance.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.5.7** *Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.*

**W.5.8** *Recall relevant information from experiences or legally and ethically gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.*

**W.5.9** *Draw evidence from literary or informational texts to support analysis, reflection, and research.*

**Mathematics**

**MP** *Reason abstractly and quantitatively.*

**MP** *Model with mathematics.*

**MP** *Use appropriate tools strategically.*

**M** *Apply conversion of linear units from millimeters through kilometers, excluding decimals.*

**M** *Use conversions to solve multi-step real-world problems.*

**Connections to Other DCIs in Fifth Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**2.PS1.A; 2.PS1.B; MS.PS1.A; MS.PS1.B**

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**5-PS1-3 Matter and Its Interactions**

Students who demonstrate understanding can:

**5-PS1-3 Make observations and measurements to identify materials based on their properties.**

*Clarification Statement: Examples of materials to be identified could include baking soda and other powders, metals, minerals, and liquids. Examples of properties could include color, hardness, reflectivity, electrical conductivity, thermal conductivity, response to magnetic forces, and solubility; density is not intended as an identifiable property.*

*Assessment Boundary: Assessment does not include density or distinguishing mass and weight.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in 3-5 builds on K-2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.</p> <p>* Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon.</p>	<p><b>PS1.A Structure and Properties of Matter</b> * Measurements of a variety of properties can be used to identify materials. <i>(Boundary: At this grade level, mass and weight are not distinguished, and no attempt is made to define the unseen particles or explain the atomic-scale mechanism of evaporation and condensation.)</i></p>	<p><b>Scale, Proportion, and Quantity</b> * Standard units are used to measure and describe physical quantities such as weight, time, temperature, and volume.</p>

**Guided Questions**

\* How do you measure and compare data to identify materials based on properties of matter?

**Catholic Identity Connections**

\* God has given us the gift of sight which enables us to identify materials based on observed properties.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**W.5.7** *Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.*

**W.5.8** *Recall relevant information from experiences or legally and ethically gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.*

**W.5.9** *Draw evidence from literary or informational texts to support analysis, reflection, and research.*

**Mathematics**

**MP** *Reason abstractly and quantitatively.*

**MP** *Model with mathematics.*

**MP** *Use appropriate tools strategically.*

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<b>Connections to Other DCIs in Fifth Grade</b>
<b>NA</b>
<b>Articulation to DCIs across Grade-Levels</b>
<b>2.PS1.A; MS.PS1.A</b>

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<b>5-PS1-4 Energy</b>		
Students who demonstrate understanding can: <b>5-PS1-4 Conduct an investigation to determine whether the mixing of two or more substances results in new substances.</b>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in 3-5 builds on K-2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.  * Conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.	<b>PS1.B Chemical Reactions</b> * When two or more different substances are mixed, a new substance with different properties may be formed.	<b>Cause and Effect</b> * Cause and effect relationships are routinely identified and used to explain change.
<b>Guided Questions</b>		
* How do you design an investigation to determine what happens when two or more substances are mixed?		
<b>Catholic Identity Connections</b>		
* God has given us the ability to examine substances in order to determine whether mixing two of them results in a new substance. * All creation is a system of interrelated parts.		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<b>ELA Literacy</b>		
<b>W.5.7</b> <i>Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.</i>		
<b>W.5.8</b> <i>Recall relevant information from experiences or legally and ethically gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.</i>		
<b>W.5.9</b> <i>Draw evidence from literary or informational texts to support analysis, reflection, and research.</i>		
<b>Connections to Other DCIs in Fifth Grade</b>		
<b>NA</b>		
<b>Articulation to DCIs across Grade-Levels</b>		
<b>2.PS1.B; MS.PS1.A; MS.PS1.B</b>		

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<b>5-PS2-1 Motion and Stability: Forces and Interaction</b>		
<p>Students who demonstrate understanding can:</p> <p><b>5-PS2-1 Support an argument that the gravitational force exerted by Earth on objects is directed down.</b></p> <p><i>Clarification Statement: "Down" is a local description of the direction that points toward the center of the spherical Earth.</i></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 3-5 builds on K-2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world.</p> <p>* Support an argument with evidence, data, or a model.</p>	<p><b>PS2.B Types of Interactions</b> * The gravitational force of Earth acting on an object near Earth's surface pulls that object toward the planet's center.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships are routinely identified and used to explain change.</p>
Guided Questions		
<p>* How can you provide the evidence to explain the effect of Earth's gravitational force on objects towards the center of the Earth?</p>		
Catholic Identity Connections		
<p>* God gives us the ability to reason and observe. * We are called to be totally present to the world around us.</p>		
Archdiocese of Louisville ELA and Mathematics Standards Connections		
<p><b>ELA Literacy</b>  <b>RI.5.1</b> <i>Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.</i>  <b>RI.5.9</b> <i>Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.</i>  <b>W.5.1</b> <i>Write opinion pieces on topics or texts, supporting a point of view with reasons and information.</i></p>		
Connections to Other DCIs in Fifth Grade		
NA		
Articulation to DCIs across Grade-Levels		
3.PS2.A; 3.PS2.B; MS.PS2.B; MS.ESS1.B; MS.ESS1.C		

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<b>5-PS3-1 Energy</b>		
Students who demonstrate understanding can: <b>5-PS3-1 Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.</b> <i>Clarification Statement: Examples of models could include diagrams and flow charts.</i>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<b>Developing and Using Models</b> Modeling in 3-5 builds on K-2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.  * Use models to describe phenomena.	<b>PS3.D Energy in Chemical Processes and Everyday Life</b> * The energy released from food was once energy from the sun that was captured by plants in the chemical process that forms plant matter from air and water.  <b>LS1.C Organization for Matter and Energy Flow in Organisms</b> * Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion. <i>(secondary emphasis)</i>	<b>Energy and Matter</b> * Energy can be transferred in various ways and between objects.
<b>Guided Questions</b>		
* How can you create a model to demonstrate that energy obtained from food was originally energy from the sun?		
<b>Catholic Identity Connections</b>		
* God created a world in which warmth from the sun and energy from food help maintain an animals' bodily functions. * Students recognize the interconnectedness of humans with all creation.		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<b>ELA Literacy</b> <b>RI.5.7</b> Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. <b>SL.5.8</b> Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.		
<b>Connections to Other DCIs in Fifth Grade</b>		
NA		
<b>Articulation to DCIs across Grade-Levels</b>		
<b>K.LS1.C; 2.LS2.A; 4.PS3.A; 4.PS3.B; 4.PS3.D; MS.PS3.D; MS.PS4.B; MS.LS1.C; MS.LS2.B</b>		

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<b>5-LS1-1 From Molecules to Organisms: Structures and Processes</b>		
<p>Students who demonstrate understanding can:</p> <p><b>5-LS1-1 Support an argument that plants get the materials they need for growth chiefly from air and water.</b></p> <p><i>Clarification Statement: Emphasis is on the idea that plant matter comes mostly from air and water, not from the soil. Emphasis includes photosynthesis.</i></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 3-5 builds on K-2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world.</p> <p>* Support an argument with evidence, data, or a model.</p>	<p><b>LS1.C Organization for Matter and Energy Flow in Organisms</b> * Plants acquire their material for growth chiefly from air and water.</p>	<p><b>Energy and Matter</b> * Matter is transported into, out of, and within systems.</p>
<b>Guided Questions</b>		
* How do you critique evidence to explain where plants acquire what they need for growth?		
<b>Catholic Identity Connections</b>		
<p>* Plants were created with the ability to get the materials they need for growth from air and water.</p> <p>* We delight in the world around us.</p>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<p><b>ELA Literacy</b></p> <p><b>RI.5.1</b> <i>Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.</i></p> <p><b>RI.5.9</b> <i>Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.</i></p> <p><b>W.5.1</b> <i>Write opinion pieces on topics or texts, supporting a point of view with reasons and information.</i></p> <p><b>Mathematics</b></p> <p><b>MP</b> <i>Reason abstractly and quantitatively.</i></p> <p><b>MP</b> <i>Model with mathematics.</i></p> <p><b>MP</b> <i>Use appropriate tools strategically.</i></p> <p><b>M</b> <i>Apply conversion of linear units from millimeters through kilometer, excluding decimals.</i></p> <p><b>M</b> <i>Use conversions to solve multi-step real-world problems.</i></p>		
<b>Connections to Other DCIs in Fifth Grade</b>		
<b>5.PS1.A</b>		
<b>Articulation to DCIs across Grade-Levels</b>		
<b>K.LS1.C; 2.LS2.A; MS.LS1.C</b>		

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**5-LS2-1 Ecosystems: Interactions, Energy, and Dynamics**

Students who demonstrate understanding can:  
**5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.**  
*Clarification Statement: Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the Earth.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b>            Modeling in 3-5 builds on K-2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.</p> <p>* Develop a model to describe phenomena.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to the Nature of Science</b></p> <p><b>Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena</b>            * Science explanations describe the mechanisms for natural events.</p>	<p><b>LS2.A Interdependent Relationships in Ecosystems</b>            * The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plant parts and animals) and therefore operate as "decomposers". Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem.</p> <p><b>LS2.B Cycles of Matter and Energy Transfer in Ecosystems</b>            * Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases and water from the environment and release waste matter (gas, liquid, or solid) back into the environment.</p>	<p><b>Systems and System Models</b>            * A system can be described in terms of its components and their interactions.</p>

**Guided Questions**

\* How do you develop a model to describe the movement of matter within an ecosystem and the relationship between the components of the ecosystem?

**Catholic Identity Connections**

\* From the tiniest organism to the most enormous creature, we are all in this together.  
 \* All creation is a system of interrelated parts.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RI.5.7** *Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.*

**SL.5.5** *Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.*

**Mathematics**

**MP** *Reason abstractly and quantitatively.*

**MP** *Model with mathematics.*

**Connections to Other DCIs in Fifth Grade**

**5.PS1.A; 5.ESS2.A**

**Articulation to DCIs across Grade-Levels**

**2.PS1.A; 2.LS4.D; 4.ESS2.E; MS.PS3.D; MS.LS1.C; MS.LS2.A; MS.LS2.B**

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<b>5-ESS1-1 Earth's Place in the Universe</b>		
<p>Students who demonstrate understanding can:</p> <p><b>5-ESS1-1 Support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth.</b></p> <p><i>Assessment Boundary: Assessment is limited to relative distances, not sizes, of stars. Assessment does not include other factors that affect brightness (such as stellar masses, ages, stages).</i></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 3-5 builds on K-2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world.</p> <p>* Support an argument with evidence, data, or a model.</p>	<p><b>ESS1.A The Universe and Its Stars</b> * The sun is a star that appears larger and brighter than other stars because it is closer. Stars range greatly in their distance from Earth.</p>	<p><b>Scale, Proportion, and Quantity</b> * Natural objects exist from the very small to the immensely large.</p>
<b>Guided Questions</b>		
<p>* How do you support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth?</p>		
<b>Catholic Identity Connections</b>		
<p>* God has given us the ability to view objects in the sky, including the sun and stars. * The innate value of objects comes from being created by God.</p>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<p><b>ELA Literacy</b></p> <p><b>RI.5.1</b> <i>Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.</i></p> <p><b>RI.5.7</b> <i>Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.</i></p> <p><b>RI.5.8</b> <i>Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).</i></p> <p><b>RI.5.9</b> <i>Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.</i></p> <p><b>W.5.1</b> <i>Write opinion pieces on topics or texts, supporting a point of view with reasons and information.</i></p> <p><b>Mathematics</b></p> <p><b>MP</b> <i>Reason abstractly and quantitatively.</i></p> <p><b>MP</b> <i>Model with mathematics.</i></p> <p><b>NO</b> <i>Explain patterns in the number of zeroes of the product when multiplying a number by powers of 10.</i></p> <p><b>NO</b> <i>Explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10.</i></p>		

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<b>Connections to Other DCIs in Fifth Grade</b>	
<b>NA</b>	
<b>Articulation to DCIs across Grade-Levels</b>	
<b>MS.ESS1.A; MS.ESS1.B</b>	

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<b>5-ESS1-2 Earth's Place in the Universe</b>		
Students who demonstrate understanding can:		
<b>5-ESS1-2 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.</b>		
<i>Clarification Statement: Examples of patterns could include the position and motion of Earth with respect to the sun and selected stars that are visible only in particular months.</i>		
<i>Assessment Boundary: Assessment does not include causes of seasons.</i>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<p><b>Analyzing and Interpreting Data</b> Analyzing and interpreting data in 3-5 builds on K-2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used.</p> <p>* Represent data in graphical displays (bar graphs, pictographs, and/or pie charts) to reveal patterns that indicate relationships.</p>	<p><b>ESS1.B Earth and the Solar System</b> * The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different times of the day, month, and year.</p>	<p><b>Patterns</b> * Similarities and differences in patterns can be used to sort, classify, communicate, and analyze simple rates of change for natural phenomena.</p>
<b>Guided Questions</b>		
<p>* How do you represent in a graphical display the observable changes due to Earth's rotation and orbit around the sun? * Why are we only able to see some stars in the night sky during particular seasons?</p>		
<b>Catholic Identity Connections</b>		
* For us, the length of daylight hours shortens as we move toward Jesus' birthday.		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<b>ELA Literacy</b>		
SL.5.5 <i>Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.</i>		
<b>Mathematics</b>		
MP <i>Reason abstractly and quantitatively.</i>		
MP <i>Model with mathematics.</i>		
G <i>Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.</i>		

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**Connections to Other DCIs in Fifth Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**1.ESS1.A; 1.ESS1.B; 3.PS2.A; MS.ESS1.A; MS.ESS1.B**

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<b>5-ESS2-1 Earth's Systems</b>		
Students who demonstrate understanding can: <b>5-ESS2-1 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</b> <i>Clarification Statement: Examples could include the influence of the ocean on ecosystems, landform shape, and climate; the influence of the atmosphere on landforms and ecosystems through weather and climate; and the influence of mountain ranges on winds and clouds in the atmosphere. The geosphere, biosphere, hydrosphere, and atmosphere are each a system.</i>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<b>Developing and Using Models</b> Modeling in 3-5 builds on K-2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.  * Develop a model using an example to describe a scientific principle.	<b>ESS2.A Earth Materials and Systems</b> * Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the biosphere (living things, including humans), the hydrosphere (water and ice), and the atmosphere (air). These systems interact in multiple ways to affect Earth's surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather.	<b>Systems and System Models</b> * A system can be described in terms of its components and their interactions.
<b>Guided Questions</b>		
* How do you develop a model to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact?		
<b>Catholic Identity Connections</b>		
* God has created a universe in which various systems interact to protect and enhance Earth's processes.		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<b>Mathematics</b> <b>MP</b> <i>Model with mathematics.</i> <b>G</b> <i>Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.</i>		
<b>Connections to Other DCIs in Fifth Grade</b>		
<b>NA</b>		
<b>Articulation to DCIs across Grade-Levels</b>		
<b>2.ESS2.A; 3.ESS2.D; 4.ESS2.A; MS.ESS2.A; MS.ESS2.C; MS.ESS2.D</b>		

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<b>5-ESS2-2 Earth's Systems</b>		
Students who demonstrate understanding can: <b>5-ESS2-2 Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.</b>		
<i>Assessment Boundary: Assessment is limited to oceans, lakes, rivers, glaciers, ground water, and polar ice caps, and does not include the atmosphere.</i>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<b>Using Mathematics and Computational Thinking</b> Mathematical and computational thinking in 3-5 builds on K-2 experiences and progresses to extending quantitative measurements to a variety of physical properties and using computation and mathematics to analyze data and compare alternative design solutions.  * Describe and graph quantities such as area and volume to address scientific questions.	<b>ESS2.C The Roles of Water in Earth's Surface Processes</b> * Nearly all of Earth's available water is in the ocean. Most fresh water is in glaciers or underground; only a tiny fraction is in the streams, lakes, wetlands, and the atmosphere.	<b>Scale, Proportion, and Quantity</b> * Standard units are used to measure and describe physical quantities such as weight and volume.
<b>Guided Questions</b>		
* How do you describe and graph the amounts of salt water and fresh water in reservoirs to provide evidence about the distribution of water on Earth?		
<b>Catholic Identity Connections</b>		
* We thank God for the life-giving and healing nature of water that is so abundant on our planet. * All creation is mutually dependent for survival.		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<b>ELA Literacy</b> <b>RI.5.7</b> Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. <b>SL.5.5</b> Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. <b>W.5.8</b> Recall relevant information from experiences or legally and ethically gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.		
<b>Mathematics</b> <b>MP</b> Reason abstractly and quantitatively. <b>MP</b> Model with mathematics.		
<b>Connections to Other DCIs in Fifth Grade</b>		
<b>NA</b>		
<b>Articulation to DCIs across Grade-Levels</b>		
<b>2.ESS2.C; MS.ESS2.C; MS.ESS3.A</b>		

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<b>5-ESS3-1 Earth and Human Activity</b>		
<p>Students who demonstrate understanding can:</p> <p><b>5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.</b></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Obtaining, Evaluating, and Communicating Information</b> Obtaining, evaluating, and communicating information in 3-5 builds on K-2 experiences and progresses to evaluating the merit and accuracy of ideas and methods.</p> <p>* Obtain and combine information from books and/or other reliable media to explain phenomena or solutions to a design problem.</p>	<p><b>ESS3.C Human Impacts on Earth Systems</b> * Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth's resources and environments.</p>	<p><b>Systems and System Models</b> * A system can be described in terms of its components and their interactions.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Science Addresses Questions About the Natural and Material World</b> * Science findings are limited to questions that can be answered with empirical evidence.</p>
Guided Questions		
<p>* Using books and reliable media, how do you explain how communities use scientific ideas to protect Earth's resources and environment?</p> <p>* How do you explain positive and negative effects of human activity on the environment?</p>		
Catholic Identity Connections		
<p>* God calls us to delight in and care for creation.</p> <p>* Individuals and communities have the skills and talents necessary to protect Earth's resources and environments.</p>		
Archdiocese of Louisville ELA and Mathematics Standards Connections		
<p><b>ELA Literacy</b></p> <p><b>RI.5.1</b> <i>Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.</i></p> <p><b>RI.5.7</b> <i>Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.</i></p> <p><b>RI.5.9</b> <i>Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.</i></p> <p><b>W.5.8</b> <i>Recall relevant information from experiences or legally and ethically gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.</i></p> <p><b>W.5.9</b> <i>Draw evidence from literary or informational texts to support analysis, reflection, and research.</i></p> <p><b>Mathematics</b></p> <p><b>MP</b> <i>Reason abstractly and quantitatively.</i></p> <p><b>MP</b> <i>Model with mathematics.</i></p>		

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**Connections to Other DCIs in Fifth Grade**

**NA**

**Articulation to DCIs across Grade-Levels**

**MS.ESS3.A; MS.ESS3.C; MS.ESS3.D**

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**Fifth Grade Standards**

**5-PS1 Matter and Its Interactions**

- 5-PS1-1 Develop a model to describe that matter is made of particles too small to be seen.
- 5-PS1-2 Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.
- 5-PS1-3 Make observations and measurements to identify materials based on their properties.
- 5-PS1-4 Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

**5-PS2 Motion and Stability: Forces and Interactions**

- 5-PS2-1 Support an argument that the gravitational force exerted by Earth on objects is directed down.

**5-PS3 Energy**

- 5-PS3-1 Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

**5-LS1 From Molecules to Organisms: Structures and Processes**

- 5-LS1-1 Support an argument that plants get the materials they need for growth chiefly from air and water.

**5-LS2 Ecosystems: Interactions, Energy, and Dynamics**

- 5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

**5-ESS1 Earth's Place in the Universe**

- 5-ESS1-1 Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth..
- 5-ESS1-2 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

**5-ESS2 Earth's Systems**

- 5-ESS2-1 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
- 5-ESS2-2 Describe and graph the amounts and percentages of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

**5-ESS3 Earth and Human Activity**

- 5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

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<b>3-5-ETS1 Engineering Design</b>		
<p>Students who demonstrate understanding can:</p> <p><b>3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for successes and constraints on materials, time, or cost.</b></p> <p><b>3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</b></p> <p><b>3-5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</b></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in grades 3-5 builds on grades K-2 experiences and progresses to specifying qualitative relationships.</p> <p>* Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost.</p> <p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in 3-5 builds on K-2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.</p> <p>* Plan and conduct an investigation collaboratively to produce data to save as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.</p>	<p><b>ETS1.A Defining and Delimiting Engineering Problems</b> * Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account.</p> <p><b>ETS1.B Developing Possible Solutions</b> * Research on a problem should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions. * At whatever stage, communicating with peers about proposed solutions to an important part of the design process, and shared ideas can lead to improved designs. * Tests are often designed to identify failure points or difficulties, which suggest the elements of the design that need to be improved.</p>	<p><b>Influence of Engineering, Technology, and Science on Society and the Natural World</b> * People's needs and wants change over time, as do their demands for new and improved technologies. * Engineers improve existing technologies or develop new ones to increase their benefits, decrease known risks, and meet societal demands.</p>

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Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 3-5 builds on K-2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.</p> <p>* Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design problem.</p>	<p><b>ETS1.C Optimizing the Design Solution</b> * Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints.</p>	<p><b>Influence of Engineering, Technology, and Science on Society and the Natural World</b> * People's needs and wants change over time, as do their demands for new and improved technologies. * Engineers improve existing technologies or develop new ones to increase their benefits, decrease known risks, and meet societal demands.</p>
<b>Guided Questions</b>		
<p>* How have engineers developed new products and technologies to meet the ever-changing needs and wants of people? * How have the needs and wants of people changed over time? * How can we distinguish between our needs and wants? * Why is it important to consider multiple solutions before determining the best possible solution for a given problem?</p>		
<b>Catholic Identity Connections</b>		
<p>* God has given different people different gifts and talents which allow some to design solutions to problems that exist in the world. * God has given us the mental capacity to consider solutions from various angles to determine which best meets the criteria and constraints of the problem.</p>		

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**6-ESS1-1 Earth's Place in the Universe**

Students who demonstrate understanding can:

**6-ESS1-1 Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases.**

*Clarification Statement: Examples of models can be physical, graphical, or conceptual.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <p>* Develop and use a model to describe phenomena.</p>	<p><b>ESS1.A The Universe and Its Stars</b> * Patterns of the apparent motion of the sun, the moon, and stars in the sky can be observed, described, predicted, and explained with models.</p> <p><b>ESS1.B Earth and the Solar System</b> * This model of the solar system can explain eclipses of the sun and the moon. Earth's spin axis is fixed in direction over the short-term but tilted relative to its orbit around the sun. The seasons are a result of the tilt and are caused by the differential intensity of sunlight on different areas of Earth across the year.</p>	<p><b>Patterns</b> * Patterns can be used to identify cause and effect relationships.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</b> * Science assumes that objects and events in natural systems occur in consistent patterns that are understandable through measurement and observation.</p>
<b>Guided Questions</b>		
* How do the relative positions of the sun, Earth, and moon to each other affect their physical phenomena (i.e., moon phases, eclipses, light, and seasons)?		
<b>Catholic Identity Connections</b>		
* God is the creator of the universe including the Earth, sun, and moon systems which allow for sustainable life. * All creation is a system of interrelated parts.		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<p><b>ELA Literacy</b> <b>SL.8.5</b> <i>Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.</i></p> <p><b>Mathematics</b> <b>MP.4</b> <i>Model with mathematics.</i> <b>NO.6</b> <i>Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.</i> <b>NO.7</b> <i>Recognize and represent proportional relationships between quantities.</i></p>		
<b>Connections to Other DCIs in Sixth Grade</b>		
MS.PS2.A; MS.PS2.B		
<b>Articulation to DCIs across Grade-Bands</b>		
3.PS2.A; 5.PS2.B; 5.ESS1.B		

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**6-ESS1-2 Earth's Place in the Universe**

Students who demonstrate understanding can:

**6-ESS1-2 Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.**

*Clarification Statement: Emphasis for the model is on gravity as the force that holds together the solar system and Milky Way galaxy and controls orbital motions within them. Examples of models can be physical (such as the analogy of distance along a football field or computer visualizations of elliptical orbits) or conceptual (such as mathematical proportions relative to the size of familiar objects such as students' school or state).*

*Assessment Boundary: Assessment does not include Kepler's Laws of orbital motion or the apparent retrograde motion of the planets as viewed from Earth.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop and use a model to describe phenomena.</p>	<p><b>ESS1.A The Universe and Its Stars</b> * Earth and its solar system are part of the Milky Way galaxy, which is one of the many galaxies in the universe.</p> <p><b>ESS1.B Earth and the Solar System</b> * The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them. * The solar system appears to have formed from a disk of dust and gas, drawn together by gravity.</p>	<p><b>Systems and System Models</b> * Models can be used to represent systems and their interactions.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</b> * Science assumes that objects and events in natural systems occur in consistent patterns that are understandable through measurement and observation.</p>
<b>Guided Questions</b>		
<p>* How can the position and mass of a solar body affect the gravity on that body? * How does gravity affect orbital motion within small or large systems?</p>		
<b>Catholic Identity Connections</b>		
<p>* God is the creator of the universe and the laws that govern it, including gravity.</p>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<p><b>ELA Literacy</b> <b>SL.8.5</b> <i>Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.</i></p> <p><b>Mathematics</b> <b>MP.4</b> <i>Model with mathematics.</i> <b>NO.6</b> <i>Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.</i> <b>NO.7</b> <i>Recognize and represent proportional relationships between quantities.</i></p>		

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**Connections to Other DCIs in Sixth Grade**

**MS.PS2.A; MS.PS2.B**

**Articulation to DCIs across Grade-Bands**

**3.PS2.A; 5.PS2.B; 5.ESS1.B**

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**6-ESS1-3 Earth's Place in the Universe**

Students who demonstrate understanding can:

**6-ESS1-3 Analyze and interpret data to determine scale properties of objects in the solar system.**

*Clarification Statement: Emphasis is on the analysis of data from Earth-based instruments, space-based telescopes, and spacecraft to determine similarities and differences among solar system objects. Examples of scale properties include the sizes of an object's layers (such as crust and atmosphere), surface features (such as volcanoes), and orbital radius. Examples of data include statistical information, drawings and photographs, and models.*

*Assessment Boundary: Assessment does not include recalling facts about properties of the planets and other solar system bodies.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing and interpreting data in 6-8 builds on K-5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <p>* Analyze and interpret data to determine similarities and differences in findings.</p>	<p><b>ESS1.B Earth and the Solar System</b> * The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them.</p>	<p><b>Scale, Proportion, and Quantity</b> * Time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Interdependence of Science, Engineering, and Technology</b> * Engineering advances have led to important discoveries in virtually every field of science, and scientific discoveries have led to the development of entire industries and engineered systems.</p>

**Guided Questions**

- \* How is technology used to gather information about solar bodies in relation to the Earth and its physical/chemical features?
- \* What technology can be used in space exploration to gather information?

**Catholic Identity Connections**

- \* God gives us the intelligence and resources necessary to explore and broaden our understanding of the universe.
- \* The Holy Spirit helps us with moral decision-making.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*

**RST.6-8.7** *Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).*

**Mathematics**

**MP.2** *Reason abstractly and quantitatively.*

**NO.6** *Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.*

**NO.7** *Recognize and represent proportional relationships between quantities.*

**Connections to Other DCIs in Sixth Grade**

**MS.ESS2.A**

**Articulation to DCIs across Grade-Bands**

**5.ESS1.B**

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**6-ESS1-4 Earth's Place in the Universe**

Students who demonstrate understanding can:

**6-ESS1-4 Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.**

*Clarification Statement: Emphasis is on how analyses of rock formations and the fossils they contain are used to establish relative ages of major events in Earth's history. Examples of Earth's major events could range from being very recent (such as the last Ice Age or the earliest fossils of homo sapiens) to very old (such as the formation of Earth or the earliest evidence of life). Examples can include the formation of mountain chains and ocean basins, the evolution or extinction of particular living organisms, or significant volcanic eruptions.*

*Assessment Boundary: Assessment does not include recalling the names of specific periods or epochs and events within them.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.</p> <p>* Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.</p>	<p><b>ESS1.C The History of Planet Earth</b> * The geologic time scale interpreted from rock strata provides a way to organize Earth's history. Analyses of rock strata and the fossil record provide only relative dates, not an absolute scale.</p>	<p><b>Scale, Proportion, and Quantity</b> * Time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small.</p>

**Guided Questions**

- \* How do you determine the age of rock strata?
- \* What does the age of rock strata reveal about Earth's history?

**Catholic Identity Connections**

- \* The universe was created by God in stages that built upon one another over a period of time.
- \* God continues to create in the world.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*

**WHST.6-8.2** *Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.*

**Connections to Other DCIs in Sixth Grade**

**MS.LS4.A; MS.LS4.C**

**Articulation to DCIs across Grade-Bands**

**3.LS4.A; 3.LS4.C; 4.ESS1.C**

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**6-ESS2-1 Earth's Systems**

Students who demonstrate understanding can:

**6-ESS2-1 Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.**

*Clarification Statement: Emphasis is on the processes of melting, crystallization, weathering, deformation, and sedimentation, which act together to form minerals and rocks through the cycling of Earth's materials (e.g., rock cycle).*

*Assessment Boundary: Assessment does not include the identification and naming of minerals.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop and use a model to describe phenomena.</p>	<p><b>ESS2.A Earth's Materials and Systems</b> * All Earth processes are the result of energy flowing and matter cycling within and among the planet's systems. This energy is derived from the sun and the Earth's hot interior. The energy that flows and matter that cycles produce chemical and physical changes in Earth's materials and living organisms.</p>	<p><b>Stability and Change</b> * Explanations of stability and change in natural or designed systems can be constructed by examining the changes over time and processes at different scales, including the atomic scale.</p>
<b>Guided Questions</b>		
<p>* How does energy change Earth's materials? * How does energy drive the processes that change Earth's materials?</p>		
<b>Catholic Identity Connections</b>		
<p>* God is the creator of all geological processes.</p>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<p><b>ELA Literacy</b> <b>SL.8.5</b> <i>Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.</i></p>		
<b>Connections to Other DCIs in Sixth Grade</b>		
<p><b>MS.PS3.B; MS.LS2.B; MS.LS2.C; MS.ESS1.B; MS.ESS3.C</b></p>		
<b>Articulation to DCIs across Grade-Bands</b>		
<p><b>4.PS3.B; 4.ESS2.A; 5.ESS2.A</b></p>		

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**6.ESS2-2 Earth's Systems**

Students who demonstrate understanding can:

**6-ESS2-2 Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.**

*Clarification Statement: Emphasis is on how processes change Earth's surface at time and spatial scales that can be large (such as slow plate motions or the uplift of large mountain ranges) or small (such as rapid landslides or microscopic geochemical reactions), and how many geoscience processes (such as earthquakes, volcanoes, and meteor impacts) usually behave gradually but are punctuated by catastrophic events. Examples of geoscience processes include surface weathering and deposition by the movements of water, ice, and wind. Emphasis is on geoscience processes that shape local geographic features, where appropriate.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.</p> <p>* Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe nature operate today as they did in the past and will continue to do so in the future.</p>	<p><b>ESS2.A Earth's Materials and Systems</b> * The planet's systems interact over scales that range from microscopic to global in size, and they operate over fractions of a second to billions of years. These interactions have shaped Earth's history and will determine its future.</p> <p><b>ESS2.C The Roles of Water in Earth's Surface Processes</b> * Water's movements - both on the land and underground - cause weathering and erosion, which change the land's surface features and create underground formations.</p>	<p><b>Scale, Proportion, and Quantity</b> * Time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small.</p>
<b>Guided Questions</b>		
<p>* What processes can explain the changing of the Earth's surface? * How do catastrophic events help shape/change Earth's constant processes?</p>		
<b>Catholic Identity Connections</b>		
<p>* The universe is ordered and good. * There is evidence of the presence and power of God in the world.</p>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<p><b>ELA Literacy</b>  <b>RST.6-8.1</b> <i>Cite specific textual evidence to support analysis of science and technical texts.</i>  <b>RST.6-8.7</b> <i>Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).</i>  <b>SL.8.5</b> <i>Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.</i></p>		
<p><b>Mathematics</b>  <b>MP.2</b> <i>Reason abstractly and quantitatively.</i></p>		

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Connections to Other DCIs in Sixth Grade**

**MS.PS1.B; MS.LS2.B**

**Articulation to DCIs across Grade-Bands**

**4.ESS1.C; 4.ESS2.A; 4.ESS2.E; 5.ESS2.A**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**6-ESS2-3 Earth's Systems**

Students who demonstrate understanding can:

**6-ESS2-3 Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.**

*Clarification Statement: Examples of data include similarities of rock and fossil types on different continents, the shapes of the continents (including continental shelves), and the locations of ocean structures (such as ridges, fracture zones, and trenches).*

*Assessment Boundary: Paleomagnetic anomalies in oceanic and continental crust are not assessed.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing and interpreting data in 6-8 builds on K-5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <p>* Analyze and interpret data to provide evidence for phenomena.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Is Open to Revision in Light of New Evidence</b> * Science findings are frequently revised and/or reinterpreted based on new evidence.</p>	<p><b>ESS2.B Plate Tectonics and Large-Scale System Interactions</b> * Maps of ancient land and water patterns, based on investigations of rocks and fossils, make clear how Earth's plates have moved great distances, collided, and spread apart.</p> <p><b>ESS2.C The Roles of Water in Earth's Surface Processes</b> * Water's movements - both on the land and underground - cause weathering and erosion, which change the land's surface features and create underground formations.</p>	<p><b>Patterns</b> * Patterns in rates of change and other numerical relationships can provide information about natural systems.</p>

**Guided Questions**

\* What are the pieces of evidence that show that Earth's plates are in constant motion?

**Catholic Identity Connections**

\* God is the creator of all geological processes and fossils and rocks, continental shapes, and seafloor structures provide evidence of changes over time.  
\* God's love is a sign of trust in all creation.

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Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*

**RST.6-8.7** *Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).*

**RST.6-8.9** *Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.*

**Mathematics**

**MP.2** *Reason abstractly and quantitatively.*

**Connections to Other DCIs in Sixth Grade**

**MS.LS4.A**

**Articulation to DCIs across Grade-Bands**

**3.LS4.A; 3.ESS3.B; 4.ESS1.C; 4.ESS2.B; 4.ESS3.B**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**6-ESS2-4 Earth's Systems**

Students who demonstrate understanding can:

**6-ESS2-4 Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.**

*Clarification Statement: Emphasis is on the ways water changes its state as it moves through the multiple pathways of the hydrologic cycle. Examples of models can be conceptual or physical.*

*Assessment Boundary: A quantitative understanding of the latent heats of vaporization and fusion is not assessed.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <ul style="list-style-type: none"> <li>* Develop a model to describe unobservable mechanisms.</li> </ul>	<p><b>ESS2.C The Roles of Water in Earth's Surface Processes</b></p> <ul style="list-style-type: none"> <li>* Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation, crystallization, and precipitation as well as downhill flows on land.</li> <li>* Global movements of water and its changes in form are propelled by sunlight and gravity.</li> </ul>	<p><b>Energy and Matter</b></p> <ul style="list-style-type: none"> <li>* Within a natural or designed system, the transfer of energy drives the motion and/or cycling of matter.</li> </ul>
<b>Guided Questions</b>		
<ul style="list-style-type: none"> <li>* What are the driving forces of the hydrologic cycle?</li> <li>* How does the energy of the sun affect biological/physical relationships on Earth?</li> </ul>		
<b>Catholic Identity Connections</b>		
<ul style="list-style-type: none"> <li>* God has created a process that allows living and nonliving things to utilize the Earth.</li> <li>* All creation is interdependent.</li> </ul>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<b>Connections to Other DCIs in Sixth Grade</b>		
MS.PS1.A; MS.PS2.B; MS.PS3.A; MS.PS3.D		
<b>Articulation to DCIs across Grade-Bands</b>		
3.PS2.A; 4.PS3.B; 5.PS2.B; 5.ESS2.C		

**Archdiocese of Louisville  
Curriculum Framework  
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**6.ESS2-5 Earth's Systems**

Students who demonstrate understanding can:

**6-ESS2-5 Collect data to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions.**

*Clarification Statement: Emphasis is on how air masses flow from regions of high pressure to low pressure, causing weather (defined by temperature, pressure, humidity, precipitation, and wind) at a fixed location to change over time, and how sudden changes in weather can result when different air masses collide. Emphasis is on how weather can be predicted within probabilistic ranges. Examples of data can be provided to students (such as weather maps, diagrams, and visualizations) or obtained through laboratory experiments (such as with condensation).*

*Assessment Boundary: Assessment does not include recalling the names of cloud types or weather symbols used on weather maps or the reported diagrams from weather stations.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations in 6-8 builds on K-5 experiences and progresses to include investigations that use multiple variables and provide evidence to support explanations or solutions.</p> <p>* Collect data to produce data to serve as the basis for evidence to answer scientific questions or test design solutions under a range of conditions.</p>	<p><b>ESS2.C The Roles of Water in Earth's Surface Processes</b> * The complex patterns of the changes and the movement of water in the atmosphere, determined by winds, landforms, and ocean temperatures and currents, are major determinants of local weather patterns.</p> <p><b>ESS2.D Weather and Climate</b> * Because these patterns are so complex, weather can only be predicted probabilistically.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships may be used to predict phenomena in natural or designed systems.</p>
<b>Guided Questions</b>		
<p>* How do weather factors influence each other to create a climate? * How is data collected to determine the weather in an area?</p>		
<b>Catholic Identity Connections</b>		
<p>* God has created a world of harmony and balance. * All creation is a gift from God.</p>		

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*

**RST.6-8.9** *Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.*

**WHST.6-8.8** *Gather relevant information from multiple print and digital sources, using research terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.*

**Mathematics**

**MP.2** *Reason abstractly and quantitatively.*

**NO.6** *Understand that positive and negative numbers are used together to describe quantities having opposite directions or values.*

**NO.6** *Use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.*

**Connections to Other DCIs in Sixth Grade**

**MS.PS1.B; MS.PS2.A; MS.PS3.A; MS.PS3.B**

**Articulation to DCIs across Grade-Bands**

**3.ESS2.D; 5.ESS2.A**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**6-ESS2-6 Earth's Systems**

Students who demonstrate understanding can:

**6-ESS2-6 Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.**

*Clarification Statement: Emphasis is on how patterns vary by latitude, altitude, and geographic land distribution. Emphasis of atmospheric circulation is on the sunlight-driven latitudinal banding, the Coriolis effect, and resulting prevailing winds; emphasis of ocean circulation is on the transfer of heat by the global ocean convection cycle, which is constrained by the Coriolis effect and the outlines of continents. Examples of models can be diagrams, maps and globes, or digital representations.*

*Assessment Boundary: Assessment does not include the dynamics of the Coriolis effect.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop and use a model to describe phenomena.</p>	<p><b>ESS2.C The Roles of Water in Earth's Surface Processes</b> * Variations in density due to variations in temperature and salinity drive a global pattern of interconnected ocean currents.</p> <p><b>ESS2.D Weather and Climate</b> * Weather and climate are influenced by interactions involving sunlight, the ocean, the atmosphere, ice, landforms, and living things. These interactions vary with latitude, altitude, and local and regional geography, all of which can affect oceanic and atmospheric flow patterns. * The ocean exerts a major influence on weather and climate by absorbing energy from the sun, releasing it over time, and globally redistributing it through ocean currents.</p>	<p><b>Systems and System Models</b> * Models can be used to represent systems and their interactions - such as inputs, processes, and outputs - and energy, matter, and information flows within systems.</p>

**Guided Questions**

- \* What is the driving force behind atmospheric and oceanic circulation?
- \* What contributes to the differences in circulation in different regions?

**Catholic Identity Connections**

- \* God created a world with variations in regional climates due to patterns and the interconnectedness of Earth processes.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**SL.8.5** *Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.*

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Curriculum Framework  
Science**

**Connections to Other DCIs in Sixth Grade**

**MS.PS2.A; MS.PS3.B; MS.PS4.B**

**Articulation to DCIs across Grade-Bands**

**3.PS2.A; 3.ESS2.D; 5.ESS2.A**

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**6.ESS3-1 Earth and Human Activity**

Students who demonstrate understanding can:

**6-ESS3-1 Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.**

*Clarification Statement: Emphasis is on how these resources are limited and typically non-renewable, and how their distributions are significantly changing as a result of removal by humans. Examples of uneven distributions of resources as a result of past processes include, but are not limited to, petroleum (locations of the burial of organic marine sediments and subsequent geologic traps), metal ores (locations of past volcanic and hydrothermal activity associated with subduction zones), and soil (locations of active weathering and/or deposition of rock).*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.</p> <p>* Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe nature operate today as they did in the past and will continue to do so in the future.</p>	<p><b>ESS3.A Natural Resources</b> * Humans depend on Earth's land, ocean, atmosphere, and biosphere for many different resources. Minerals, fresh water, and biosphere resources are limited, and many are not renewable or replaceable over human lifetimes. These resources are distributed unevenly around the planet as a result of past geologic processes.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships may be used to predict phenomena in natural or designed systems.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b> * All human activity draws on natural resources and has both short- and long-term consequences, positive as well as negative, for the health of people and the natural environment.</p>

**Guided Questions**

- \* What causes the uneven distribution of Earth's resources?
- \* How do humans impact the amounts of renewable and non-renewable resources available?

**Catholic Identity Connections**

- \* God is the creator of all things and has given us the responsibility to use and reuse resources wisely.
- \* God calls us to delight in and care for creation.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
- WHST.6-8.2** *Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.*
- WHST.6-8.9** *Draw evidence from informational texts to support analysis, reflection, and research.*

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**Connections to Other DCIs in Sixth Grade**

**MS.PS1.A; MS.PS1.B; MS.ESS2.D**

**Articulation to DCIs across Grade-Bands**

**4.PS3.D; 4.ESS3.A**

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**6-ESS3-2 Earth and Human Activity**

Students who demonstrate understanding can:

**6-ESS3-2 Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.**

*Clarification Statement: Emphasis is on how some natural hazards, such as volcanic eruptions and severe weather, are preceded by phenomena that allow for reliable predictions, but others, such as earthquakes, occur suddenly with no notice, and thus are not yet predictable. Examples of natural hazards can be taken from interior processes (such as earthquakes and volcanic eruptions), surface processes (such as mass wasting and tsunamis), or severe weather events (such as hurricanes, tornadoes, and floods). Examples of data can include the locations, magnitudes, and frequencies of the natural hazards. Examples of technologies can be global (such as satellite systems to monitor hurricanes or forest fires) or local (such as building basements in tornado-prone regions or reservoirs to mitigate droughts).*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing and interpreting data in 6-8 builds on K-5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <p>* Analyze and interpret data to determine similarities and differences in findings.</p>	<p><b>ESS3.B Natural Hazards</b> * Mapping the history of natural hazards in a region, combined with an understanding of related geologic forces can help forecast the locations and likelihoods of future events.</p>	<p><b>Patterns</b> * Graphs, charts, and images can be used to identify patterns in data.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b> * The uses of technologies and any limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time.</p>

**Guided Questions**

\* How is data collected to predict the risk or impact on an area due to a natural hazard event?

**Catholic Identity Connections**

- \* God gives humans the intelligence and resources needed to respond to the environment.
- \* Christian values and decision-making skills are applied to moral judgment questions.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*

**RST.6-8.7** *Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).*

**Connections to Other DCIs in Sixth Grade**

**MS.PS3.C**

**Articulation to DCIs across Grade-Bands**

**3.ESS3.B; 4.ESS3.B**

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**6-ESS3-3 Earth and Human Activity**

Students who demonstrate understanding can:

**6-ESS3-3 Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.**

*Clarification Statement: Examples of the design process include examining human environmental impacts, assessing the kinds of solutions that are feasible, and designing and evaluating solutions that could reduce that impact. Examples of human impacts can include water usage (such as the withdrawal of water from streams and aquifers or the construction of dams and levees), land usage (such as urban development, agriculture, or the removal of wetlands), and pollution (such as of the air, water, or land).*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.</p> <p>* Apply scientific principles to design an object, tool, process, or system.</p>	<p><b>ESS3.C Human Impacts on Earth Systems</b> * Human activities have significantly altered the biosphere, sometimes damaging or destroying natural habitats and causing the extinction of other species. But changes to Earth's environments can have different impacts (negative and positive) for different living things. * Typically as human populations and per-capita consumption of natural resources increase, so do the negative impacts on Earth unless the activities and technologies involved are engineered otherwise.</p>	<p><b>Cause and Effect</b> * Relationships can be classified as causal or correlational, and correlation does not necessarily imply causations.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b> * The uses of technologies and any limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time.</p>

**Guided Questions**

\* How do humans impact the Earth's environment?

**Catholic Identity Connections**

- \* As stewards of the Earth, God has entrusted us to authentically and responsibly use resources.
- \* We are called to care for and respect and sacredness of all creation.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- WHST.6-8.7** *Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.*
- WHST.6-8.8** *Gather relevant information from multiple print and digital sources, using research terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.*

**Mathematics**

- NO.6** *Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.*
- NO.7** *Recognize and represent proportional relationships between quantities.*

**Connections to Other DCIs in Sixth Grade**

**MS.LS2.A; MS.LS2.C; MS.LS4.D**

**Articulation to DCIs across Grade-Bands**

**3.LS2.C; 3.LS4.D; 5.ESS3.C**

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**6-ESS3-4 Earth and Human Activity**

Students who demonstrate understanding can:

**6-ESS3-4 Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.**

*Clarification Statement: Examples of evidence include grade-appropriate databases on human populations and the rates of consumption of food and natural resources (such as freshwater, minerals, and energy). Examples of impacts can include changes to the appearance, composition, and structure of Earth's systems as well as the rates at which they change. The consequences of increases in human populations and consumption of natural resources are described by science, but science does not make the decisions for the actions society takes.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 6-8 builds on K-5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world.</p> <p>* Construct an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem.</p>	<p><b>ESS3.C Human Impacts on Earth Systems</b> * Typically as human populations and per-capita consumption of natural resources increase, so do the negative impacts on Earth unless the activities and technologies involved are engineered otherwise.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships may be used to predict phenomena in natural or designed systems.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b> * All human activity draws on natural resources and has both short- and long-term consequences, positive as well as negative, for the health of people and the natural environment.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Science Addresses Questions About the Natural and Material World</b> * Scientific knowledge can describe the consequences of actions but does not necessarily prescribe the decisions that society makes.</p>

**Guided Questions**

\* What is the relationship between human population and the consumption of natural resources?

**Catholic Identity Connections**

- \* God has entrusted humans as stewards of the Earth.
- \* From the tiniest organism to the most enormous creature, we are all in this together.
- \* We have a responsibility to respect the sacredness of all of God's creation.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
- WHST.6-8.1** *Write arguments focused on discipline-specific content.*
- WHST.6-8.9** *Draw evidence from informational texts to support analysis, reflection, and research.*

**Mathematics**

- NO.6** *Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.*
- NO.7** *Recognize and represent proportional relationships between quantities.*

**Connections to Other DCIs in Sixth Grade**

**MS.LS2.A; MS.LS2.C; MS.LS4.D**

**Articulation to DCIs across Grade-Bands**

**3.LS2.C; 3.LS4.D; 5.ESS3.C**

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**6.ESS3-5 Earth and Human Activity**

Students who demonstrate understanding can:

**6-ESS3-5 Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.**

*Clarification Statement: Examples of factors include human activities (such as fossil fuel combustion, cement production, and agricultural activity) and natural processes (such as changes in incoming solar radiation or volcanic activity). Examples of evidence can include tables, graphs, and maps of global and regional temperatures, atmospheric levels of gases such as carbon dioxide and methane, and the rate of human activities. Emphasis is on the major role that human activities play in causing the rise of global features.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in 3-5 builds on K-2 experiences and progresses to specifying qualitative relationships.</p> <p>* Ask questions to identify and clarify evidence of an argument.</p>	<p><b>ESS3.D Global Climate Change</b> * Human activities, such as the release of greenhouse gases from burning fossil fuels, are major factors in the current rise in Earth's mean surface temperature. Reducing the level of climate change and reducing human vulnerability to whatever climate changes do occur depend on the understanding of climate science, engineering capabilities, and other kinds of knowledge, such as understanding of human behavior and on applying that knowledge wisely in decisions and activities.</p>	<p><b>Stability and Change</b> * Stability might be disturbed either by sudden events or gradual changes that accumulate over time.</p>

**Guided Questions**

- \* What factors contribute to global temperature change?

**Catholic Identity Connections**

- \* God has entrusted humans as stewards of the Earth and as such we have a responsibility to be mindful of the impact of our decisions and actions on the Earth .
- \* Right and wrong are distinct.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**WHST.6-8.7** *Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.*

**WHST.6-8.8** *Gather relevant information from multiple print and digital sources, using research terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.*

**Mathematics**

**NO.6** *Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.*

**NO.7** *Recognize and represent proportional relationships between quantities.*

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<b>Connections to Other DCIs in Sixth Grade</b>	
<b>MS.PS3.A</b>	
<b>Articulation to DCIs across Grade-Bands</b>	
<b>NA</b>	

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**Sixth Grade Standards**

**6-ESS1 Earth's Place in the Universe**

- 6-ESS1-1** Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.
- 6-ESS1-2** Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.
- 6-ESS1-3** Analyze and interpret data to determine scale properties of objects in the solar system.
- 6-ESS1-4** Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.

**6-ESS2 Earth's Systems**

- 6-ESS2-1** Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
- 6-ESS2-2** Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.
- 6-ESS2-3** Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.
- 6-ESS2-4** Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.
- 6-ESS2-5** Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.
- 6-ESS2-6** Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determines regional climates.

**6-ESS3 Earth and Human Activity**

- 6-ESS3-1** Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.
- 6-ESS3-2** Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.
- 6-ESS3-3** Apply scientific principles to design a method for monitoring and minimizing human impact on the environment.
- 6-ESS3-4** Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.
- 6-ESS3-5** Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

**Archdiocese of Louisville  
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Science**

<b>MS-ETS Engineering Design</b>		
Students who demonstrate understanding can:		
<b>MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.</b>		
<b>MS-ETS1-2 Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.</b>		
<b>MS-ETS1-3 Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.</b>		
<b>MS-ETS1-4 Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.</b>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in 6-8 builds on K-5 experiences and progresses to specifying relationships between variables, and clarifying arguments and models.</p> <p>* Define a design problem that can be solved through the development of an object, tool, process, or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions.</p> <p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop a model to generate data to test ideas about designed systems, including those representing inputs and outputs.</p>	<p><b>ETS1.A Defining and Delimiting Engineering Problems</b> * The more precisely a design task's criteria and constraints can be defined, the more likely it is that the designed solution will be successful. Specification of constraints includes consideration of scientific principles and other relevant knowledge that are likely to limit possible solutions.</p> <p><b>ETS1.B Developing Possible Solutions</b> * A solution needs to be tested, and then modified on the basis of the test results, in order to improve it. * There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. * Sometimes parts of different solutions can be combined to create a solution that is better than any of its predecessors. * Models of all kinds are important for testing solutions.</p>	<p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b> * All human activity draws on natural resources and has both short- and long-term consequences, positive as well as negative, for the health of people and the natural environment. * The uses of technologies and limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions.</p>

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Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing data in 6-8 builds on K-5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <p>* Analyze and interpret data to determine similarities and differences in findings.</p> <p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 6-8 builds on K-5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world.</p> <p>* Evaluate competing design solutions based on jointly developed and agreed upon design criteria.</p>	<p><b>ETS1.C Optimizing the Design Solution</b> * Although one design may not perform the best across all tests, identifying the characteristics of the design that performed the best in each test can provide useful information for the redesign process - that is, some of those characteristics may be incorporated into the new design. * The iterative process of testing the most promising solutions and modifying what is proposed on the basis of the test results leads to greater refinement and ultimately to an optimal solution.</p>	<p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b> * All human activity draws on natural resources and has both short- and long-term consequences, positive as well as negative, for the health of people and the natural environment. * The uses of technologies and limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions.</p>
<b>Guided Questions</b>		
<p>* What factors affect the design process? <i>(ETS1-1)</i></p> <p>* How are potential design processes evaluated? <i>(ETS1-2)</i></p> <p>* How are differing possible solutions evaluated to determine the best possible outcome? <i>(ETS1-2)</i></p> <p>* How can data from a test be organized, analyzed, and interpreted? <i>(ETS1-3)</i></p> <p>* How can multiple data sets be used to redesign a better solution? <i>(ETS1-3)</i></p> <p>* How can models be used to demonstrate solutions and gather data? <i>(ETS1-4)</i></p>		
<b>Catholic Identity Connections</b>		
<p>* Catholics should take into consideration all moral and environmental implications in the design process. <i>(ETS1-1, ETS1-2, ETS1-3, ETS1-4)</i></p>		

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<b>7-LS1-1 From Molecules to Organisms: Structures and Processes</b>		
Students who demonstrate understanding can:		
<b>7-LS1-1 Conduct an investigation to provide evidence that living things are made of cells, either one cell or many different numbers and types of cells.</b>		
<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations in 6-8 builds on K-5 experiences and progresses to include investigations that use multiple variables and provide evidence to support explanations or solutions.</p> <p>* Conduct an investigation to produce data to serve as the basis for evidence that meet the goals of an investigation.</p>	<p><b>LS1.A Structure and Function</b> * All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular).</p>	<p><b>Scale, Proportion, and Quantity</b> * Phenomena that can be observed at one scale may not be observable at another scale.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p style="text-align: center;"><b>Interdependence of Science, Engineering, and Technology</b> * Engineering advances have led to important discoveries in virtually every field of science, and scientific discoveries have led to the development of entire industries and engineered systems.</p>
<b>Guided Questions</b>		
* What is the basic structure of living things?		
<b>Catholic Identity Connections</b>		
<p>* God created the structure and function of all living things. * All creation is a system of interrelated parts.</p>		

**Archdiocese of Louisville  
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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**WHST.6-8.2** *Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.*

**WHST.6-8.7** *Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.*

**Connections to Other DCIs in Seventh Grade**

NA

**Articulation to DCIs across Grade-Bands**

NA

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS1-2 From Molecules to Organisms: Structures and Processes**

Students who demonstrate understanding can:

**7-LS1-2 Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.**

*Clarification Statement: Emphasis is on the cell functioning as a whole system and the primary role of identified parts of the cell, specifically the nucleus, chloroplasts, mitochondria, cell membrane, and cell wall.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop and use a model to describe phenomena.</p>	<p><b>LS1.A Structure and Function</b> * Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell.</p>	<p><b>Structure and Function</b> * Complex and microscopic structures and systems can be visualized, modeled, and used to describe how their function depends on the relationships among its parts; therefore complex natural structures/systems can be analyzed to determine how they function.</p>

**Guided Questions**

- \* How do the individual components of a cell function and interact?

**Catholic Identity Connections**

- \* God created the structure and function of all living things.
- \* Signs of God's love are abundant in the universe.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**  
**SL.8.5** *Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points..*

**Connections to Other DCIs in Seventh Grade**

**MS.LS3.A**

**Articulation to DCIs across Grade-Bands**

**4.LS1.A**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS1-3 From Molecules to Organisms: Structures and Processes**

Students who demonstrate understanding can:

**7-LS1-3 Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.**

*Clarification Statement: Emphasis is on the conceptual understanding that cells form tissues and tissues form organs specialized for particular body functions. Examples could include the interaction of subsystems within a system and the normal functioning of those systems.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 6-8 builds on K-5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world.</p> <p>* Use an oral and written argument supported by evidence to support or refute an explanation or a model for a phenomenon.</p>	<p><b>LS1.A Structure and Function</b> * In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions.</p>	<p><b>Systems and System Models</b> * Systems may interact with other systems; they may have subsystems and be a part of larger complex systems.</p>

**Guided Questions**

- \* What is the interaction of cells or groups of cells within a system or sub-system?
- \* How are cells organized into tissues, organs, and organ systems to form the organism?

**Catholic Identity Connections**

- \* We are many parts but one body.
- \* All creation is interdependent.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

- ELA Literacy**
- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
- RI.6.8** *Delineate and evaluate the argument and specify claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.*
- WHST.6-8.1** *Write arguments focused on discipline-specific content.*

**Connections to Other DCIs in Seventh Grade**

NA

**Articulation to DCIs across Grade-Bands**

NA

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS1-4 From Molecules to Organisms: Structures and Processes**

Students who demonstrate understanding can:

**7-LS1-4 Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.**

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 6-8 builds on K-5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world.</p> <p>* Use an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem.</p>	<p><b>LS1.B Growth and Development of Organisms</b> * Animals engage in characteristic behaviors that increase the odds of reproduction. * Plants reproduce in a variety of ways, sometimes depending on animal behavior and specialized features for reproduction.</p>	<p><b>Cause and Effect</b> * Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described by using probability.</p>

**Guided Questions**

- \* How does the structure of plants contribute to reproduction?
- \* How do animal behaviors contribute to reproduction?

**Catholic Identity Connections**

- \* God created all living things to be fruitful and multiply.
- \* God is always present in creation.

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*

**RI.6.8** *Delineate and evaluate the argument and specify claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.*

**WHST.6-8.1** *Write arguments focused on discipline-specific content.*

**WHST.6-8.7** *Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.*

**Mathematics**

**6.SP.B.4** *Summarize, describe, and answer questions with regard to data in histograms, bar, line, circle, stem and leaf, dot plots, and box and whisker graphs.*

**Connections to Other DCIs in Seventh Grade**

**MS.LS2.A**

**Articulation to DCIs across Grade-Bands**

**3.LS1.B**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS1-5 From Molecules to Organisms: Structures and Processes**

Students who demonstrate understanding can:

**7-LS1-5 Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.**

*Clarification Statement: Examples of local environmental conditions could include availability of food, light, space, and water.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.</p> <p>* Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.</p>	<p><b>LS1.B Growth and Development of Organisms</b> * Genetic factors as well as local conditions affect the growth of the adult plant.</p>	<p><b>Cause and Effect</b> * Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described by using probability.</p>

**Guided Questions**

- \* How do environmental and genetic factors influence the growth of organisms?

**Catholic Identity Connections**

- \* God created the natural processes that govern all creation.
- \* All creation is mutually dependent for survival.
- \* From the tiniest organism to the most enormous creature, we are all in this together.

**Archdiocese of Louisville  
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Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
- RST.6-8.2** *Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.*
- WHST.6-8.2** *Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.*

**Mathematics**

- 6.SP.B.4** *Summarize, describe, and answer questions with regard to data in histograms, bar, line, circle, stem and leaf, dot plots, and box and whisker graphs.*

**Connections to Other DCIs in Seventh Grade**

**MS.LS2.A**

**Articulation to DCIs across Grade-Bands**

**3.LS1.B; 3.LS3.A**

**Archdiocese of Louisville  
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Science**

**7-LS1-6 From Molecules to Organisms: Structures and Processes**

Students who demonstrate understanding can:

**7-LS1-6 Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.**

*Clarification Statement: Emphasis is on tracing movement of matter and flow of energy.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.</p> <p>* Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Is Based on Empirical Evidence</b> * Science knowledge is based upon logical connections between evidence and explanations.</p>	<p><b>LS1.C Organization for Matter and Energy Flow in Organization</b> * Plants, algae (including phytoplankton), and many microorganisms use the energy from light to make sugars (food) from carbon dioxide from the atmosphere and water through the process of photosynthesis, which also releases oxygen. These sugars can be used immediately or stored for growth or later use.</p> <p><b>PS3.D Energy in Chemical Processes and Everyday Life</b> * The chemical reaction by which plants produce complex food molecules (sugars) requires an energy input (i.e., from sunlight) to occur. In this reaction, carbon dioxide and water combine to form carbon-based organic molecules and release oxygen. <i>(secondary emphasis)</i></p>	<p><b>Energy and Matter</b> * Within a natural system, the transfer of energy drives the motion and/or cycling of matter.</p>

**Guided Questions**

\* What is the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms?

**Catholic Identity Connections**

- \* God created the natural processes that govern all creation.
- \* We live in a world of harmony and balance.

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

- ELA Literacy**
- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
- RST.6-8.2** *Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.*
- WHST.6-8.2** *Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.*
- WHST.6-8.8** *Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.*

**Connections to Other DCIs in Seventh Grade**

**MS.PS1.B; MS.ESS2.A**

**Articulation to DCIs across Grade-Bands**

**5.PS3.D; 5.LS1.C; 5.LS2.A**

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**7-LS1-7 From Molecules to Organisms: Structures and Processes**

Students who demonstrate understanding can:

**7-LS1-7 Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.**

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop a model to describe unobservable mechanisms.</p>	<p><b>LS1.C Organization for Matter and Energy Flow in Organisms</b> * Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, to support growth, or to release energy.</p> <p><b>PS3.D Energy in Chemical Processes and Everyday Life</b> * Cellular respiration in plants and animals involve chemical reactions with oxygen that release stored energy. In these processes, complex molecules containing carbon react with oxygen to produce carbon dioxide and other materials. <i>(secondary emphasis)</i></p>	<p><b>Energy and Matter</b> * Matter is conserved because atoms are conserved in physical and chemical processes.</p>

**Guided Questions**

- \* How do cells release energy from food?
- \* How do cells transport materials?

**Catholic Identity Connections**

- \* God created the natural processes that govern all creation, including respiration.
- \* Signs of God's love are abundant.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**SL.8.5** *Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.*

**Connections to Other DCIs in Seventh Grade**

**MS.PS1.B**

**Articulation to DCIs across Grade-Bands**

**5.PS3.D; 5.LS1.C; 5.LS2.B**

**Archdiocese of Louisville  
Curriculum Framework  
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**7-LS1-8 From Molecules to Organisms: Structures and Processes**

Students who demonstrate understanding can:

**7-LS1-8 Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.**

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Obtaining, Evaluating, and Communicating Information</b> Obtaining, evaluating, and communicating information in 6-8 builds on K-5 experiences and progresses to evaluating the merit and validity of ideas and methods.</p> <p>* Gather, read, and synthesize information from multiple appropriate sources and assess the credibility, accuracy, and possible bias of each publication and methods used, and describe how they are supported or not supported by evidence.</p>	<p><b>LS1.D Information Processing</b> * Each sense receptor responds to different inputs (electromagnetic, mechanical, chemical), transmitting them as signals that travel along nerve cells to the brain. The signals are then processed in the brain, resulting in immediate behaviors or memories.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships may be used to predict phenomena in natural systems.</p>

**Guided Questions**

\* What factors affect animal behavior?

**Catholic Identity Connections**

- \* We are called to be totally present to the world around us.
- \* All creation is a gift.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**  
**WHST.6-8.8** *Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.*

**Connections to Other DCIs in Seventh Grade**

NA

**Articulation to DCIs across Grade-Bands**

4.LS1.D

**Archdiocese of Louisville  
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**7-LS2-1 Ecosystems: Interactions, Energy, and Dynamics**

Students who demonstrate understanding can:

**7-LS2-1 Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.**

*Clarification Statement: Emphasis is on cause and effect relationships between resources and growth of individual organisms and the numbers of organisms in ecosystems during periods of abundant and scarce resources.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing and interpreting data in 6-8 builds on K-5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <p>* Analyze and interpret data to provide evidence for phenomena.</p>	<p><b>LS2.A Interdependent Relationships in Ecosystems</b> * Organisms, and populations of organisms, are dependent on their environmental interactions both with other living things and with nonliving factors. * In an ecosystem, organisms and populations with similar requirements for food, water, oxygen, or other resources may compete with each other for limited resources, access to which consequently constrains their growth and reproduction. * Growth of organisms and population increases are limited by access to resources.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships may be used to predict phenomena in natural or designed systems.</p>

**Guided Questions**

\* What are the effects of resource availability on organisms in an ecosystem?

**Catholic Identity Connections**

- \* We are called to exercise responsible stewardship toward the Earth's resources.
- \* There are responsible ways to use and reuse resources.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**  
**RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*  
**RST.6-8.7** *Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).*

**Connections to Other DCIs in Seventh Grade**

**MS.ESS3.A; MS.ESS3.C**

**Articulation to DCIs across Grade-Bands**

**3.LS2.C; 3.LS4.D; 5.LS2.A**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS2-2 Ecosystems: Interactions, Energy, and Dynamics**

Students who demonstrate understanding can:

**7-LS2-2 Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.**

*Clarification Statement: Emphasis is on predicting consistent patterns of interactions in different ecosystems in terms of the relationships among and between organisms and abiotic components of ecosystems. Examples of types of interactions could include competitive, predatory, and mutually beneficial.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.</p> <p>* Construct an explanation that includes qualitative or quantitative relationships between variables that predict phenomena.</p>	<p><b>LS2.A Interdependent Relationships in Ecosystems</b> * Predatory interactions may reduce the number of organisms or eliminate whole populations of organisms. Mutually beneficial interactions, in contrast, may become so interdependent that each organism requires the other for survival. Although the species involved in these competitive, predatory, and mutually beneficial interactions vary across ecosystems, the patterns of interactions of organisms with their environments, both living and nonliving, are shared.</p>	<p><b>Patterns</b> * Patterns can be used to identify cause and effect relationships.</p>

**Guided Questions**

\* What patterns can be predicted about the interactions among organisms across multiple ecosystems?

**Catholic Identity Connections**

\* We are called to delight in and care for creation.

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

- ELA Literacy**
- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
  - WHST.6-8.2** *Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.*
  - WHST.6-8.9** *Draw evidence from literary or informational texts to support analysis, reflection, and research.*
  - SL.8.1** *Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.*
  - SL.8.4** *Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.*

**Connections to Other DCIs in Seventh Grade**

**MS.LS1.B**

**Articulation to DCIs across Grade-Bands**

**1.LS1.B**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS2-3 From Molecules to Organisms: Structures and Processes**

Students who demonstrate understanding can:

**7-LS2-3 Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.**

*Clarification Statement: Emphasis is on describing the conservation of matter and flow of energy into and out of various ecosystems, and on defining the boundaries of the system.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop a model to describe phenomena.</p>	<p><b>LS2.B Cycle of Matter and Energy Transfer in Ecosystems</b> * Food webs are models that demonstrate how matter and energy are transferred between producers, consumers, and decomposers as the three groups interact within an ecosystem. Transfers of matter into and out of the physical environment occur at every level. Decomposers recycle nutrients from dead plant or animal matter back to the soil in terrestrial environments or to the water in aquatic environments. The atoms that make up the organisms in an ecosystem are cycled repeatedly between the living and nonliving parts of the ecosystem.</p>	<p><b>Energy and Matter</b> * The transfer of energy can be tracked as energy flows through a natural system.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</b> * Science assumes that objects and events in natural systems occur in consistent patterns that are understandable through measurement and observation.</p>

**Guided Questions**

- \* How do matter and energy flow among living and nonliving parts of an ecosystem?
- \* How do cells transport materials?

**Catholic Identity Connections**

- \* Our world is safely held in the loving hands of God.
- \* God continues to create in the world.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**SL.8.5** *Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points..*

**Connections to Other DCIs in Seventh Grade**

**MS.PS1.B; MS.ESS2.A**

**Articulation to DCIs across Grade-Bands**

**5.LS2.A; 5.LS2.B**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS2-4 Ecosystems: Interactions, Energy, and Dynamics**

Students who demonstrate understanding can:

**7-LS2-4 Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.**

*Clarification Statement: Emphasis is on recognizing patterns in data and making warranted inferences about changes in populations, and on evaluating empirical evidence supporting arguments about changes in ecosystems.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 6-8 builds on K-5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world.</p> <p>* Construct an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomena or a solution to a problem.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Is Based on Empirical Evidence</b> * Science disciplines share common rules of obtaining and evaluating empirical evidence.</p>	<p><b>LS2.C Ecosystem Dynamics, Functioning, and Resilience</b> * Ecosystems are dynamic in nature; their characteristics can vary over time. Disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations.</p>	<p><b>Stability and Change</b> * Small changes in one part of a system might cause large changes in another part.</p>

**Guided Questions**

\* How do physical or biological changes affect the populations of an ecosystem?

**Catholic Identity Connections**

- \* We are called to exercise responsible stewardship toward the Earth's resources.
- \* God's love is a sign of trust in us.

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

- ELA Literacy**
- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
- RI.6.8** *Delineate and evaluate the argument and specify claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.*
- WHST.6-8.1** *Write arguments focused on discipline-specific content.*
- WHST.6-8.9** *Draw evidence from literary or informational texts to support analysis, reflection, and research.*

**Connections to Other DCIs in Seventh Grade**

**MS.LS4.C; MS.LS4.D; MS.ESS2.A; MS.ESS3.A; MS.ESS3.C**

**Articulation to DCIs across Grade-Bands**

**3.LS2.C; 3.LS4.D**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS2-5 Ecosystems: Interactions, Energy, and Dynamics**

Students who demonstrate understanding can:

**7-LS2-5 Evaluate competing design solutions for maintaining biodiversity and ecosystem services.**

*Clarification Statement: Examples of ecosystem services could include water purification, nutrient recycling, and prevention of soil erosion. Examples of design solution constraints could include scientific, economic, and social considerations.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 6-8 builds on K-5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world.</p> <p>* Evaluate competing design solutions based on jointly developed and agreed-upon design criteria.</p>	<p><b>LS2.C Ecosystem Dynamics, Functioning, and Resilience</b> * Biodiversity describes the variety of species found in Earth's terrestrial and oceanic ecosystems. The completeness or integrity of an ecosystem's biodiversity is often used as a measure of its health.</p> <p><b>LS4.D Biodiversity and Humans</b> * Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on - for example, water purification and recycling. <i>(secondary emphasis)</i></p> <p><b>ETS1.B Developing Possible Solutions</b> * There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. <i>(secondary emphasis)</i></p>	<p><b>Stability and Change</b> * Small changes in one part of a system might cause large changes in another part.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b> * The use of technologies and any limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Science Addresses Questions About the Natural and Material World</b> * Scientific knowledge can describe the consequences of actions but does not necessarily prescribe the decisions that society takes.</p>
<b>Guided Questions</b>		
* How can solutions be designed for maintaining biodiversity and ecosystem services?		
<b>Catholic Identity Connections</b>		
* We are called to use and reuse resources responsibly. * Christian values and decision-making skills are applied to judgment questions.		

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.8** *Distinguish between facts, reasoned judgment based on research findings, and speculation in a text.*

**RI.8.8** *Delineate and evaluate the argument and specify claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.*

**Mathematics**

**MP.4** *Model with mathematics.*

**NO6** *Use rate and ratio reasoning to solve real-world and mathematical problems.*

**Connections to Other DCIs in Seventh Grade**

**MS.ESS3.C**

**Articulation to DCIs across Grade-Bands**

**NA**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS3-1 Heredity: Inheritance and Variation of Traits**

Students who demonstrate understanding can:

**7-LS3-1 Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.**

*Clarification Statement: Emphasis is on conceptual understanding that changes in genetic material may result in making different proteins.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop and use a model to describe phenomena.</p>	<p><b>LS3.A Inheritance of Traits</b> * Genes are located in the chromosomes of cells, with each chromosome pair containing two variants of each of many distinct genes. Each distinct gene chiefly controls the production of specific proteins, which in turn affects the traits of the individual. Changes (mutations) to genes can result in changes to proteins, which can affect the structures and functions of the organism and thereby change traits.</p> <p><b>LS3.B Variation of Traits</b> * In addition to variations that arise from sexual reproduction, genetic information can be altered because of mutations. Though rare, mutations may result in changes to the structure and function of proteins. Some changes are beneficial, others harmful, and some neutral to the organism.</p>	<p><b>Energy and Matter</b> * Complex and microscopic structures and systems can be visualized, modeled, and used to describe how their function depends on the shapes, composition, and relationships among its parts; therefore complex natural structures/systems can be analyzed to determine how they function.</p>

**Guided Questions**

\* How do structural changes in the genetic code affect an organism?

**Catholic Identity Connections**

- \* Differences in all living things are recognized as gifts and reflect the sacredness of each.
- \* We delight in the world around us.

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

- ELA Literacy**
- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
  - RST.6-8.4** *Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.*
  - RST.6-8.7** *Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).*
  - SL.8.5** *Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points..*

**Connections to Other DCIs in Seventh Grade**

**MS.LS1.A; MS.LS4.A**

**Articulation to DCIs across Grade-Bands**

**3.LS3.A; 3.LS3.B**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS3-2 Heredity: Inheritance and Variation of Traits**

Students who demonstrate understanding can:

**7-LS3-2 Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.**

*Clarification Statement: Emphasis is on using models such as Punnett squares, diagrams, and simulations to describe the cause and effect relationship of gene transmission from parent(s) to offspring and resulting genetic variation.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop and use a model to describe phenomena.</p>	<p><b>LS3.A Inheritance of Traits</b> * Variations of inherited traits between parent and offspring arise from genetic differences that result from the subset of chromosomes (and therefore genes) inherited.</p> <p><b>LS1.B Growth and Development of Organisms</b> * Organisms reproduce, either sexually or asexually, and transfer their genetic information to their offspring. <i>(secondary emphasis)</i></p> <p><b>LS3.B Variation of Traits</b> * In sexually reproducing organisms, each parent contributes half of the genes acquired (at random) by the offspring. Individuals have two of each chromosome and hence two alleles of each gene, one acquired from each parent. These versions may be identical or may differ from each other.</p>	<p><b>Energy and Matter</b> * Complex and microscopic structures and systems can be visualized, modeled, and used to describe how their function depends on the shapes, composition, and relationships among its parts; therefore complex natural structures/systems can be analyzed to determine how they function.</p>

**Guided Questions**

- \* How does asexual reproduction result in offspring with genetic information identical to the parent?
- \* How does sexual reproduction result in an offspring with genetic variation?

**Catholic Identity Connections**

- \* Differences in all living things are recognized as gifts and deserve respect.
- \* Our call from God is to love and respect all creation.

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

- ELA Literacy**
- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
  - RST.6-8.4** *Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.*
  - RST.6-8.7** *Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).*
  - SL.8.5** *Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points..*
- Mathematics**
- MP.4** *Model with mathematics.*

**Connections to Other DCIs in Seventh Grade**

NA

**Articulation to DCIs across Grade-Bands**

**3.LS3.A; 3.LS3.B**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS4-1 Biological Evolution: Unity and Diversity**

Students who demonstrate understanding can:

**7-LS4-1 Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.**

*Clarification Statement: Emphasis is on finding patterns of changes in the level of complexity of anatomical structures in organisms and the chronological order of fossil appearance in the rock layers.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing data in 6-8 builds on K-5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <p>* Analyze and interpret data to determine similarities and differences in findings.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Is Based on Empirical Evidence</b> * Science knowledge is based upon logical and conceptual connections between evidence and explanations.</p>	<p><b>LS4.A Evidence of Common Ancestry and Diversity</b> * The collection of fossils and their placement in chronological order (e.g., through the location of the sedimentary layers in which they are found or through radioactive dating) is known as the fossil record. It documents the existence, diversity, extinction, and change of many life forms throughout the history of life on Earth.</p>	<p><b>Patterns</b> * Graphs, charts, and images can be used to identify patterns in data.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</b> * Science assumes that objects and events in natural systems occur in consistent patterns that are understandable through measurement and observation.</p>

**Guided Questions**

\* How can the fossil record be used to document the existence, diversity, extinction, and change of life forms throughout history?

**Catholic Identity Connections**

- \* The innate value of all creation comes from having God as the creator.
- \* God is always present in creation.

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

- ELA Literacy**
- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
- RST.6-8.7** *Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).*

**Connections to Other DCIs in Seventh Grade**

**MS.ESS1.C**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS4-2 Biological Evolution: Unity and Diversity**

Students who demonstrate understanding can:

**7-LS4-2 Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.**

*Clarification Statement: Emphasis is on explanations of the evolutionary relationships among organisms in terms of similarity or differences of the appearance of anatomical structures.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.</p> <p>* Apply scientific ideas to construct an explanation for real-world phenomena, examples, or events.</p>	<p><b>LS4.A Evidence of Common Ancestry and Diversity</b> * Anatomical similarities and differences between various organisms living today and between them and organisms in the fossil record enable the reconstruction of evolutionary history and the influence of evolutionary descent.</p>	<p><b>Patterns</b> * Patterns can be used to identify cause and effect relationships.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</b> * Science assumes that objects and events in natural systems occur in consistent patterns that are understandable through measurement and observation.</p>

**Guided Questions**

\* How can anatomical similarities and differences be used to infer evolutionary relationships?

**Catholic Identity Connections**

\* God created the universe and all the natural laws that govern creation.  
\* The universe was created by God in stages that built upon one another over a period of time.

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

- ELA Literacy**
- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
- RST.6-8.7** *Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).*
- WHST.6-8.2** *Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.*
- WHST.6-8.9** *Draw evidence from literary or informational texts to support analysis, reflection, and research.*
- SL.8.1** *Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.*
- SL.8.4** *Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.*

**Connections to Other DCIs in Seventh Grade**

**MS.LS3.A; MS.LS3.B; MS.ESS1.C**

**Articulation to DCIs across Grade-Bands**

**3.LS4.A**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS4-3 Biological Evolution: Unity and Diversity**

Students who demonstrate understanding can:

**7-LS4-3 Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species (not including humans) to identify relationships not evident in the fully formed anatomy.**

*Clarification Statement: Emphasis is on inferring general patterns of relatedness among embryos of different organisms by comparing the macroscopic appearance of diagrams or pictures.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing data in 6-8 builds on K-5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <p>* Analyze displays of data to identify linear and nonlinear relationships.</p>	<p><b>LS4.A Evidence of Common Ancestry and Diversity</b> * Comparison of the embryological development of different species also reveals similarities that show relationships not evident in the fully-formed anatomy.</p>	<p><b>Patterns</b> * Graphs, charts, and images can be used to identify patterns in data.</p>

**Guided Questions**

\* How can embryological evidence be used to identify relationships between organisms?

**Catholic Identity Connections**

- \* God created the natural processes that govern all creation.
- \* The Holy Spirit helps guide our decisions.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

- ELA Literacy**
- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
- RST.6-8.7** *Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).*
- RST.6-8.9** *Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.*

**Connections to Other DCIs in Seventh Grade**

NA

**Articulation to DCIs across Grade-Bands**

NA

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS4-4 Biological Evolution: Unity and Diversity**

Students who demonstrate understanding can:

**7-LS4-4 Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.**

*Clarification Statement: Emphasis is on using simple probability statements and proportional reasoning to construct explanations.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.</p> <p>* Construct an explanation that includes qualitative or quantitative relationships between variables that describe phenomena.</p>	<p><b>LS4.BA Natural Selection</b> * Natural selection leads to the predominance of certain traits in a population, and the suppression of others.</p>	<p><b>Cause and Effect</b> * Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability.</p>

**Guided Questions**

\* How do genetic variations increase an organism's probability of survival and reproduction?

**Catholic Identity Connections**

- \* God created the natural processes that govern all creation.
- \* We have a responsibility to respect all of God's creation.

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

- ELA Literacy**
- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
- RST.6-8.9** *Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.*
- WHST.6-8.2** *Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.*
- WHST.6-8.9** *Draw evidence from literary or informational texts to support analysis, reflection, and research.*
- SL.8.1** *Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.*
- SL.8.4** *Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.*
- Mathematics**
- NO.6** *Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.*
- NO.7** *Recognize and represent proportional relationships between quantities.*

**Connections to Other DCIs in Seventh Grade**

**MS.LS2.A; MS.LS3.A; MS.LS3.B**

**Articulation to DCIs across Grade-Bands**

**3.LS3.B; 3.LS4.B**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS4-5 Biological Evolution: Unity and Diversity**

Students who demonstrate understanding can:

**7-LS4-5 Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.**

*Clarification Statement: Emphasis is on synthesizing information from reliable sources about the influence of humans on genetic outcomes in artificial selection (such as genetic modification, animal husbandry, gene therapy); and, on the impacts these technologies have on society as well as the technologies leading to these scientific discoveries.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Obtaining, Evaluating, and Communicating Information</b> Obtaining, evaluating, and communicating information in 6-8 builds on K-5 experiences and progresses to evaluating the merit and validity of ideas and methods.</p> <p>* Gather, read, and synthesize information from multiple appropriate sources and assess the credibility, accuracy, and possible bias of each publication and method used, and describe how they are supported or not supported by evidence.</p>	<p><b>LS4.B Natural Selection</b> * In <i>artificial</i> selection, humans have the capacity to influence certain characteristics of organisms by selective breeding. One can choose desired parental traits, determined by genes, which are then passed on to offspring.</p>	<p><b>Cause and Effect</b> * Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Interdependence of Science, Engineering, and Technology</b> * Engineering advances have led to important discoveries in virtually every field of science, and scientific discoveries have led to the development of entire industries and engineered systems.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Science Addresses Questions About the Natural and Material World</b> * Scientific knowledge can describe the consequences of actions but does not necessarily prescribe the decisions that society makes.</p>

**Guided Questions**

\* How have humans influenced the inheritance of desired traits in organisms?

**Catholic Identity Connections**

- \* We should take into consideration all moral and environmental implications in the design process.
- \* Right and wrong are distinct.

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*

**WHST.6-8.8** *Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.*

**Connections to Other DCIs in Seventh Grade**

NA

**Articulation to DCIs across Grade-Bands**

4.LS1.D

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**7-LS4-6 Biological Evolution: Unity and Diversity**

Students who demonstrate understanding can:

**7-LS4-6 Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.**

*Clarification Statement: Emphasis is on using mathematical models, probability statements, and proportional reasoning to support explanations of trends in changes to populations over time.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Using Mathematics and Computational Thinking</b> Mathematical and computational thinking in 6-8 builds on K-5 experiences and progresses to identifying patterns in large data sets and using mathematical concepts to support explanations and arguments.</p> <p>* Use mathematical representations to support scientific conclusions and design solutions.</p>	<p><b>LS4.C Adaptation</b> * Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population changes.</p>	<p><b>Cause and Effect</b> * Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability.</p>

**Guided Questions**

\* How have humans influenced the inheritance of desired traits in organisms?

**Catholic Identity Connections**

- \* We should take into consideration all moral and environmental implications in the design process.
- \* Choices must be made for the good of all of God's creation.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**Mathematics**

- MP.4** *Model with mathematics.*
- NO.6** *Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.*
- NO.7** *Recognize and represent proportional relationships between quantities.*

**Connections to Other DCIs in Seventh Grade**

**MS.LS2.A; MS.LS2.C; MS.LS3.B**

**Articulation to DCIs across Grade-Bands**

**3.LS4.C**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**Seventh Grade Standards**

**7-LS1 From Molecules to Organisms: Structures and Processes**

- 7-LS1-1** Construct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.
- 7-LS1-2** Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.
- 7-LS1-3** Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.
- 7-LS1-4** Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.
- 7-LS1-5** Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.
- 7-LS1-6** Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.
- 7-LS1-7** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.
- 7-LS1-8** Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.

**7-LS2 Ecosystems: Interactions, Energy, and Dynamics**

- 7-LS2-1** Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.
- 7-LS2-2** Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
- 7-LS2-3** Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
- 7-LS2-4** Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
- 7-LS2-5** Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

**7-LS3 Heredity: Inheritance and Variation of Traits**

- 7-LS3-1** Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.
- 7-LS3-2** Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variations.

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**7-LS4 Biological Evolution: Unity and Diversity**

- 7-LS4-1** Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.
- 7-LS4-2** Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.
- 7-LS4-3** Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy.
- 7-LS4-4** Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.
- 7-LS4-5** Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.
- 7-LS4-6** Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.

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**MS-ETS Engineering Design**

Students who demonstrate understanding can:

**MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.**

**MS-ETS1-2 Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.**

**MS-ETS1-3 Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.**

**MS-ETS1-4 Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.**

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in 6-8 builds on K-5 experiences and progresses to specifying relationships between variables, and clarifying arguments and models.</p> <p>* Define a design problem that can be solved through the development of an object, tool, process, or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions.</p> <p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop a model to generate data to test ideas about designed systems, including those representing inputs and outputs.</p>	<p><b>ETS1.A Defining and Delimiting Engineering Problems</b> * The more precisely a design task's criteria and constraints can be defined, the more likely it is that the designed solution will be successful. Specification of constraints includes consideration of scientific principles and other relevant knowledge that are likely to limit possible solutions.</p> <p><b>ETS1.B Developing Possible Solutions</b> * A solution needs to be tested, and then modified on the basis of the test results, in order to improve it. * There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. * Sometimes parts of different solutions can be combined to create a solution that is better than any of its predecessors. * Models of all kinds are important for testing solutions.</p>	<p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b> * All human activity draws on natural resources and has both short- and long-term consequences, positive as well as negative, for the health of people and the natural environment. * The uses of technologies and limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions.</p>

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Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing data in 6-8 builds on K-5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <p>* Analyze and interpret data to determine similarities and differences in findings.</p> <p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 6-8 builds on K-5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world.</p> <p>* Evaluate competing design solutions based on jointly developed and agreed upon design criteria.</p>	<p><b>ETS1.C Optimizing the Design Solution</b></p> <p>* Although one design may not perform the best across all tests, identifying the characteristics of the design that performed the best in each test can provide useful information for the redesign process - that is, some of those characteristics may be incorporated into the new design.</p> <p>* The iterative process of testing the most promising solutions and modifying what is proposed on the basis of the test results leads to greater refinement and ultimately to an optimal solution.</p>	<p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b></p> <p>* All human activity draws on natural resources and has both short- and long-term consequences, positive as well as negative, for the health of people and the natural environment.</p> <p>* The uses of technologies and limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions.</p>
<b>Guided Questions</b>		
<p>* What factors affect the design process? <i>(ETS1-1)</i></p> <p>* How are potential design processes evaluated? <i>(ETS1-2)</i></p> <p>* How are differing possible solutions evaluated to determine the best possible outcome? <i>(ETS1-2)</i></p> <p>* How can data from a test be organized, analyzed, and interpreted? <i>(ETS1-3)</i></p> <p>* How can multiple data sets be used to redesign a better solution? <i>(ETS1-3)</i></p> <p>* How can models be used to demonstrate solutions and gather data? <i>(ETS1-4)</i></p>		
<b>Catholic Identity Connections</b>		
<p>* Catholics should take into consideration all moral and environmental implications in the design process. <i>(ETS1-1, ETS1-2, ETS1-3, ETS1-4)</i></p>		

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**8-PS1-1 Matter and Its Interactions**

Students who demonstrate understanding can:

**8-PS1-1 Develop models to describe the atomic composition of simple molecules and extended structures (i.e., elements and organization of the Periodic Table).**

*Clarification Statement: Emphasis is on developing models of molecules that vary in complexity. Examples of simple molecules could include ammonia and methanol. Examples of extended structures could include sodium chloride or diamonds. Examples of molecular-level models could include drawings, 3-D ball and stick structures, or computer representations showing different molecules with different types of atoms.*

*Assessment Boundary: Assessment does not include bonding energy, discussing the ionic nature of subunits of complex structures, or a complete description of all individual atoms in a complex molecule or extended structure is not required.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop a model to predict and/or describe phenomena.</p>	<p><b>PS1.A Structure and Properties of Matter</b> * Substances are made from different types of atoms, which combine with one another in various ways. Atoms form molecules that range in size from two to thousands of atoms. * Solids may be formed from molecules, or they may be extended structures with repeating subunits (e.g., crystals).</p>	<p><b>Scale, Proportion, and Quantity</b> * Time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small.</p>

**Guided Questions**

\* How can models be used to represent various molecular structures?

**Catholic Identity Connections**

- \* God is the creator of the universe and all molecules and structures.
- \* All creation is a system of interrelated parts.

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Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**  
**RST.6-8.7** *Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).*

**Mathematics**  
**MP.2** *Reason abstractly and quantitatively.*  
**MP.4** *Model with mathematics.*  
**NO.6** *Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.*

**Connections to Other DCIs in Eighth Grade**

**MS.ESS2.C**

**Articulation to DCIs across Grade-Bands**

**5.PS1.A**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**8-PS1-2 Matter and Its Interactions**

Students who demonstrate understanding can:

**8-PS1-2 Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.**

*Clarification Statement: Examples of reactions could include burning sugar or steel wool, fat reacting with sodium hydroxide, and mixing zinc with hydrogen chloride.*

*Assessment Boundary: Assessment is limited to analysis of the following properties: density, melting point, boiling point, solubility, flammability, and odor.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing data in 6-8 builds on K-5 and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <p>* Analyze and interpret data to determine similarities and differences in findings.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Is Based on Empirical Evidence</b> * Science knowledge is based upon logical and conceptual connections between evidence and explanations.</p>	<p><b>PS1.A: Structure and Properties of Matter</b> * Each pure substance has characteristic physical and chemical properties (for any bulk quantity under given conditions) that can be used to identify it.</p> <p><b>PS1.B: Chemical Reactions</b> * Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.</p>	<p><b>Patterns</b> * Macroscopic patterns are related to the nature of microscopic and atomic-level structure.</p>
<b>Guided Questions</b>		
<p>* How can chemical and physical properties of substances be used to identify the substance?</p>		
<b>Catholic Identity Connections</b>		
<p>* God is the creator of the universe and the laws that govern it. * The universe is ordered and good.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*

**RST.6-8.7** *Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).*

**Mathematics**

**MP.2** *Reason abstractly and quantitatively.*

**NO.6** *Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.*

**DA&P6** *Summarize, describe, and answer questions with regard to data in histograms, bar, line, circle, stem and leaf, dot plots, and box and whisker graphs.*

**Connections to Other DCIs in Eighth Grade**

**MS.PS3.D; MS.ESS2.A**

**Articulation to DCIs across Grade-Bands**

**NA**

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**8-PS1-3 Matter and Its Interactions**

Students who demonstrate understanding can:

**8-PS1-3 Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.**

*Clarification Statement: Emphasis is on natural resources that undergo a chemical process to form the synthetic material. Examples of new materials could include new medicine, foods, and alternative fuels.*

*Assessment Boundary: Assessment is limited to qualitative information.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Obtaining, Evaluating, and Communicating Information</b> Obtaining, evaluating, and communicating information in 6-8 builds on K-5 and progresses to evaluating the merit and validity of ideas and methods.</p> <p>* Gather, read, and synthesize information from multiple appropriate sources and assess the credibility, accuracy, and possible bias of each publication and methods used, and describe how they are supported or now supported by evidence.</p>	<p><b>PS1.A Structure and Properties of Matter</b> * Each pure substance has characteristic physical and chemical properties (for any bulk quantify under given conditions) that can be used to identify it.</p> <p><b>PS1.B Chemical Reactions</b> * Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.</p>	<p><b>Structure and Function</b> * Structures can be designed to serve particular functions by taking into account properties of different materials, and how materials can be shaped and used.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Interdependence of Science, Engineering, and Technology</b> * Engineering advances have led to important discoveries in virtually every field of science, and scientific discoveries have led to the development of entire industries and engineered systems.</p> <p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b> * The uses of technologies and any limitation on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus, technology use varies from region to region and over time.</p>

**Guided Questions**

\* How have engineering advances and scientific discoveries impacted society?

**Catholic Identity Connections**

\* We should take into consideration all moral and environmental implications in the engineering process.

\* The Holy Spirit has a role in moral decision making.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*

**WHST.6-8.8** *Gather relevant information from multiple print and digital sources, using research terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.*

**Connections to Other DCIs in Eighth Grade**

**MS.LS2.A; MS.LS4.D; MS.ESS3.A; MS.ESS3.C**

**Articulation to DCIs across Grade-Bands**

**NA**

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**8-PS1-4 Matter and Its Interactions**

Students who demonstrate understanding can:

**8-PS1-4. Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.**

*Clarification Statement: Emphasis is on qualitative molecular-level models of solids, liquids, and gases to show that adding or removing thermal energy increases or decreases kinetic energy of the particles until a change of state occurs. Examples of models could include drawings and diagrams. Examples of particles could include molecules or inert atoms.*

*Examples of models could include drawings and diagrams. Examples of particles could include molecules or inert atoms. Examples of pure substances could include water, carbon dioxide, and helium.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop a model to predict and/or describe phenomena.</p>	<p><b>PS1.4 Structure and Properties of Matter</b></p> <ul style="list-style-type: none"> <li>* Gases and liquids are made of molecules or inert atoms that are moving about relative to each other.</li> <li>* In a liquid, the molecules are constantly in contact with others; in a gas, they are widely spaced except when they happen to collide. In a solid, atoms are closely spaced and may vibrate in position, but do not change relative locations.</li> <li>* The changes of state that occur with variations in temperature or pressure can be described and predicted using these models of matter.</li> </ul> <p><b>PS3.A Definitions of Energy</b></p> <ul style="list-style-type: none"> <li>* The term "heat" as used in everyday language refers both to thermal energy (the motion of atoms or molecules within a substance) and the transfer of that thermal energy from one object to another. In science, heat is used only for this second meaning; it refers to the energy transferred due to the temperature difference between two objects (<i>secondary emphasis</i>)</li> <li>* The temperature of a system is proportional to the average internal kinetic energy and potential energy per atom or molecule (whichever is the appropriate building block for the system's material). The details of that relationship depend on the type of atom or molecule and the interactions among the atoms in the material. Temperature is not a direct measure of a system's total thermal energy. The total thermal energy (sometimes called the total internal energy) of a system depends jointly on the temperature, the total number of atoms in the system, and the state of the material (<i>secondary emphasis</i>).</li> </ul>	<p><b>Cause and Effect</b></p> <ul style="list-style-type: none"> <li>* Cause and effect relationships may be used to predict phenomena in natural or designed systems.</li> </ul>

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**Guided Questions**

- \* How can the relationship between thermal energy, particle motion, temperature, and pressure be determined?
- \* How can this relationship be demonstrated in a model?
- \* How do pressure changes affect thermal energy?

**Catholic Identity Connections**

- \* We should take into consideration all moral and environmental implications in scientific research and discovery.
- \* God created the overall laws and principles under which the universe as we know and study it came to be. We are all functioning within those principles, just as we function under moral and theological obligations towards a greater good.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

- ELA Literacy**
- RST.6-8.7** *Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).*
- Mathematics**
- NO.6** *Understand that positive and negative numbers are used together to describe quantities having opposite directions or values.*
- NO.6** *Use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.*

**Connections to Other DCIs in Eighth Grade**

**MS.ESS2.C**

**Articulation to DCIs across Grade-Bands**

**NA**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**8-PS1-5 Matter and Its Interactions**

Students who demonstrate understanding can:

**8-PS1-5 Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.**

*Clarification Statement: Emphasis is on law of conservation of matter and on physical models or drawings, including digital forms, that represent atoms.*

*Assessment Boundary: Assessment does not include the use of atomic masses or intermolecular forces.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop a model to describe unobservable mechanisms.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena</b> * Laws are regularities or mathematical descriptions of natural phenomena.</p>	<p><b>PS1.B Chemical Reactions</b> * Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. * The total number of each type of atom is conserved, and thus the mass does not change.</p>	<p><b>Energy and Matter</b> * Matter is conserved because atoms are conserved in physical and chemical processes.</p>
<b>Guided Questions</b>		
<p>* How can the law of conservation of matter be evidenced in the real world (e.g., balanced symbolic equations)?</p>		
<b>Catholic Identity Connections</b>		
<p>* God gives us the intelligence and resources to explore and broaden our understanding of matter in the universe.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

<b>ELA Literacy</b>	
<b>RST.6-8.7</b>	<i>Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).</i>
<b>Mathematics</b>	
<b>MP.2</b>	<i>Reason abstractly and quantitatively.</i>
<b>MP.4</b>	<i>Model with mathematics.</i>
<b>NO.6</b>	<i>Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.</i>

**Connections to Other DCIs in Eighth Grade**

**MS.LS1.C; MS.LS2.B; MS.ESS2.A**

**Articulation to DCIs across Grade-Bands**

**5.PS1.B**

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**8-PS1-6 Matter and Its Interactions**

Students who demonstrate understanding can:

**8-PS1-6 Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.**

*Clarification Statement: Emphasis is on the design, controlling the transfer of energy to the environment, and modification of a device using factors such as type and concentration of a substance. Examples of designs could involve chemical reactions such as dissolving ammonium chloride or calcium chloride.*

*Assessment Boundary: Assessment is limited to the criteria of amount, time, and temperature of substance in testing the device.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific knowledge, principles, and theories.</p> <p>* Undertake a design project, engaging in the design cycle, to construct and/or implement a solution that meets specific design criteria and constraints.</p>	<p><b>PS1.B Chemical Reactions</b> * Some chemical reactions release energy, others store energy.</p> <p><b>ETS1.B Developing Possible Solutions</b> * A solution needs to be tested, and then modified on the basis of the test results, in order to improve it. <i>(secondary emphasis)</i></p> <p><b>ETS1.C Optimizing the Design Solution</b> * Although one design may not perform the best across all tests, identifying the characteristics of the design that performed the best in each test can provide useful information for the redesign process - that is, some of the characteristics may be incorporated into the new design. <i>(secondary emphasis)</i> * The iterative process of testing the most promising solutions and modifying what is proposed on the basis of the test results leads to greater refinement and ultimately to an optimal solution. <i>(secondary emphasis)</i></p>	<p><b>Energy and Matter</b> * The transfer of energy can be tracked as energy flows through a designed or natural system.</p>

**Guided Questions**

- \* How can data results be evaluated to determine whether energy is released or absorbed?
- \* How can the results be used to modify the rate of energy transfer?

**Catholic Identity Connections**

- \* We should take into consideration all moral and environmental implications in scientific research and discovery.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.3** *Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.*

**WHST.6-8.7** *Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.*

**Connections to Other DCIs in Eighth Grade**

**MS.PS3.D**

**Articulation to DCIs across Grade-Bands**

**NA**

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**8-PS2-1 Motion and Stability: Forces and Interactions**

Students who demonstrate understanding can:

**8-PS2-1 Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.**

*Clarification Statement: Examples of practical problems could include the impact of collisions between two cars, between a car and stationary objects, and between a meteor and a space vehicle.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.</p> <p>* Apply scientific ideas or principles to design an object, tool, process, or system.</p>	<p><b>PS2.A Forces and Motion</b> * For any pair of interacting objects, the force exerted by the first object on the second object is equal in strength to the force that the second object exerts on the first, but in the opposite direction (Newton's Third Law).</p>	<p><b>Systems and System Models</b> * Models can be used to represent systems and their interactions - such as inputs, processes and outputs - and energy and matter flows within systems.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b> * The uses of technologies and any limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions.</p>

**Guided Questions**

- \* How does the mass of two objects affect the distance each traveled in an impact collision?
- \* What are real-world examples of the third law of motion?

**Catholic Identity Connections**

- \* God created us with the ability to use reasoning skills to solve problems and explain solutions.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

- RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*
- RST.6-8.3** *Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.*
- WHST.6-8.7** *Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.*

**Mathematics**

- MP.2** *Reason abstractly and quantitatively.*
- NO.6** *Understand that positive and negative numbers are used together to describe quantities having opposite directions or values.*
- NO.6** *Use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.*

**Connections to Other DCIs in Eighth Grade**

**MS.PS3.C**

**Articulation to DCIs across Grade-Bands**

**3.PS2.A**

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**8-PS2-2 Motion and Stability: Forces and Interactions**

Students who demonstrate understanding can:

**8-PS2-2 Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.**

*Clarification Statement: Emphasis is on balanced (Newton's First Law) and unbalanced forces in a system, qualitative comparisons of forces, mass and changes in motion (Newton's Second Law), frame of reference, and specification of units.*

*Assessment Boundary: Assessment is limited to forces and changes in motion in one dimension in an inertial reference frame and to change in one variable at a time. Assessment does not include the use of trigonometry.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in 6-8 builds on K-5 experiences and progresses to include investigations that use multiple variables and provide evidence to support explanations or design solutions.</p> <p>* Plan an investigation individually and collaboratively, and in the design identify independent and dependent variables and controls, what tools are needed to do the gathering, how measurements will be recorded, and how many data are needed to support a claim.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge is Based on Empirical Evidence</b> * Science knowledge is based upon logical and conceptual connections between evidence and explanations.</p>	<p><b>PS2.A Forces and Motion</b> * The motion of an object is determined by the sum of the forces acting on it; if the total force on the object is not zero, its motion will change. The greater the mass of the object, the greater the force needed to achieve the same change in motion. For any given object, a large force causes a larger change in motion. * All positions of objects and the directions of forces and motions must be described in an arbitrarily chosen reference frame and arbitrarily chosen units of size. In order to share information with other people, these choices must also be shared.</p>	<p><b>Stability and Change</b> * Explanations of stability and change in natural or designed systems can be constructed by examining the changes over time and forces at different scales.</p>

**Guided Questions**

- \* What factors affect a change in inertia?
- \* How do speed or mass affect the velocity of an object?

**Catholic Identity Connections**

- \* God has given each of us reason, which allows us to plan investigations that help determine what is happening in various situations.
- \* Our God-given intellect is something to be used to understand the universe around us. This universe that is created is good and God wants us to get to know it.

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Curriculum Framework  
Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.3** *Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.*

**WHST.6-8.7** *Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.*

**Mathematics**

**MP.2** *Reason abstractly and quantitatively.*

**Connections to Other DCIs in Eighth Grade**

**MS.PS3.A; MS.PS3.B; MS.ESS2.C**

**Articulation to DCIs across Grade-Bands**

**3.PS2.A**

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Science**

**8-PS2-3 Motion and Stability: Forces and Interactions**

Students who demonstrate understanding can:

**8-PS2-3 Ask questions about the data to determine the factors that affect the strength of electric and magnetic forces.**

*Clarification Statement: Examples of devices that use electric and magnetic forces could include electromagnets, electric motors, or generators. Examples of data could include the effect of the number of turns of wire on the strength of any electromagnet, or the effect of increasing the number or strength of magnets on the speed of an electric motor.*

*Assessment Boundary: Assessment about questions that require quantitative answers is limited to proportional reasoning and algebraic thinking.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in 6-8 builds on K-5 experiences and progresses to specifying relationships between variables, and clarifying arguments and models.</p> <p>* Ask questions that can be investigated within the scope of the classroom, outdoor environment, and museums and other public facilities with available resources and, when appropriate, frame a hypothesis based on observations and scientific principles.</p>	<p><b>PS2.B Types of Interactions</b> * Electric and magnetic (electromagnetic) forces can be attractive or repulsive, and their sizes depend on the magnitudes of the charges, currents, or magnetic strengths involved and on the distances between the interacting objects.</p>	<p><b>Cause and Effect</b> * Cause and effect relationships may be used to predict phenomena in natural or designed systems.</p>
<b>Guided Questions</b>		
<p>* How can the strength of magnetic forces be determined? * How are electromagnetic forces used in motors?</p>		
<b>Catholic Identity Connections</b>		
<p>* God has given us the ability to consider information and formulate questions. * The universe is good and worth exploring.</p>		
<b>Archdiocese of Louisville ELA and Mathematics Standards Connections</b>		
<p><b>ELA Literacy</b> <b>RST.6-8.1</b> <i>Cite specific textual evidence to support analysis of science and technical texts.</i></p> <p><b>Mathematics</b> <b>MP.2</b> <i>Reason abstractly and quantitatively.</i></p>		
<b>Connections to Other DCIs in Eighth Grade</b>		
NA		
<b>Articulation to DCIs across Grade-Bands</b>		
3.PS2.B		

**Archdiocese of Louisville  
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**8-PS2-4 Motion and Stability: Forces and Interactions**

Students who demonstrate understanding can:

**8-PS2-4 Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the mass of interacting objects.**

*Clarification Statement: Examples of evidence for arguments could include data generated from simulations or digital tools, and charts displaying mass, strength of interaction, distance from the sun, and orbital periods of objects within the solar system.*

*Assessment Boundary: Assessment does not include Newton's Law of Gravitation or Kepler's Laws.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 6-8 builds on K-5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed worlds.</p> <p>* Construct and present oral and written arguments supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Is Based on Empirical Evidence</b> * Science knowledge is based upon logical and conceptual connections between evidence and explanations.</p>	<p><b>PS2.B Types of Interactions</b> * Gravitational forces are always attractive. There is a gravitational force between any two masses, but it is very small except when one or both of the objects have large mass (e.g., Earth and the sun).</p>	<p><b>Systems and System Models</b> * Models can be used to represent systems and their interactions - such as inputs, processes, and outputs - and energy and matter flows within systems.</p>

**Guided Questions**

\* Why are gravitational interactions dependent on an object's mass?

**Catholic Identity Connections**

\* God expects that our interactions, including arguments to support a point, with others are respectful.

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Science**

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**WHST.6-8.1**      *Write arguments focused on discipline-specific content.*

**Connections to Other DCIs in Eighth Grade**

**MS.ESS1.A; MS.ESS1.B; MS.ESS2.C**

**Articulation to DCIs across Grade-Bands**

**5.PS2.B**

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Science**

**8-PS2-5 Motion and Stability: Forces and Interactions**

Students who demonstrate understanding can:

**8-PS2-5 Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.**

*Clarification Statement: Examples of this phenomenon could include the interactions of magnets, electrically-charged strips of tape, and electrically-charged pith balls. Examples of investigations could include first-hand experiences or simulations.*

*Assessment Boundary: Assessment is limited to electric and magnetic fields, and limited to qualitative evidence for the existence of fields.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in 6-8 builds on K-5 experiences and progresses to include investigations that use multiple variables and provide evidence to support explanations or design solutions.</p> <p>* Conduct an investigation and evaluate the experimental design to produce data to serve as the basis for evidence that can meet the goals of the investigation.</p>	<p><b>PS2.B Types of Interactions</b> * Forces that act at a distance (electric, magnetic, and gravitational) can be explained by fields that extend through space and can be mapped by their effect on a test object (a charged object, or a ball, respectively).</p>	<p><b>Cause and Effect</b> * Cause and effect relationships may be used to predict phenomena in natural or designed systems.</p>

**Guided Questions**

- \* How do gravitational interactions affect the motion of satellites?
- \* What factors influence the attractiveness or repulsivity of magnetic or electric forces?

**Catholic Identity Connections**

- \* God is the creator of the universe and the laws that govern it.
- \* We live in a world of balance and harmony.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

- ELA Literacy**
- RST.6-8.3** *Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.*
- WHST.6-8.7** *Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.*

**Connections to Other DCIs in Eighth Grade**

NA

**Articulation to DCIs across Grade-Bands**

**3.PS2.B**

**Archdiocese of Louisville  
Curriculum Framework  
Science**

**8-PS3-1 Energy**

Students who demonstrate understanding can:

**8-PS3-1 Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.**

*Clarification Statement: Emphasis is on descriptive relationships between kinetic energy and mass separately from kinetic energy and speed. Examples could include riding a bicycle at different speeds, rolling different sizes of rocks downhill, and getting hit by a wiffle ball versus a tennis ball.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing data in 6-8 builds on K-5 and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <p>* Construct and interpret graphical displays of data to identify linear and nonlinear relationships.</p>	<p><b>PS3.A Definitions of Energy</b> * Motion energy is properly called kinetic energy; it is proportional to the mass of the moving object and grows with the square of its speed.</p>	<p><b>Scale, Proportion, and Quantity</b> * Proportional relationships (e.g., speed as the ratio of distance traveled to time taken) among different types of quantities provide information about the magnitude of properties and processes.</p>
<b>Guided Questions</b>		
<p>* How can real-world examples be used to describe the relationship between kinetic energy, mass, and speed?</p> <p>* How can various graphical displays (e.g., bar graphs, line graphs, pie graphs) be used to record and interpret data about kinetic energy?</p>		
<b>Catholic Identity Connections</b>		
<p>* God gives humans the intelligence needed to interpret data.</p>		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*

**RST.6-8.7** *Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).*

**Mathematics**

**MP.2** *Reason abstractly and quantitatively.*

**NO.6** *Understand the concept of ratio and use ratio language to describe a ratio relationship between two quantities.*

**NO.6** *Understand the concept of a unit ratio with a ratio  $a$   $b$  with  $b$  not equal to 0, and use ratio language in the context of a ratio relationship.*

**NO.7** *Recognize and represent proportional relationships between quantities.*

**A.8** *Solve, graph, and check the solution to any one-variable linear equation or inequality.*

**Connections to Other DCIs in Eighth Grade**

**MS.PS2.A**

**Articulation to DCIs across Grade-Bands**

**4.PS3.B**

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**8-PS3-2 Energy**

Students who demonstrate understanding can:

**8-PS3-2 Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.**

*Clarification Statement: Emphasis is on relative amounts of potential energy, not on calculations of potential energy. Examples of objects within systems interacting at varying distances could include the Earth and either a roller coaster cart at varying positions on a hill or objects at varying heights on shelves, changing the direction/orientation of a magnet, and a balloon with static electrical charge being brought closer to a classmate's hair. Examples of models could include representations, diagrams, pictures, and written descriptions of systems.*

*Assessment Boundary: Assessment is limited to two objects and the electric, magnetic, and gravitational interactions.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop a model to describe unobservable mechanisms.</p>	<p><b>PS1.A Definitions of Energy</b> * A system of objects may also contain stored (potential) energy, depending on their relative positions.</p> <p><b>PS3.C Relationship Between Energy and Forces</b> * When two objects interact, each one exerts a force on the other that can cause energy to be transferred to or from the object.</p>	<p><b>Systems and System Models</b> * Models can be used to represent systems and their interactions - such as inputs, processes, and outputs - and energy and matter flows within systems.</p>

**Guided Questions**

- \* How can a model be used to determine what factors can affect the potential energy of an object?
- \* How can the kinetic energy of one object be used to change the potential energy of a second object?

**Catholic Identity Connections**

- \* God created the world and the laws that govern it.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**SL.8.5** *Include multimedia components and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.*

**Connections to Other DCIs in Eighth Grade**

NA

**Articulation to DCIs across Grade-Bands**

NA

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**8-PS3-3 Energy**

Students who demonstrate understanding can:

**8-PS3-3 Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.**

*Clarification Statement: Examples of devices could include an insulated box, a solar cooker, and a Styrofoam cup.*

*Assessment Boundary: Assessment does not include calculating the total amount of thermal energy transferred.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Constructing Explanations and Designing Solutions</b> Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.</p> <p>* Apply scientific ideas or principles to design, construct, and test a design of an object, tool, process, or system.</p>	<p><b>PS3.A Definitions of Energy</b> * Temperature is a measure of the average kinetic energy of particles of matter. The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present.</p> <p><b>PS3.B Conservation of Energy and Energy Transfer</b> * Energy is spontaneously transferred out of hotter regions or objects and into colder ones.</p> <p><b>ETS1.A Defining and Delimiting an Engineering Problem</b> * The more precisely a design task's criteria and constraints can be defined, the more likely it is that the designed solution will be successful. Specification of constraints includes consideration of scientific principles and other relevant knowledge that is likely to limit possible solutions. <i>(secondary emphasis)</i></p> <p><b>ETS1.B Developing Possible Solutions</b> * A solution needs to be tested and then modified on the basis of the test results in order to improve it. There are systematic processes for evaluating solutions with respect to how well they meet criteria and constraints of a problem. <i>(secondary emphasis)</i></p>	<p><b>Energy and Matter</b> * The transfer of energy can be tracked as energy flows through a designed or natural system.</p>

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**Guided Questions**

- \* What materials are best for minimizing or maximizing thermal energy transfer?
- \* Using data from a trial, what changes can be made to the device to improve efficiency?

**Catholic Identity Connections**

- \* God created the natural processes that govern all creation.
- \* In giving us dominion over the Earth, God gave us the responsibility to care for it.

**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.3** *Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.*

**WHST.6-8.7** *Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.*

**Connections to Other DCIs in Eighth Grade**

**MS.PS1.B; MS.ESS2.A; MS.ESS2.C; MS.ESS2.D**

**Articulation to DCIs across Grade-Bands**

**4.PS3.B**

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**8.PS3-4 Energy**

Students who demonstrate understanding can:

**8-PS3-4 Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.**

*Clarification Statement: Examples of experiments could include comparing final water temperatures after different masses of ice melted in the same volume of water with the same initial temperature, the temperature change of samples of different materials with the same mass as they cool or heat in the environment, or the same material with different masses when a specific amount of energy is added.*

*Assessment Boundary: Assessment does not include calculating the total amount of thermal energy transferred.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Planning and Carrying Out Investigations</b> Planning and carrying out investigations to answer questions or test solutions to problems in 6-8 builds on K-5 experiences and progresses to include investigations that use multiple variables and provide evidence to support explanations or design solutions.</p> <p>* Plan an investigation individually and collaboratively, and in the design, identify independent and dependent variables and controls, what tools are needed to do the gathering, how measurements will be recorded, and how many data are needed to support a claim.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Is Based on Empirical Evidence</b> * Science knowledge is based upon logical and conceptual connections between evidence and explanations.</p>	<p><b>PS3.A Definitions of Energy</b> * Temperature is a measure of the average kinetic energy of particles of matter. The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present.</p> <p><b>PS3.B Conservation of Energy and Energy Transfer</b> * The amount of energy transfer needed to change the temperature of a matter sample by a given amount depends on the nature of the matter, the size of the sample, and the environment.</p>	<p><b>Scale, Proportion, and Quantity</b> * Proportional relationships (e.g., speed as the ratio of distance traveled to time taken) among different types of quantities provide information about the magnitude of properties and processes.</p>

**Guided Questions**

- \* How can the thermal energy of one substance be transferred to another substance?
- \* How can real-world scenarios explain the relationship between energy, matter, and mass?

**Catholic Identity Connections**

- \* God has given us the ability to design and carry out investigations to answer a given or self-generated question.
- \* We explore, experiment, and attempt to understand God's overall universe, of which we are a part.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.3** *Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.*

**WHST.6-8.7** *Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.*

**Mathematics**

**MP.2** *Reason abstractly and quantitatively.*

**Connections to Other DCIs in Eighth Grade**

**MS.PS2.A**

**Articulation to DCIs across Grade-Bands**

**4.PS3.C**

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**8-PS3-5 Energy**

Students who demonstrate understanding can:

**8-PS3-5 Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.**

*Clarification Statement: Examples of empirical evidence used in arguments could include an inventory or other representation of the energy before and after the transfer in the form of temperature changes or motion of object.*

*Assessment Boundary: Assessment does not include calculations of energy.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 6-8 builds on K-5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed worlds.</p> <p>* Construct, use, and present oral and written arguments supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Is Based on Empirical Evidence</b> * Science knowledge is based upon logical and conceptual connections between evidence and explanations.</p>	<p><b>PS3.B Conservation of Energy and Energy Transfer</b> * When the motion energy of an object changes, there is inevitably some other change in energy at the same time.</p>	<p><b>Energy and Matter</b> * Energy may take different forms (e.g., energy in fields, thermal energy, energy of motion).</p>
<b>Guided Questions</b>		
* What evidence is needed to support the claim that energy is transferred between two substances or objects?		
<b>Catholic Identity Connections</b>		
* God is the creator of the universe and the laws that govern it. * Our world is safely held in the loving hands of God.		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**RST.6-8.1** *Cite specific textual evidence to support analysis of science and technical texts.*

**WHST.6-8.1** *Write arguments focused on discipline-specific content.*

**Mathematics**

**Mathematics**

**MP.2** *Reason abstractly and quantitatively.*

**NO.6** *Understand the concept of ratio and use ratio language to describe a ratio relationship between two quantities.*

**NO.7** *Recognize and represent proportional relationships between quantities.*

**A.8** *Solve, graph, and check the solution to any one-variable linear equation or inequality.*

**Connections to Other DCIs in Eighth Grade**

**MS.PS2.A**

**Articulation to DCIs across Grade-Bands**

**4.PS3.C**

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**8-PS4-1 Waves and Their Applications in Technologies for Information Transfer**

Students who demonstrate understanding can:

**8-PS4-1 Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.**

*Clarification Statement: Emphasis is on describing waves with both qualitative and quantitative thinking.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Using Mathematics and Computational Thinking</b> Mathematical and computational thinking at the 6-8 level builds on K-5 and progresses to identifying patterns in large data sets and using mathematical concepts to support explanations and arguments.</p> <p>* Use mathematical representations to describe and/or support scientific conclusions and design solutions.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge Is Based on Empirical Evidence</b> * Science knowledge is based upon logical and conceptual connections between evidence and explanations.</p>	<p><b>PS4.A Wave Properties</b> * A simple wave has a repeating pattern with a specific wavelength, frequency, and amplitude.</p>	<p><b>Patterns</b> * Graphs and charts can be used to identify patterns in data.</p>

**Guided Questions**

\* How can the relationship between frequency and wavelength be represented in a graph?

**Catholic Identity Connections**

\* God is the creator of the universe and the laws that govern it.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**SL.8.5** *Include multimedia components and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.*

**Mathematics**

**MP.2** *Reason abstractly and quantitatively.*

**MP.4** *Model with mathematics.*

**NO.6** *Understand the concept of ratio and use ratio language to describe a ratio relationship between two quantities.*

**NO.6** *Understand the concept of a unit ratio with a ratio  $a$  to  $b$  with  $b$  not equal to 0, and use ratio language in the context of a ratio relationship.*

**NO.7** *Recognize and represent proportional relationships between quantities.*

**A.8** *Solve, graph, and check the solution to any one-variable linear equation or inequality.*

**Connections to Other DCIs in Eighth Grade**

**NA**

**Articulation to DCIs across Grade-Bands**

**4.PS3.A; 4.PS3.B; 4.PS4.A**

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**8-PS4-2 Waves and Their Applications in Technologies for Information Transfer**

Students who demonstrate understanding can:

**8-PS4-2 Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.**

*Clarification Statement: Emphasis is on both light and mechanical waves. Examples of models could include drawings, simulations, and written descriptions.*

*Assessment Boundary: Assessment is limited to qualitative applications pertaining to light and mechanical waves.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop and use a model to describe phenomena.</p>	<p><b>PS4.A Wave Properties</b> * A sound wave needs a medium through which it is transmitted.</p> <p><b>PS4.B Electromagnetic Radiation</b> * When light shines on an object, it is reflected, absorbed, or transmitted through the object, depending on the object's material and the frequency (color) of the light. * The path that light travels can be traced as straight lines, except at surfaces between different transparent materials (e.g., air and water, air and glass) where the light path bends. * A wave model of light is useful for explaining brightness, color, and the frequency-dependent bending of light at a surface between media. * However, because light can travel through space, it cannot be a matter wave, like sound or water waves.</p>	<p><b>Structure and Function</b> * Structures can be designed to serve particular functions by taking into account properties of different materials, and how materials can be shaped and used.</p>

**Guided Questions**

- \* How can waves be transmitted, absorbed, or reflected through various materials?
- \* How can these waves be represented in real-world examples?

**Catholic Identity Connections**

- \* Just as waves are reflected, absorbed, or transmitted, our Catholic faith is reflected, absorbed, and transmitted to those around us.

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

**ELA Literacy**

**SL.8.5** *Include multimedia components and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.*

**Connections to Other DCIs in Eighth Grade**

**MS.LS1.D**

**Articulation to DCIs across Grade-Bands**

**4.PS4.B**

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**8-PS4-3 Waves and Their Applications in Technologies for Information Transfer**

Students who demonstrate understanding can:

**8-PS4-3 Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.**

*Clarification Statement: Emphasis is on a basic understanding that waves can be used for communication purposes. Examples could include using fiber optic cable to transmit light pulses, radio wave pulses in wifi devices, and conversion of stored binary patterns to make sound or text on a computer screen.*

*Assessment Boundary: Assessment does not include binary counting. Assessment does not include the specific mechanism of any given device.*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Obtaining, Evaluating, and Communicating Information</b> Obtaining, evaluating, and communicating information in 6-8 builds on K-5 and progresses to evaluating the merit and validity of ideas and methods.</p> <p>* Integrate qualitative scientific and technical information in written text with that contained in media and visual displays to clarify claims and findings.</p>	<p><b>PS4.C Information Technologies and Instrumentation</b> * Digitized signals (sent as wave pulses) are a more reliable way to encode and transmit information.</p>	<p><b>Structure and Function</b> * Structures can be designed to serve particular functions.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b> * Technologies extend the measurement, exploration, modeling, and computational capacity of scientific investigations.</p> <p style="text-align: center;">-----</p> <p style="text-align: center;"><b>Connections to Nature of Science</b></p> <p><b>Science Is a Human Endeavor</b> * Advances in technology influence the progress of science and science has influenced advances in technology.</p>
<b>Guided Questions</b>		
* How have advances in technology influenced the progress of science and how have advances in science influenced the progress of technology?		
<b>Catholic Identity Connections</b>		
* We have a moral obligation to use technology in a responsible way.		

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**Archdiocese of Louisville ELA and Mathematics Standards Connections**

<b>ELA Literacy</b>	
<b>RST.6-8.1</b>	<i>Cite specific textual evidence to support analysis of science and technical texts.</i>
<b>RST.6-8.2</b>	<i>Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.</i>
<b>RST.6-8.9</b>	<i>Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.</i>
<b>WHST.6-8.9</b>	<i>Draw evidence from informational texts to support analysis, reflection, and research.</i>

**Connections to Other DCIs in Eighth Grade**

NA

**Articulation to DCIs across Grade-Bands**

4.PS4.C

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**Eighth Grade Standards**

**8-PS1 Matter and Its Interactions**

- 8-PS1-1** Develop models to describe the atomic composition of simple molecules and extended structures.
- 8-PS1-2** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.
- 8-PS1-3** Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.
- 8-PS1-4** Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.
- 8-PS1-5** Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.
- 8-PS1-6** Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.

**8-PS2 Motion and Stability: Forces and Interactions**

- 8-PS2-1** Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.
- 8-PS2-2** Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.
- 8-PS2-3** Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.
- 8-PS2-4** Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.
- 8-PS2-5** Construct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.

**8-PS3 Energy**

- 8-PS3-1** Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.
- 8-PS3-2** Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.
- 8-PS3-3** Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.
- 8-PS3-4** Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.
- 8-PS3-5** Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.

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**8-PS4 Waves and Their Applications in Technologies for Information Transfer**

- 8-PS4-1** Use mathematical representations to describe a simple model for waves that include how the amplitude of a wave is related to the energy in a wave.
- 8-PS4-2** Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.
- 8-PS4-3** Integrate quantitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.

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**MS-ETS Engineering Design**

Students who demonstrate understanding can:

**MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.**

**MS-ETS1-2 Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.**

**MS-ETS1-3 Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.**

**MS-ETS1-4 Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.**

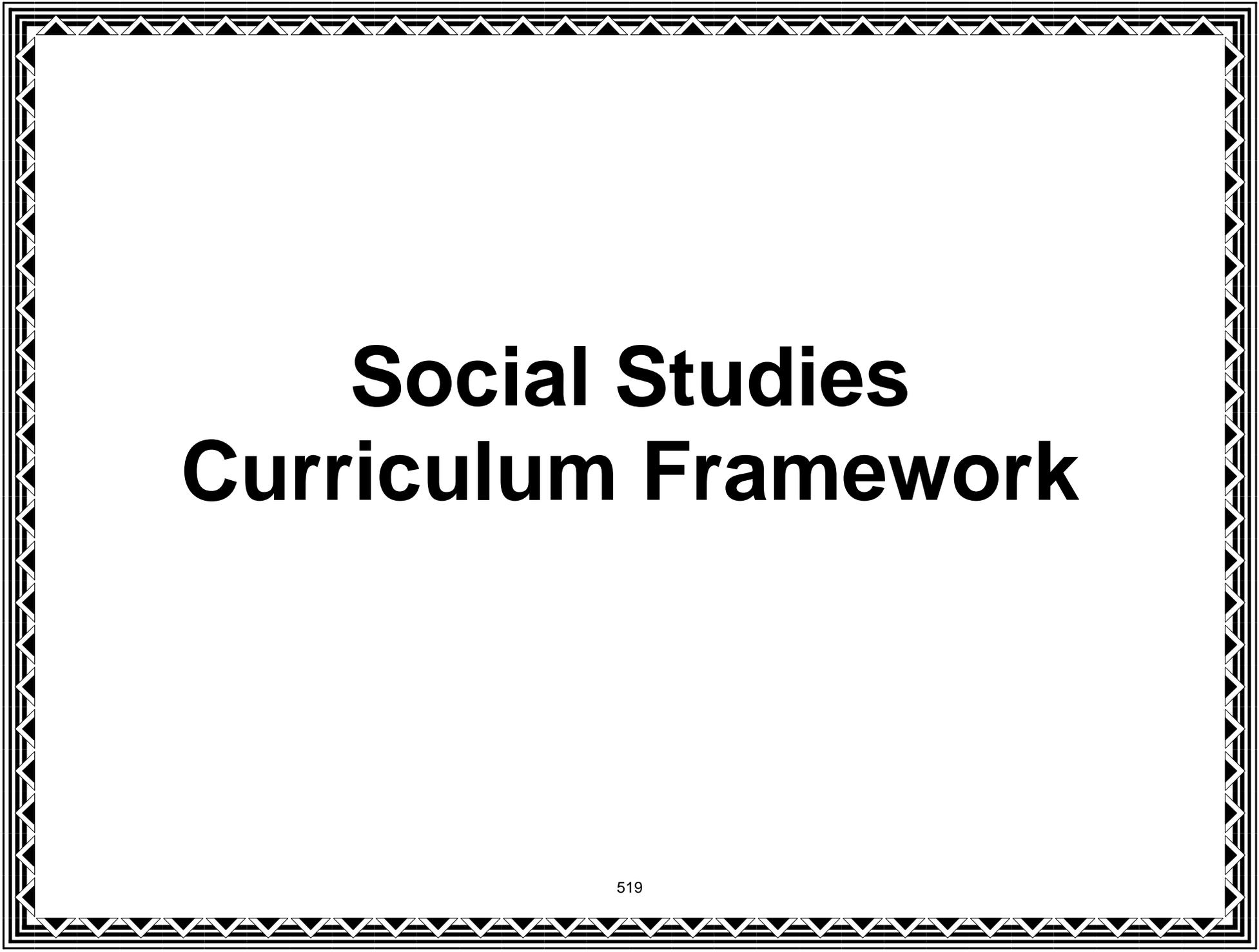
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Asking Questions and Defining Problems</b> Asking questions and defining problems in 6-8 builds on K-5 experiences and progresses to specifying relationships between variables, and clarifying arguments and models.</p> <p>* Define a design problem that can be solved through the development of an object, tool, process, or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions.</p> <p><b>Developing and Using Models</b> Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <p>* Develop a model to generate data to test ideas about designed systems, including those representing inputs and outputs.</p>	<p><b>ETS1.A Defining and Delimiting Engineering Problems</b> * The more precisely a design task's criteria and constraints can be defined, the more likely it is that the designed solution will be successful. Specification of constraints includes consideration of scientific principles and other relevant knowledge that are likely to limit possible solutions.</p> <p><b>ETS1.B Developing Possible Solutions</b> * A solution needs to be tested, and then modified on the basis of the test results, in order to improve it. * There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. * Sometimes parts of different solutions can be combined to create a solution that is better than any of its predecessors. * Models of all kinds are important for testing solutions.</p>	<p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b> * All human activity draws on natural resources and has both short- and long-term consequences, positive as well as negative, for the health of people and the natural environment. * The uses of technologies and limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions.</p>

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Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Analyzing and Interpreting Data</b> Analyzing data in 6-8 builds on K-5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <p>* Analyze and interpret data to determine similarities and differences in findings.</p> <p><b>Engaging in Argument from Evidence</b> Engaging in argument from evidence in 6-8 builds on K-5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world.</p> <p>* Evaluate competing design solutions based on jointly developed and agreed upon design criteria.</p>	<p><b>ETS1.C Optimizing the Design Solution</b></p> <p>* Although one design may not perform the best across all tests, identifying the characteristics of the design that performed the best in each test can provide useful information for the redesign process - that is, some of those characteristics may be incorporated into the new design.</p> <p>* The iterative process of testing the most promising solutions and modifying what is proposed on the basis of the test results leads to greater refinement and ultimately to an optimal solution.</p>	
<b>Guided Questions</b>		
<p>* What factors affect the design process? (ETS1-1)</p> <p>* How are potential design processes evaluated? (ETS1-2)</p> <p>* How are differing possible solutions evaluated to determine the best possible outcome? (ETS1-2)</p> <p>* How can data from a test be organized, analyzed, and interpreted? (ETS1-3)</p> <p>* How can multiple data sets be used to redesign a better solution? (ETS1-3)</p> <p>* How can models be used to demonstrate solutions and gather data? (ETS1-4)</p>		
<b>Catholic Identity Connections</b>		
<p>* Catholics should take into consideration all moral and environmental implications in the design process. (ETS1-1, ETS1-2, ETS1-3, ETS1-4)</p>		

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# **Social Studies Curriculum Framework**

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According to the Board of Directors of the National Council for the Social Studies:

*Social studies is the integrated study of the social sciences and humanities designed to promote civic competence. Within the school program, social studies provides coordinated, systematic study drawing upon such disciplines as economics, geography, history, civics, government, psychology, religion, and sociology. The primary purpose of social studies is to help students develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world.*

-Adapted from the *Curriculum Standards for Social Studies 'Expectations of Excellence'*

The ten thematic strands in social studies are:

- Culture and Cultural Diversity
- Time, Continuity, and Change
- People, Places, and Environments
- Individual Development and Identity
- Individuals, Groups, and Institutions
- Power, Authority, and Governance
- Production, Distribution, and Consumption
- Science, Technology, and Society
- Global Connections
- Civic Ideals and Practices

The five organizers of the Social Studies Content Guidelines and Performance Standards are Democratic and Political Systems, Social Systems and Cultural Diversity, Economic Systems, Geography, and Historical Perspective. The ten thematic strands from the national standards are embedded in the five content guideline organizers. Social studies is an important component of a comprehensive curriculum and should be integrated across the curriculum for in-depth and meaningful learning for all students.

To order a copy of the national standards or for more information and resources, contact the National Council for the Social Studies, P.O. Box 2067, Waldorf, MD 20604, 1-800-683-0812.



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<b>Content Guidelines: Democratic Principles and Political Systems</b>			
<b>Academic Expectations</b>	<b>Kindergarten</b>	<b>Grade One</b>	<b>Grade Two</b>
<p><b>Academic Expectation 2.14</b> Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.</p> <p><b>Academic Expectation 2.15</b> Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.</p> <p><b>Academic Expectation 2.67</b> Students critique societal structures in the light of Catholic social justice principles.</p>	<ul style="list-style-type: none"> <li>• U.S. flag and Pledge of Allegiance as symbols of the U.S.</li> <li>• Authority figures in home, school, and community settings</li> <li>• Democratic principles through decision-making</li> <li>• Rules to live by within the home, school, and community</li> <li>• Recognition of and respect for another person, their work, and their space</li> </ul>	<ul style="list-style-type: none"> <li>• National symbols and patriotism</li> <li>• Authority figures - family, school, and community</li> <li>• Expected behaviors in various social settings</li> <li>• Introduction of a democratic government</li> <li>• Rights, responsibilities, and roles of citizens</li> <li>• Rules and the consequences for violating them</li> <li>• Recognition of and respect for others</li> <li>• Responsibility of voting (e.g., every vote counts)</li> </ul>	<ul style="list-style-type: none"> <li>• National symbols and patriotism</li> <li>• Leaders in a community</li> <li>• Responsible actions of citizens</li> <li>• Democracy</li> <li>• Differences between rules and laws</li> <li>• Copyright issues</li> <li>• Local and federal government</li> <li>• Voting</li> </ul>
<b>Performance Standards</b>			
<p><b>Academic Expectation 7.1</b> Students practice respect and care for all creation, seeing it as a gift of God's love.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, the Church, and with all creation.</p> <p><b>Academic Expectation 7.10</b> Students apply Catholic social justice principles in social and personal situations.</p> <p><b>National Standards:</b> 4, 5, 6, 10</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate an awareness of basic U.S. symbols</li> <li>• recite the Pledge of Allegiance</li> <li>• recognize and accept authority figures</li> <li>• apply appropriate decisions to home, school, and community</li> <li>• recognize the need for rules and respect for self and others</li> <li>• demonstrate methods of following rules and displaying respect</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• identify U.S. symbols that represent American democracy and values</li> <li>• explain reasons for rules</li> <li>• practice examples of democracy in action</li> <li>• practice expected behaviors in various social settings</li> <li>• compare city, county, and state governments</li> <li>• recognize and accept authority figures</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• evaluate the significance of U.S. symbols</li> <li>• differentiate between rules and laws</li> <li>• identify roles people have in various groups</li> <li>• analyze basic levels of local and federal governments</li> <li>• examine copyright issues in relation to beginning research</li> </ul>
<b>Teacher's Notes</b>			

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<b>Content Guidelines: Social Systems and Cultural Diversity</b>				
<b>Academic Expectations</b>	<b>Kindergarten</b>	<b>Grade One</b>	<b>Grade Two</b>	
<p><b>Academic Expectation 2.16</b> Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationship among individuals and among groups.</p> <p><b>Academic Expectation 2.17</b> Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.</p> <p><b>Academic Expectation 2.41</b> Students recognize the interconnectedness of humans with all creation.</p> <p><b>Academic Expectation 2.66</b> Students engage in service to the community in response to the Gospel call.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, the Church, and with all creation.</p> <p><b>Academic Expectation 7.10</b> Students apply Catholic social justice principles in social and personal situations.</p> <p><b>National Standards:</b> 1, 3, 4, 5, 9, 10</p>	<ul style="list-style-type: none"> <li>• Awareness of self and others within family, school, and community groups</li> <li>• Similarities and differences in people and places</li> <li>• Sharing and cooperation</li> <li>• Traditions and celebrations throughout the world</li> <li>• Ways to communicate among groups within home, school, and community</li> <li>• Relationships among groups within home, school, and community</li> <li>• Basic personal information (e.g., address, phone number, birth date, first and last name)</li> </ul>	<ul style="list-style-type: none"> <li>• Communication of personal experiences (e.g., storytelling)</li> <li>• Similarities and differences in groups (e.g., families, clubs, sports teams, communities)</li> <li>• Cultural differences in families around the world</li> <li>• Relationships between family members</li> <li>• Holidays and traditions (e.g., identification, description, celebration)</li> <li>• Conflict resolution in communities</li> <li>• Growth and change in communities</li> </ul>	<ul style="list-style-type: none"> <li>• Personal heritage and ancestry</li> <li>• Family traditions</li> <li>• Community needs</li> <li>• Various social, ethnic, and cultural groups within a community and their viewpoints</li> <li>• Social interactions</li> <li>• Current events (e.g., reflection of the past/impact on the future)</li> </ul>	
	<b>Performance Standards</b>			
		<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate an awareness of self and others through exposure to different cultures</li> <li>• utilize communication skills</li> <li>• apply acceptable social skills through respectful relationships</li> <li>• recite personal information</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• recognize that diverse groups celebrate their heritage and culture in a variety of ways</li> <li>• explain how families, groups, and communities work together to achieve common goals</li> <li>• demonstrate problem solving skills</li> <li>• demonstrate an understanding of social, ethnic, and cultural groups within a community</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate an understanding of personal and cultural heritage and traditions</li> <li>• recognize the social, ethnic, and cultural groups within a community</li> <li>• explain ways social communities work together</li> </ul>
<b>Teacher's Notes</b>				

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<b>Content Guidelines: Economic Systems</b>			
<b>Academic Expectations</b>	<b>Kindergarten</b>	<b>Grade One</b>	<b>Grade Two</b>
<p><b>Academic Expectation 2.18</b> Students understand economic principles and are able to make economic decisions that have consequences in daily living.</p> <p><b>Academic Expectation 2.60</b> Students exercise responsible stewardship toward all creation.</p> <p><b>Academic Expectation 7.1</b> Students practice respect and care for all creation, seeing it as a gift of God’s love.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, the Church, and with all creation.</p> <p><b>National Standards:</b> 1, 2, 3, 7 8, 9, 10</p>	<ul style="list-style-type: none"> <li>• Identification of wants and needs</li> <li>• Conservation of economic (natural and manufactured) resources</li> <li>• Types of work at home, school, and community</li> <li>• Careers within the home, school, and community</li> <li>• Money as a means of exchange</li> <li>• Forms of transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Types of work at home, school, and in the community</li> <li>• Role of community helpers</li> <li>• Wants and needs - self, family, school, and community</li> <li>• Transportation of goods and services</li> <li>• Money as a means of exchange</li> </ul>	<ul style="list-style-type: none"> <li>• Relationship between work and earnings</li> <li>• Goods and services</li> <li>• Economic systems</li> <li>• Land use and natural resources</li> <li>• Past and present products</li> <li>• Imports and exports</li> <li>• Wants and needs - self, family, school, community</li> <li>• Transportation</li> </ul>
	<b>Performance Standards</b>		
	<p>Students will:</p> <ul style="list-style-type: none"> <li>• compare and contrast wants and needs</li> <li>• demonstrate an awareness of fundamental economic concepts</li> <li>• relate responsibilities at home and school to careers</li> <li>• categorize forms of transportation</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• compare and contrast wants and needs</li> <li>• identify responsibilities of community helpers</li> <li>• identify and compare buyers and sellers of goods and services</li> <li>• explain how goods get from place to place</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate an understanding of goods and how they are produced, distributed, and consumed</li> <li>• identify natural resources</li> <li>• explain the relationship between work and earnings</li> <li>• compare and contrast wants and needs of various systems</li> <li>• identify different types of transportation</li> </ul>
<b>Teacher’s Notes</b>			

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<b>Content Guidelines: Geography</b>			
<b>Academic Expectations</b>	<b>Kindergarten</b>	<b>Grade One</b>	<b>Grade Two</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.60</b> Students exercise responsible stewardship toward all creation.</p> <p><b>Academic Expectation 2.66</b> Students engage in service to the community in response to the Gospel call.</p> <p><b>Academic Expectation 7.1</b> Students practice respect and care for all creation, seeing it as a gift of God’s love.</p> <p><b>National Standards:</b> 1, 2, 3, 7, 8, 9</p>	<ul style="list-style-type: none"> <li>• Position vocabulary for location descriptions within the home, school, and community</li> <li>• Description of specific surroundings within the home, school, and community</li> <li>• Maps and globes</li> <li>• Seasonal characteristics and changes</li> <li>• Types of weather</li> <li>• Natural resources</li> <li>• Various conservation and recycling techniques within the home, school, and community</li> <li>• Bodies of water and landforms</li> </ul>	<ul style="list-style-type: none"> <li>• Directions and location</li> <li>• Map and globe skills</li> <li>• Weather, seasons, and climate and how they affect daily activities</li> <li>• Natural resources and simple conservation techniques</li> <li>• Physical features – landforms, bodies of water, and vegetation</li> <li>• Current events</li> </ul>	<ul style="list-style-type: none"> <li>• Simple charts and graphs</li> <li>• Map and globe skills</li> <li>• Simple map symbols and legends</li> <li>• North and South Poles, the equator, the continents, and the oceans</li> <li>• Place locations within local community</li> <li>• Weather and climate</li> <li>• Conservation and ecology</li> </ul>
<b>Performance Standards</b>			
<p>Students will:</p> <ul style="list-style-type: none"> <li>• use positional vocabulary to describe locations and places</li> <li>• identify characteristics and changes of seasons</li> <li>• identify examples of natural resources</li> <li>• model conservation techniques</li> <li>• model recycling techniques</li> <li>• identify maps and globes</li> <li>• identify types of weather</li> <li>• identify types of bodies of water</li> <li>• compare and contrast bodies of water</li> <li>• recognize characteristics of city, state, country, and continent</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate basic map and globe skills</li> <li>• construct a simple map that includes a compass rose, symbols, and key/legend</li> <li>• compare resources that are renewable, recyclable, and non-renewable</li> <li>• relate geographic concepts to current events</li> <li>• examine ways (e.g., clothing, housing, crops) people adapt to their environment</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate basic geographic skills</li> <li>• examine the impact of conservation/ecology</li> <li>• explain climatic adaptations</li> <li>• identify and explain a compass rose</li> </ul>	
<b>Teacher’s Notes</b>			

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<b>Content Guidelines: Historical Perspective</b>			
<b>Academic Expectations</b>	<b>Kindergarten</b>	<b>Grade One</b>	<b>Grade Two</b>
<p><b>Academic Expectation 2.20</b> Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.</p> <p><b>Academic Expectation 2.54</b> Students illustrate a basic understanding of the documentary tradition of the universal, national, and local Church.</p> <p><b>Academic Expectation 2.55</b> Students illustrate a basic understanding of the history of the Church.</p>	<ul style="list-style-type: none"> <li>• Personal and family events in the past, present, and future</li> <li>• Local, national, and global events in the past, present, and future</li> <li>• Sequence of past, present, and future events</li> <li>• Personal and family changes over time</li> <li>• Contributions of all people</li> <li>• Local, national, and global leaders in the past, present, future</li> <li>• Discrimination between fact and opinion during events</li> </ul>	<ul style="list-style-type: none"> <li>• Characteristics and changes in families, schools and communities</li> <li>• Life events in chronological order on a timeline</li> <li>• Past events, legends, and historical evidence</li> <li>• Changes of ideas and culture over time</li> <li>• Basic needs for food, clothing, and shelter of past and present families</li> <li>• Historical figures (e.g., George Washington, Abraham Lincoln)</li> </ul>	<ul style="list-style-type: none"> <li>• Past, present and future in relation to life experiences in communities</li> <li>• Community history on a timeline</li> <li>• Pictorial history</li> <li>• Changes over time</li> <li>• Historical figures and populations</li> <li>• Historical evidence (e.g., photos, artifacts, primary and secondary sources)</li> </ul>
	<b>Performance Standards</b>		
<p><b>National Standards:</b> 1, 2, 3, 5, 6, 7, 8, 9, 10</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• distinguish between past and present family and personal events</li> <li>• identify and describe changes over time</li> <li>• sequence events</li> <li>• demonstrate calendar skills</li> <li>• recognize the contributions that people make to home, school, and community</li> <li>• identify major leaders and their roles</li> <li>• listen to accounts of historical figures and events and summarize facts</li> <li>• recognize statements of fact and opinion about events</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• interpret primary sources (e.g., photos, artifacts, maps) to compare and contrast events and people from the past</li> <li>• retell stories to describe past events, people, and places</li> <li>• demonstrate calendar skills</li> <li>• evaluate the impact of change over time</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• distinguish between the needs of people in the past, present, and future</li> <li>• listen and record information</li> <li>• identify historical figures</li> <li>• illustrate cause and effect relationships in community events, past and present</li> <li>• evaluate impact of change over time</li> </ul>
<b>Teacher's Notes</b>			

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<b>Essential Understandings</b>	<b>Guided Questions</b>
<b>2.14, 2.15, 2.67, and 7.10</b> <ul style="list-style-type: none"> <li>Rules establish order.</li> </ul>	<ul style="list-style-type: none"> <li>Why do groups and communities have rules?</li> <li>How are rules established and changed?</li> </ul>
<b>2.14 and 2.15</b> <ul style="list-style-type: none"> <li>Patriotic symbols remind us of our American heritage.</li> </ul>	<ul style="list-style-type: none"> <li>What is the significance of American symbols?</li> </ul>
<b>2.14, 2.15, 2.60, 2.66, 2.67, 7.1, and 7.6</b> <ul style="list-style-type: none"> <li>With each right comes a responsibility.</li> </ul>	<ul style="list-style-type: none"> <li>What are the rights and responsibilities of individuals in groups?</li> <li>What are ways to show respect?</li> </ul>
<b>2.14, 2.15, 7.6, and 7.10</b> <ul style="list-style-type: none"> <li>The democratic process involves active participation of all individuals.</li> </ul>	<ul style="list-style-type: none"> <li>What is a democracy?</li> <li>How do individuals participate in the democratic process?</li> <li>How is the democratic process used in the classroom to make decisions?</li> </ul>
<b>2.19, 2.60, and 7.1</b> <ul style="list-style-type: none"> <li>Natural environments provide for human needs and activities.</li> </ul>	<ul style="list-style-type: none"> <li>How do people use the resources in their environment wisely?</li> <li>What is conservation and why is it important?</li> </ul>
<b>2.16, 2.17, 2.20, 2.41, and 7.10</b> <ul style="list-style-type: none"> <li>People adapt to, resist, or participate in change.</li> </ul>	<ul style="list-style-type: none"> <li>How do people cope with change and stress in their lives?</li> <li>How can change be a positive factor in our lives?</li> <li>How do people initiate change?</li> <li>How do communities work together?</li> </ul>
<b>2.16, 2.20, 2.54, and 2.55</b> <ul style="list-style-type: none"> <li>Family units form the basis of all communities.</li> </ul>	<ul style="list-style-type: none"> <li>How are different types of family units organized?</li> <li>What are family traditions?</li> <li>How are roles and responsibilities similar and different in various families and communities?</li> </ul>
<b>2.17, 2.20, 2.41, 4.5, and 7.10</b> <ul style="list-style-type: none"> <li>Different languages and cultures define different communities.</li> </ul>	<ul style="list-style-type: none"> <li>What makes a community?</li> <li>How are language and culture expressed within our families and communities?</li> <li>How do traditions influence communities?</li> <li>How does our heritage determine our traditions?</li> </ul>
<b>2.16, 2.17, 2.19, 2.41, 2.60, 2.66, 2.67, 7.1, 7.6, and 7.10</b> <ul style="list-style-type: none"> <li>People cooperate with and depend on one another.</li> </ul>	<ul style="list-style-type: none"> <li>How do individuals cooperate within groups?</li> <li>How do individuals within families and communities depend on one another?</li> <li>Why is cooperation important to the functioning of families, classrooms, and other groups?</li> <li>How can people work together to care for resources and environments in the community?</li> </ul>

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<b>Essential Understandings</b>	<b>Guided Questions</b>
<p><b>2.16, 2.20, 2.54, 2.55, and 7.6</b></p> <ul style="list-style-type: none"> <li>• People learn and express ideas in different ways.</li> </ul>	<ul style="list-style-type: none"> <li>• What are different ways people learn?</li> <li>• How do individuals express themselves?</li> <li>• How do individual expression and contribution impact the community?</li> <li>• Why is problem solving important?</li> <li>• What are different ways of solving everyday problems?</li> </ul>
<p><b>2.20</b></p> <ul style="list-style-type: none"> <li>• We learn about ourselves and our heritage through the study of others.</li> </ul>	<ul style="list-style-type: none"> <li>• What is the significance of historical figures?</li> <li>• Why do we study about people from the past and present?</li> </ul>
<p><b>2.16, 2.17, 2.20, 2.41, 2.66, and 7.6</b></p> <ul style="list-style-type: none"> <li>• Families relate to other systems in the community.</li> </ul>	<ul style="list-style-type: none"> <li>• What are examples of systems that show parts working together to create a whole?</li> <li>• How is the family a system?</li> <li>• How is the community a system?</li> <li>• How do communities meet individual and group needs?</li> <li>• How do transportation and communication link families and communities?</li> </ul>
<p><b>2.18, 2.60, and 7.10</b></p> <ul style="list-style-type: none"> <li>• People use resources, goods, and services to meet wants and needs.</li> </ul>	<ul style="list-style-type: none"> <li>• What is the difference between wants and needs?</li> <li>• How are goods and services related to wants and needs?</li> <li>• How do people obtain goods and services in our community?</li> <li>• What resources are used in producing various goods and services?</li> <li>• What are the roles of specific community helpers and why are they important?</li> </ul>
<p><b>2.19 and 2.41</b></p> <ul style="list-style-type: none"> <li>• Natural and manufactured environments characterize places.</li> </ul>	<ul style="list-style-type: none"> <li>• What are some human and physical characteristics of places in our community?</li> <li>• What do maps and pictures tell us?</li> <li>• Why are places important to us?</li> <li>• How does the location of one place relate to another?</li> <li>• How does geographical location impact people?</li> <li>• What is the purpose of a compass rose?</li> <li>• Why do we use maps and globes?</li> </ul>
<p><b>2.19, 2.20, 2.54, and 2.55</b></p> <ul style="list-style-type: none"> <li>• Change affects people and physical environments.</li> </ul>	<ul style="list-style-type: none"> <li>• What are significant events and stages in our lives?</li> <li>• How do families change over time?</li> <li>• How has our environment changed over time?</li> <li>• How do changes in the environment affect our lives?</li> <li>• How do weather, seasons, and climates affect our lives?</li> </ul>
<p><b>2.19, 2.60, 2.66, 7.1, 7.6, and 7.10</b></p> <ul style="list-style-type: none"> <li>• People have interdependent relationships with their environments.</li> </ul>	<ul style="list-style-type: none"> <li>• How do people relate to and influence their environment?</li> <li>• How do we care for our environment?</li> <li>• Why is it important to care for places in our community?</li> </ul>

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<b>Essential Processes and Skills</b>			
<b>Thinking and Learning</b>	<b>Communicating</b>	<b>Collaborating</b>	<b>Applying and Producing</b>
<p><b>Investigate historical and current issues</b></p> <ul style="list-style-type: none"> <li>• Identify what is known and unknown about an issue/topic</li> <li>• Identify problems, patterns, and changes</li> <li>• Formulate and ask questions that lead to new learning</li> </ul> <p><b>Collect and organize information</b></p> <ul style="list-style-type: none"> <li>• Access information using printed materials, maps, models, visuals, and technology</li> <li>• Use primary and secondary sources</li> <li>• Conduct interviews</li> <li>• Make observations</li> <li>• Record information and data in usable forms</li> </ul> <p><b>Process and apply information</b></p> <ul style="list-style-type: none"> <li>• Compare and contrast</li> <li>• Sort and classify</li> <li>• Interpret and create tables, graphs, timelines, maps, and graphic organizers</li> <li>• Identify and clarify assumptions</li> <li>• Form generalizations</li> <li>• Explore solutions</li> <li>• Predict consequences</li> <li>• Identify cause and effect relationships</li> <li>• Draw inferences from factual material</li> <li>• Use strategies to make decisions</li> </ul>	<p><b>Use reading, writing, and oral language to learn and communicate about history, geography, culture, civics, and economics</b></p> <ul style="list-style-type: none"> <li>• Develop and use related vocabulary</li> <li>• Develop listening skills</li> <li>• Follow directions</li> <li>• Present to a variety of audiences</li> <li>• Support ideas with facts</li> <li>• Communicate own point of view</li> <li>• Use strategies and technologies appropriate to audience</li> <li>• Support oral and written presentations with visual components</li> </ul>	<p><b>Work in teams in a variety of roles</b></p> <ul style="list-style-type: none"> <li>• Develop and use skills to lead, follow and perform various tasks in teams</li> <li>• Contribute ideas in groups</li> <li>• Set and work toward group goals</li> </ul> <p><b>Interact effectively with others</b></p> <ul style="list-style-type: none"> <li>• Demonstrate responsibility when working in a group</li> <li>• Give and respond to feedback in a constructive manner</li> <li>• Cooperate with people from different backgrounds, genders, and abilities</li> <li>• Use strategies to manage conflict and stress</li> </ul>	<p><b>Create quality products to communicate</b></p> <ul style="list-style-type: none"> <li>• Help to set standards for quality work</li> <li>• Set timelines for completing work</li> <li>• Use tools and equipment appropriately and safely</li> </ul> <p><b>Develop and apply skills</b></p> <ul style="list-style-type: none"> <li>• Identify careers in the community</li> <li>• Make connections between school work and the work of people in the community</li> </ul> <p><b>Apply citizenship skills</b></p> <ul style="list-style-type: none"> <li>• Participate in making rules and guidelines for group experiences</li> </ul>

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<b>Suggested Topics of Study</b>		
<ul style="list-style-type: none"> <li>• Self Awareness</li> <li>• Families</li> <li>• Friendships</li> <li>• Learning Together</li> <li>• Holidays</li> <li>• Home, School, and Community</li> <li>• The Environment</li> <li>• Patriotism</li> <li>• Manners and Social Skills</li> <li>• Places Around the World</li> </ul>	<ul style="list-style-type: none"> <li>• Families: Past and Present</li> <li>• Community Helpers</li> <li>• Leaders: Historical and Present Day</li> <li>• Places Where People Live</li> <li>• Families Around the World</li> <li>• Conservation of Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Living and Working in Groups</li> <li>• Leaders, Rules, and Laws</li> <li>• Native Americans</li> <li>• Settlers and Pioneers</li> <li>• Natural Resources and Conservation</li> <li>• Family Trees</li> <li>• Family Traditions, Celebrations, and Ancestry</li> </ul>
<b>Suggested Technology/Library Media</b>		
<ul style="list-style-type: none"> <li>• Videotaped student performances</li> <li>• Drawing programs for illustrations (e.g., maps, communities, house)</li> <li>• Word processing ( e.g., writing stories, compare/contrast, newsletters, letter writing, cartoons, pictures, PowerPoint, photographs, artwork)</li> <li>• Variety of print materials (e.g., picture books, nonfiction/fiction)</li> <li>• Multimedia presentations</li> <li>• Software, videos, video clips</li> <li>• Interactive white board</li> <li>• Question/response system</li> <li>• Web-quests</li> <li>• Appropriate web sites</li> </ul>		
<b>Examples of Assessments</b>		
<ul style="list-style-type: none"> <li>Pre- and post-assessments</li> <li>Rubrics</li> <li>Portfolio entries</li> <li>Writing pieces – expository, persuasive, informative, and descriptive</li> <li>Self and peer evaluations</li> <li>Graphic organizers</li> <li>Anecdotal observation checklists</li> <li>Written presentations</li> <li>Illustrations</li> <li>Cartoons</li> <li>PowerPoint presentations</li> </ul>	<ul style="list-style-type: none"> <li>Cooperative group projects</li> <li>Interviews</li> <li>Formative practice</li> <li>Oral presentations</li> <li>Performance presentations/experiments</li> <li>Drama or role play</li> <li>Constructions (models)</li> <li>Musical presentations</li> <li>Participation in community programs</li> </ul>	

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<b>Content Guidelines: Democratic Principles and Political Systems</b>			
<b>Academic Expectations</b>	<b>Grade Three</b>	<b>Grade Four</b>	<b>Grade Five</b>
<p><b>Academic Expectation 2.14</b> Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.</p> <p><b>Academic Expectation 2.15</b> Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.</p> <p><b>Academic Expectation 2.41</b> Students recognize the interconnectedness of humans with all creation.</p> <p><b>Academic Expectation 2.67</b> Students critique societal structures in the light of Catholic social justice principles.</p> <p><b>National Standards:</b> 1, 2, 3, 4, 5, 6, 9, 10</p>	<ul style="list-style-type: none"> <li>• Democratic behavior and processes</li> <li>• Ethics, rights, and responsibilities of citizens</li> <li>• Purpose for government and laws</li> <li>• Government services</li> <li>• National symbols and patriotism</li> <li>• The roles of government leaders and citizens in solving problems</li> <li>• Organization of government - local, state, and national</li> </ul>	<ul style="list-style-type: none"> <li>• Classroom rules and democratic behavior</li> <li>• Ethics, rights, and responsibilities of citizens</li> <li>• Key concepts of democratic government: liberty, justice and equality</li> <li>• Structures and functions of levels of government</li> <li>• Local, state, and national election processes</li> <li>• State government of Kentucky</li> </ul>	<ul style="list-style-type: none"> <li>• Democratic ideas and ideals</li> <li>• Ethics, rights, and responsibilities of citizens</li> <li>• Importance of laws</li> <li>• Impact of historical documents (e.g., Constitution of U.S.)</li> <li>• Voting and electoral process</li> <li>• Roles of leaders/responsibilities of leadership</li> <li>• Structures/functions of national, state, and local governments</li> <li>• Current events (e.g., reflection of the past/impact on the future)</li> </ul>
	<b>Performance Standards</b>		
	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explain basic purposes of government, government services, and organizations of government</li> <li>• demonstrate an understanding and application of rights and responsibilities of citizens in a democracy</li> <li>• compare/contrast the roles of government leaders and citizens in solving community problems</li> <li>• identify national symbols and relate significance to American life</li> <li>• cite sources used in research and reports</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explain the three levels of government and their election processes</li> <li>• identify the branches of government at each level and recognize the offices associated with the branches</li> <li>• identify the ethics, rights, and responsibilities of individuals in government and civic affairs</li> <li>• demonstrate knowledge of the structure and functions of state and federal governments and explain how they serve the needs of citizens</li> <li>• cite sources used in research and reports</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explain the basic purpose and design of democratic governments including the establishment of order, security, and the attainment of common goals</li> <li>• recognize that the Constitution of the U.S. establishes a government in which powers are shared among different levels and branches</li> <li>• discuss the rights and responsibilities of citizens in real-life situations</li> <li>• apply knowledge of past events to current and future events</li> <li>• cite sources used in research and reports</li> </ul>
<b>Teacher's Notes</b>			

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<b>Content Guidelines: Social Systems and Cultural Diversity</b>			
<b>Academic Expectations</b>	<b>Grade Three</b>	<b>Grade Four</b>	<b>Grade Five</b>
<p><b>Academic Expectation 2.16</b> Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationship among individuals and among groups.</p> <p><b>Academic Expectation 2.17</b> Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.</p> <p><b>Academic Expectation 2.41</b> Students recognize the interconnectedness of humans with all creation.</p> <p><b>Academic Expectation 2.66</b> Students engage in service to the community in response to the gospel call.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p> <p><b>Academic Expectation 7.10</b> Students apply Catholic social justice principles in social and personal situations.</p> <p><b>National Standards:</b> 1, 2, 3, 4, 5, 8, 9, 10</p>	<ul style="list-style-type: none"> <li>• Community life with emphasis on the local community</li> <li>• Similarities and differences of communities</li> <li>• Belief systems</li> <li>• U.S. role in a global society</li> <li>• Various ways basic needs are met within diverse cultures</li> <li>• Influences of language, stories, folk tales, music and art</li> <li>• Ways diverse organizations and institutions interact</li> </ul>	<ul style="list-style-type: none"> <li>• Effective membership in a community</li> <li>• Diverse responses to issues (e.g., religious, educational, social)</li> <li>• Culture, traditions, and customs</li> <li>• Groups and services working to meet the needs of citizens</li> <li>• Influence of groups and social issues on the history of Kentucky</li> <li>• Conflict, cooperation, and interdependence among individuals and groups</li> <li>• U.S. role in a global society</li> <li>• Prejudice, discrimination, and stereotyping</li> <li>• Current events (e.g., reflection of the past/impact on the future)</li> </ul>	<ul style="list-style-type: none"> <li>• Effective membership in a community</li> <li>• Language, religion, and customs from generation to generation</li> <li>• The role of education in society</li> <li>• Roots of a multicultural society (e.g., immigration, traditions, customs, culture)</li> <li>• U.S. role in a global society</li> <li>• Effects of prejudice and stereotyping upon individuals and society</li> <li>• Influences affecting American society</li> <li>• National and international conflicts in society</li> </ul>
<b>Performance Standards</b>			
	<p>Students will:</p> <ul style="list-style-type: none"> <li>• identify language, music, art, dress, food, literature, and folktales as elements of culture</li> <li>• demonstrate how diverse groups celebrate heritage and culture in a variety of ways</li> <li>• compare and contrast differences in communities and their belief systems</li> <li>• describe the roles individuals have in various groups</li> <li>• examine how human needs are met through social groups and institutions</li> <li>• demonstrate an understanding of important aspects of the local community (e.g., town, city, county)</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explain how society in Kentucky and regions of the U.S. respond to human needs and influence behavior</li> <li>• analyze how tensions and conflict can develop between and among individuals and groups</li> <li>• examine and explain problems created by prejudice and discrimination</li> <li>• identify similarities and differences in the ways groups and cultures within Kentucky and regions of the U.S. address similar needs and concerns</li> <li>• give examples of the culture, traditions, and customs of Kentucky</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• analyze how culture in the U.S. has been influenced by languages, literature, arts, beliefs, and behaviors of diverse groups</li> <li>• compare and contrast social institutions and their impact on the history of the U.S.</li> <li>• analyze conflicts among diverse groups in the history of the U.S. and the world</li> <li>• identify effects of prejudice and stereotyping upon individuals and society</li> </ul>
<b>Teacher's Notes</b>			

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<b>Content Guidelines: Economic Systems</b>			
<b>Academic Expectations</b>	<b>Grade Three</b>	<b>Grade Four</b>	<b>Grade Five</b>
<p><b>Academic Expectation 2.18</b> Students understand economic principles and are able to make economic decisions that have consequences in daily living.</p> <p><b>Academic Expectation 2.41</b> Students recognize the interconnectedness of humans with all creation.</p> <p><b>Academic Expectation 7.1</b> Students practice respect and care for all creation, seeing it as a gift of God's love.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, the Church, and with all creation.</p> <p><b>National Standards:</b> 2, 3, 4, 5, 7, 8, 9, 10</p>	<ul style="list-style-type: none"> <li>• Contributions of diverse workers</li> <li>• Job skills</li> <li>• Production and distribution (e.g., agriculture, industry, transportation)</li> <li>• Economic concepts (e.g., goods and services, production and distribution, supply and demand)</li> <li>• Interdependence of rural and urban communities</li> <li>• Interdependence of goods and services - locally and worldwide</li> <li>• Community problems and solutions affecting economy</li> <li>• Basic needs and the economy</li> <li>• Role of money in everyday life</li> <li>• Innovations and technology</li> </ul>	<ul style="list-style-type: none"> <li>• Natural resources and production of goods in Kentucky</li> <li>• Interdependence of Kentucky with other states and regions of the U.S.</li> <li>• Economic terms and concepts</li> <li>• Formation and support of economic systems in Kentucky and regions of the U.S.</li> <li>• Impact of economic factors such as supply and demand within a state or region</li> <li>• Budgeting and individual economic decisions</li> <li>• Economic decisions influenced by sales and ads</li> <li>• Impact of new ideas, products and technology on environment/people</li> </ul>	<ul style="list-style-type: none"> <li>• Ways people make a living (e.g., farming, industry, business)</li> <li>• Wants and needs affecting goods and services</li> <li>• Relationships between lifestyles and economy</li> <li>• Relationship of natural resources to economic prosperity</li> <li>• Technology and innovations in the workplace</li> <li>• Structure and functions of capitalism as used in the U.S.</li> </ul>
	<b>Performance Standards</b>		
	<p>Students will:</p> <ul style="list-style-type: none"> <li>• compare and contrast types of jobs, goods, and services produced in different communities</li> <li>• identify fundamental economic concepts and the interdependence of communities</li> <li>• analyze economic principles used in the decision-making process in order to make informed decisions</li> <li>• illustrate relationships among work, wages, purchasing power, and lifestyles</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• use economic concepts appropriately to explain conditions or events in Kentucky history and regions of the U.S.</li> <li>• explain the impact of economic factors on personal economic decisions</li> <li>• identify natural resources, goods, and services of Kentucky and regions of the U.S.</li> <li>• explain interdependence of Kentucky with regions of the U.S. and the world</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explain the impact of economic factors on decisions made by individuals, businesses, and governments in the U.S.</li> <li>• explain the basic components of the economic system of the U.S., especially capitalism</li> <li>• trace changes over time in the economic system of the U.S.</li> <li>• evaluate the relationship of natural resources to economic prosperity</li> </ul>
<b>Teacher's Notes</b>			

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<b>Content Guidelines: Geography</b>			
<b>Academic Expectations</b>	<b>Grade Three</b>	<b>Grade Four</b>	<b>Grade Five</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.41</b> Students recognize the interconnectedness of humans with all creation.</p> <p><b>Academic Expectation 7.1</b> Students practice respect and care for all creation, seeing it as a gift of God's love.</p>	<ul style="list-style-type: none"> <li>• Physical features of the earth (e.g., landforms, bodies of water)</li> <li>• Importance of geography and climate to the development of communities</li> <li>• Urban, suburban, and rural communities</li> <li>• Local and global communities - similarities and differences</li> <li>• Natural resources</li> <li>• Importance of geography and climate on lifestyles</li> <li>• Maps and globes for physical features and political divisions</li> </ul>	<ul style="list-style-type: none"> <li>• Impact of geographic setting/environment on people in Kentucky and regions of the U.S.</li> <li>• Environmental issues</li> <li>• Human impact upon environmental issues</li> <li>• Preservation and conservation</li> <li>• Relationship between geography and history</li> <li>• Globes, maps, flow charts, and graphic organizers</li> <li>• Latitude, longitude, and scale</li> <li>• U.S. regions: physical features, population, and geographic spatial patterns</li> <li>• Natural resources and features of the U.S.</li> <li>• Climate, seasons, and time zones</li> <li>• Development of cities and states</li> <li>• States and capitals of the U.S.</li> </ul>	<ul style="list-style-type: none"> <li>• Physical features, landforms, and bodies of water</li> <li>• Development of cities and states</li> <li>• Location of cities and relationship to growth</li> <li>• Factors that affect location of settlements</li> <li>• Environmental issues that influence people, products, and trade</li> <li>• Natural resources</li> <li>• Climate and time zones</li> <li>• Latitude, longitude, and scale</li> <li>• Maps, charts, and globes</li> <li>• Graphic organizers and graphs</li> <li>• Development of cities and states</li> <li>• States and capitals of the U.S.</li> </ul>
	<b>Performance Standards</b>		
<p><b>National Standards:</b> 1, 2, 3, 5, 9, 10</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• create maps to show locations</li> <li>• compare and contrast the physical and human characteristics of different communities</li> <li>• analyze ways people depend on, adapt to, or modify the environment based on their needs</li> <li>• identify factors that influence human movement, settlement, and the development of communities</li> <li>• analyze current events (e.g., reflection of the past/impact on the future)</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• use a variety of maps and globes to find and explain human and physical geographic features in Kentucky and regions of the U.S.</li> <li>• describe ways humans have interacted with the physical and natural environment to meet their needs in Kentucky and regions in the U.S.</li> <li>• explain ways the physical environment limited and promoted human settlement and activities in Kentucky and regions of the U.S.</li> <li>• locate places of national and regional importance in the U.S.</li> <li>• use the five themes of geography (place, movement, location, regions, human/environment interaction) to examine, describe, and discuss Kentucky and regions of the U.S.</li> <li>• demonstrate use of maps, globes, flow charts, and graphic organizers</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• use a variety of tools to obtain and present geographic information about the U.S. and close neighbors</li> <li>• locate unique places in the U.S.</li> <li>• explain human settlement patterns in the U.S. and how they are related to the physical environment</li> <li>• describe ways people use technology to modify their environment</li> </ul>

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<b>Content Guidelines: Historical Perspective</b>			
<b>Academic Expectations</b>	<b>Grade Three</b>	<b>Grade Four</b>	<b>Grade Five</b>
<p><b>Academic Expectation 2.20</b> Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.</p> <p><b>Academic Expectation 2.41</b> Students recognize the interconnectedness of humans with all creation.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, the Church, and with all creation.</p> <p><b>Academic Expectation 7.10</b> Students apply Catholic social justice principles in social and personal situations.</p> <p><b>National Standards:</b> 1, 2, 3, 4, 5, 8, 10</p>	<ul style="list-style-type: none"> <li>• Origins of communities</li> <li>• Patterns of growth and change within communities over time</li> <li>• Contributions of historical people to a community</li> <li>• Linear presentations of history</li> <li>• Historical documents</li> <li>• History of a community, including the local community</li> <li>• Events in history and their impact on the present</li> <li>• Development of cultural diversity within a community</li> </ul>	<ul style="list-style-type: none"> <li>• Lives of early settlers in Kentucky and regions of the U.S.</li> <li>• Purposes of national and state historical documents</li> <li>• Kentucky state symbols</li> <li>• Links between past and present through the use of timelines</li> <li>• Different historical perspectives</li> <li>• Significant historical figures of Kentucky and regions of the U.S.</li> <li>• History of Kentucky and the U.S. through use of primary sources (e.g., artifacts, letters, diaries)</li> </ul>	<ul style="list-style-type: none"> <li>• U.S. exploration</li> <li>• Colonization, settlement, and expansion</li> <li>• Importance of historical leaders</li> <li>• Linking past and present events throughout history</li> <li>• Importance of historical documents and artifacts (e.g., primary sources/secondary sources)</li> <li>• Continuity throughout history</li> <li>• Influences of technology, religion, and inventions upon society</li> </ul>
	<b>Performance Standards</b>		
	<p>Students will:</p> <ul style="list-style-type: none"> <li>• describe change over time, including contributions of historical people</li> <li>• demonstrate an understanding of the cause and effect of historical events in the community, state, and nation</li> <li>• create simple historical timelines</li> <li>• use historical documents and artifacts to examine the past</li> <li>• examine the impact of diverse cultures on the local community</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• research significant figures in Kentucky and U.S. history</li> <li>• identify different groups throughout the history of Kentucky and their reasons for exploring and/or settling in Kentucky</li> <li>• describe how lifestyles and conditions have changed over time in Kentucky and regions of the U.S.</li> <li>• identify specific symbols, slogans, buildings, and monuments that represent ideas and events in Kentucky and U.S. history</li> <li>• use primary and secondary sources in sequencing events in Kentucky and U.S. history</li> <li>• identify cause and effect relationships and link past to present in Kentucky and U.S. history</li> <li>• demonstrate the use of timelines</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• develop a chronological history of the U.S. and recognize the cause and effect relationships</li> <li>• explain the historical contributions of individual groups, technology, religion, and inventions upon society</li> <li>• analyze the significance of important symbols, monuments, patriotic songs, poems, and written passages in the history of the U.S.</li> <li>• describe similarities and differences of the U.S., Canada, and Mexico</li> <li>• use timelines to arrange historical events in chronological order</li> </ul>
<b>Teacher's Notes</b>			

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<b>Essential Understandings</b>	<b>Guided Questions</b>
<p><b>2.14, 2.17, 2.20, and 7.6</b></p> <ul style="list-style-type: none"> <li>Individuals and societies can learn from the past.</li> </ul>	<ul style="list-style-type: none"> <li>How does knowledge of the past influence the present and future?</li> <li>Why do interpretations of events, people and places, or situations vary?</li> <li>How do interpretations of events, people and places, or situations affect our understanding of the past and present?</li> <li>How have individuals, events, and decisions influenced society throughout history?</li> <li>How do the arts express time, place, and way of life?</li> <li>How did religion influence the past?</li> </ul>
<p><b>2.14, 2.20, and 2.67</b></p> <ul style="list-style-type: none"> <li>Systems help societies and communities function and survive.</li> </ul>	<ul style="list-style-type: none"> <li>How do various social, political, religious, and economic systems help societies and communities function and survive?</li> <li>How do institutions such as schools, churches, government agencies, small businesses, and banks support individuals and families?</li> <li>How do technological developments impact natural and social systems?</li> </ul>
<p><b>2.14, 2.15, 2.17, 2.20, 2.67, and 7.10</b></p> <ul style="list-style-type: none"> <li>Some governments create rules and laws to promote justice, provide order, and protect individual and group rights.</li> </ul>	<ul style="list-style-type: none"> <li>How is democracy different from other kinds of government?</li> <li>What traits are essential to citizenship in a democracy?</li> <li>How are rights related to responsibilities?</li> <li>What are the responsibilities of Catholics in society?</li> <li>How are rights and responsibilities of U.S. citizens defined in the Declaration of Independence and the Constitution?</li> <li>How do individuals practice democratic citizenship in the classroom, community, state, and nation?</li> <li>What are possible threats to a democracy?</li> <li>How are rules and laws made and enforced in the local community?</li> </ul>
<p><b>2.15, 2.16, 2.18, 2.20, and 2.66</b></p> <ul style="list-style-type: none"> <li>Ability to provide for the wants and needs of a society depends upon availability, management, and distribution of resources.</li> </ul>	<ul style="list-style-type: none"> <li>How do availability of resources and issues of supply and demand affect relationships and decisions?</li> <li>How are wants and needs of individuals and groups met through local, national, and global sources?</li> <li>How do government policies on trade, taxes, and wages influence the local, state, and national economies?</li> <li>How do transportation systems move people, products, and ideas?</li> <li>How do communication systems impact people, products, and ideas?</li> <li>In what ways are Catholics engaged in service to communities?</li> </ul>
<p><b>2.16, 2.17, 2.18, and 2.41</b></p> <ul style="list-style-type: none"> <li>Interdependence characterizes a community.</li> </ul>	<ul style="list-style-type: none"> <li>How do individual behaviors, learning styles, and self-concept influence relationships?</li> <li>How does membership in families, churches, and different groups affect individual development, behavior, and identity?</li> <li>Why would families, states, and nations want to develop interdependent relationships?</li> </ul>
<p><b>2.18, 2.19, 2.20, and 7.1</b></p> <ul style="list-style-type: none"> <li>People and environments form interdependent relationships.</li> </ul>	<ul style="list-style-type: none"> <li>How are people and environments interdependent?</li> <li>How do beliefs and experiences shape people's relationships to their environments?</li> <li>How does the environment affect economic decisions?</li> </ul>

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<b>Essential Understandings</b>	<b>Guided Questions</b>
<p><b>2.16, 2.17, 2.20, and 4.5</b></p> <ul style="list-style-type: none"> <li>Groups, societies and cultures address human wants and needs in similar and different ways.</li> </ul>	<ul style="list-style-type: none"> <li>How do people in diverse cultures and environments meet their wants and needs?</li> <li>How do various cultures express their beliefs and practices?</li> <li>How have various cultural groups contributed to society?</li> <li>How can differing beliefs and practices impact relationships?</li> </ul>
<p><b>2.16, 2.17, 2.18, 2.19, 2.20, and 7.1</b></p> <ul style="list-style-type: none"> <li>Diverse environments and societies provide varying opportunities and limits for human activity.</li> </ul>	<ul style="list-style-type: none"> <li>What are the similarities and differences within and across regions?</li> <li>How are resources within a region used and maintained?</li> <li>Why do individuals/groups have differing views and beliefs on environmental issues?</li> </ul>
<p><b>2.16, 2.17, 2.19, 2.20, 7.1, and 7.10</b></p> <ul style="list-style-type: none"> <li>Natural, economic, technological, and social factors change society and the environment.</li> </ul>	<ul style="list-style-type: none"> <li>How and why do historical patterns repeat or change over time?</li> <li>How are changes in society and the environment related?</li> <li>How do individuals, families, groups, or societies initiate, respond to, resist, or cope with change?</li> </ul>
<p><b>2.19 and 2.41</b></p> <ul style="list-style-type: none"> <li>Natural and human-made physical features define geography.</li> </ul>	<ul style="list-style-type: none"> <li>How do physical characteristics define regions and their boundaries?</li> <li>How are geographic tools used to understand regions of the world?</li> <li>What are major natural and human-made physical features in our state, in the U.S. and in the world?</li> <li>How does the physical environment impact where and how people live and work?</li> <li>How are regions of the U.S. and world interrelated?</li> </ul>

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<b>Essential Processes and Skills</b>			
<b>Thinking and Learning</b>	<b>Communicating</b>	<b>Collaborating</b>	<b>Applying and Producing</b>
<p><b>Investigate historical and current issues</b></p> <ul style="list-style-type: none"> <li>• Identify what is known and unknown about an issue/topic</li> <li>• Identify problems, patterns, and changes</li> <li>• Formulate and ask questions that lead to new learning</li> <li>• Identify relevant or irrelevant information</li> <li>• Trace origin, development, and impact of ideas and inventions</li> </ul> <p><b>Collect and organize information</b></p> <ul style="list-style-type: none"> <li>• Access information using printed materials, maps, models, visuals, technology, and primary and secondary sources</li> <li>• Conduct interviews</li> <li>• Make observations</li> <li>• Record information and data in appropriate formats</li> </ul> <p><b>Process and apply information</b></p> <ul style="list-style-type: none"> <li>• Compare and contrast, sort and classify</li> <li>• Interpret and create tables, graphs, timelines</li> <li>• Use maps and graphic organizers</li> <li>• Differentiate between facts and interpretations</li> <li>• Recognize bias and stereotypes</li> <li>• Examine issues from multiple perspectives</li> <li>• Form generalizations and predict consequences</li> <li>• Use strategies to solve problems and make decisions</li> </ul>	<p><b>Use reading, writing, and oral language to learn and communicate about history, geography, culture, civics, and economics</b></p> <ul style="list-style-type: none"> <li>• Use strategies for comprehending nonfiction</li> <li>• Develop and use related vocabulary</li> <li>• Summarize from conversation and print</li> <li>• Articulate personal beliefs, feelings, and convictions related to social and environmental issues</li> <li>• Describe and illustrate stages of historical, cultural, or environmental change</li> <li>• Present information to a variety of audiences</li> <li>• Listen objectively to the views of others</li> <li>• Support and justify various points of view</li> <li>• Support oral/written presentations with visuals</li> <li>• Use strategy/technology appropriate to audience</li> </ul>	<p><b>Work in teams in a variety of roles</b></p> <ul style="list-style-type: none"> <li>• Develop and use skills to lead, follow and perform various tasks in teams</li> <li>• Contribute ideas in groups</li> <li>• Set and work toward group goals</li> </ul> <p><b>Interact effectively with others</b></p> <ul style="list-style-type: none"> <li>• Demonstrate responsibility when working in a group</li> <li>• Give and respond to feedback in a constructive manner</li> <li>• Cooperate with people from different backgrounds, genders, and abilities</li> <li>• Use strategies to resolve conflict</li> <li>• Practice the democratic process to make decisions, plan events, and resolve issues</li> </ul>	<p><b>Create quality products to communicate</b></p> <ul style="list-style-type: none"> <li>• Determine standards for quality work</li> <li>• Use a variety of tools and technology to produce quality products</li> <li>• Handle/care for tools properly</li> </ul> <p><b>Develop and apply skills</b></p> <ul style="list-style-type: none"> <li>• Define occupations related to topics of study</li> <li>• Make connections between school work and the work of people in the community</li> </ul> <p><b>Apply citizenship skills</b></p> <ul style="list-style-type: none"> <li>• Participate in making rules and guidelines for group experiences</li> </ul>

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<b>Suggested Topics of Study - Intermediate</b>			
<ul style="list-style-type: none"> <li>• Local Community – Past and Present</li> <li>• Global Communities</li> <li>• Natural Resources/Conservation</li> <li>• Democratic Institutions – Principles and Processes</li> <li>• Leadership – Historical and Current</li> <li>• Citizenship</li> <li>• Traditions and Celebrations</li> </ul>	<ul style="list-style-type: none"> <li>• States and Regions - including Kentucky               <ul style="list-style-type: none"> <li>• Physical Environment</li> <li>• Statehood</li> <li>• Resources and Economy</li> <li>• Government</li> <li>• People, Places, and Events</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Development of the Western Hemisphere</li> <li>• The First Inhabitants</li> <li>• Revolution and Independence</li> <li>• Expansion and Division</li> <li>• Internal and External Conflicts</li> <li>• The U.S. - Emerging World Power</li> <li>• Historical Changes in Science and Technology</li> </ul>	
<b>Suggested Technology/Library Media</b>			
<ul style="list-style-type: none"> <li>• Variety of research tools ( e.g., dictionary, encyclopedia, Internet, geographical dictionary, atlas, almanac)</li> <li>• Software, videos, and video clips</li> <li>• Multimedia presentations</li> <li>• Email pen pal program</li> <li>• Global positioning systems</li> <li>• Interactive white board</li> <li>• Classroom response system</li> <li>• Web-quests</li> <li>• Appropriate web sites</li> </ul>			
<b>Examples of Assessments</b>			
Pre- and post-assessments Oral presentations K-W-L charts Expository essays Persuasive essays Informative essays Descriptive essays	Summaries Multiple choice assessments Open response questions Brochures Diagrams PowerPoint presentations Graphic organizers	Speeches Debates Interviews Cultural presentations Collages, posters Readers' Theater Video productions	Dramatizations Mobiles Group projects Art, dance, and music Student-created museums Cultural presentations Dioramas and models

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<b>Content Guidelines: Democratic Principles and Political Systems</b>			
<b>Academic Expectations</b>	<b>Grade Six</b>	<b>Grade Seven</b>	<b>Grade Eight</b>
<p><b>Academic Expectation 2.14</b> Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.</p> <p><b>Academic Expectation 2.15</b> Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.</p> <p><b>Academic Expectation 2.58</b> Students demonstrate an understanding of the relationship between faith and culture as it is found in the arts, sciences, and technology.</p>	<ul style="list-style-type: none"> <li>• Forms of government within the world community</li> <li>• Role of government within the world community</li> <li>• Rights and responsibilities of citizens within the world community</li> <li>• Personal and legal ramifications of plagiarism, propagating viruses, hacking, sending or posting offensive materials, and vandalism</li> </ul>	<ul style="list-style-type: none"> <li>• Principles of government</li> <li>• Development of democratic ideals</li> <li>• Individual rights and responsibilities</li> <li>• Role of authority and power within government</li> <li>• Personal and legal ramifications of plagiarism, propagating viruses, hacking, sending or posting offensive materials, and vandalism</li> </ul>	<ul style="list-style-type: none"> <li>• Foundations of U.S. government</li> <li>• Purpose and structure of government in a constitutional democracy</li> <li>• Constitution as a living document</li> <li>• Role of citizens in a democratic society</li> <li>• Principles of federalism and shared power</li> <li>• U.S. role in a global society</li> <li>• Personal and legal ramifications of plagiarism, propagating viruses, hacking, sending or posting offensive materials, and vandalism</li> <li>• Current events (e.g., reflection of the past/impact on the future)</li> </ul>
<b>Performance Standards</b>			
<p><b>Academic Expectation 7.10</b> Students apply Catholic social justice principles in social and personal situations.</p> <p><b>National Standards:</b> 5, 6, 8, 9, 10</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explain the relationship between governments and the rights of individuals</li> <li>• demonstrate an understanding of the principals of the major forms of governments</li> <li>• compare the roles of specific governments</li> <li>• recognize and evaluate personal and legal ramifications of plagiarism, propagating viruses, hacking, sending or posting offensive material, and vandalism</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• analyze the essential roles of government in early civilizations</li> <li>• examine individual rights and responsibilities within society</li> <li>• relate the foundations of democracy from Greece and Rome to the democratic ideals in the world today</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• recognize the original intent of the framers of the Constitution and the Bill of Rights</li> <li>• demonstrate an understanding of how the U.S. Constitution has evolved over time to adjust to changes in society</li> <li>• identify the rights and responsibilities of individuals in American society by analyzing democratic principles</li> <li>• assess amendments to the Constitution</li> <li>• explain the relationship of past events with current and future events</li> </ul>
<b>Teacher's Notes</b>			

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<b>Content Guidelines: Social Systems and Cultural Diversity</b>			
<b>Academic Expectations</b>	<b>Grade Six</b>	<b>Grade Seven</b>	<b>Grade Eight</b>
<p><b>Academic Expectation 2.16</b> Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationship among individuals and among groups.</p> <p><b>Academic Expectation 2.17</b> Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.</p> <p><b>Academic Expectation 2.67</b> Students critique societal structures in the light of Catholic social justice principles.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p> <p><b>National Standards:</b> 1, 2, 3, 4, 5, 8, 9, 10</p>	<ul style="list-style-type: none"> <li>• Development of cultures</li> <li>• Cultural adaptation to the environment</li> <li>• U.S. role in a global society</li> <li>• Cultural diversity within and among groups in various regions of the world</li> <li>• Conflict within and among groups in various regions of the world</li> </ul>	<ul style="list-style-type: none"> <li>• Culture and contributions of past civilizations</li> <li>• Conflicts in society</li> <li>• Cultural diversity and perspectives</li> <li>• Current events (e.g., reflection of the past/impact on the future)</li> </ul>	<ul style="list-style-type: none"> <li>• Cultural diversity influences American arts</li> <li>• Racial, ethnic, and religious groups in America</li> <li>• Consequences of conflict, compromise, and cooperation</li> <li>• Emergence and development of American culture and subcultures</li> <li>• Interdependence of cultural groups in our nation and throughout the world</li> </ul>
	<b>Performance Standards</b>		
	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate an understanding of cultural development over time</li> <li>• identify cultural adaptations to an environment</li> <li>• analyze social interactions</li> <li>• compare conflicts and cooperation among individuals and groups in the global community</li> <li>• examine the role of the U.S. in a global society</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• investigate cultural contributions and the effect of technology on past civilizations</li> <li>• examine the impact of conflict on groups</li> <li>• analyze the effect that cultural diversity has on a society</li> <li>• evaluate the relationship of past events with current and future events</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explain how culture in the U.S. has been influenced by language, literature, arts, beliefs, and lifestyles</li> <li>• analyze social interactions among diverse groups and individuals in U.S. history</li> <li>• examine other cultures</li> <li>• compare and contrast other cultures with American cultures</li> </ul>
<b>Teacher's Notes</b>			

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<b>Content Guidelines: Economic Systems</b>			
<b>Academic Expectations</b>	<b>Grade Six</b>	<b>Grade Seven</b>	<b>Grade Eight</b>
<p><b>Academic Expectation 2.18</b> Students understand economic principles and are able to make economic decisions that have consequences in daily living.</p> <p><b>Academic Expectation 2.67</b> Student critique societal structures in the light of Catholic social justice principles.</p> <p><b>National Standards:</b> 3, 5, 7, 8, 9</p>	<ul style="list-style-type: none"> <li>• Economic concepts (e.g., opportunity, costs, trade, money, savings and investments, production, distribution, goods and services, specialization)</li> <li>• Natural and economic resources</li> <li>• Factors that influence distribution and use of resources (e.g., values, beliefs, global interdependence, technology, conflicts)</li> </ul>	<ul style="list-style-type: none"> <li>• Economic concepts (e.g., production, distribution)</li> <li>• Factors that influence distribution and use of resources (e.g., values/beliefs, global interdependence, technology, conflicts)</li> <li>• Economic systems of past civilizations</li> <li>• U.S. role in a global society</li> </ul>	<ul style="list-style-type: none"> <li>• Major patterns and trends of the U.S. economic system</li> <li>• Principles of economics (e.g., production, distribution, consumption)</li> <li>• Impact of innovations and technology on the environment</li> <li>• U.S. dependency on the global economy</li> </ul>
<b>Performance Standards</b>			
	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explain economic concepts as they apply to individuals, societies, and governments</li> <li>• identify natural and capital resources</li> <li>• analyze the factors that influence distribution and use of resources</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate an understanding of the concept of wants and needs in early civilizations</li> <li>• explain the relationships between personal and national economic activities</li> <li>• analyze the role of the U.S. in a global society</li> <li>• assess the effects of specialization on economic growth of a society</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• relate the concept of imbalance between unlimited wants and limited resources to the development of the U.S. as applied to individuals, societies, and governments</li> <li>• analyze the effects of economic growth on society/environment</li> <li>• appraise the effects of government policies on the economy</li> <li>• demonstrate the relationship between the U.S. economy and the world economy</li> </ul>
<b>Teacher's Notes</b>			

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<b>Content Guidelines: Geography</b>			
<b>Academic Expectations</b>	<b>Grade Six</b>	<b>Grade Seven</b>	<b>Grade Eight</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.41</b> Students recognize the interconnectedness of humans with all creation.</p> <p><b>Academic Expectation 7.1</b> Students practice respect and care for all creation, seeing it as a gift of God’s love.</p>	<ul style="list-style-type: none"> <li>• Geographic concepts in the five themes of geography: location, place, movement, region, and human/environment interaction</li> <li>• Map skills (e.g., world maps, product maps), flowcharts, graphs, web and graphic organizers</li> <li>• Major physical features of world regions</li> <li>• Geographic features</li> <li>• Human adaptation to and interaction with the physical environment</li> <li>• Current events</li> </ul>	<ul style="list-style-type: none"> <li>• Geographic influence on demographics (e.g., migration, settlement)</li> <li>• Human use of and interaction with the environment</li> <li>• Physical features of world regions</li> <li>• Map skills (e.g., world maps, flowcharts, graphs, graphic organizers)</li> </ul>	<ul style="list-style-type: none"> <li>• Maps, globes, graphs, charts, and electronic data</li> <li>• Migration and cultural diffusion</li> <li>• Influence of geography on U.S. history</li> <li>• Human interaction with the physical environment</li> </ul>
	<b>Performance Standards</b>		
<p><b>National Standards: 1, 2, 3</b></p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate the use of the five themes of geography using map skills, flowcharts, line graphs, and graphic organizers</li> <li>• use map skills, flowcharts, graphs, webs, and graphic organizers to synthesize and present geographic information</li> <li>• identify and compare major physical features of world regions</li> <li>• describe the influence of geographical features on world cultures</li> <li>• demonstrate impact of movement of groups of individuals and cultures</li> <li>• explain and evaluate the human adaptation to and interaction with the physical environment</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explain the importance of the physical environment and the influence of human demographics on the development of world history</li> <li>• demonstrate and interpret data using a variety of geographic tools</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• analyze patterns of human settlement across the U.S. that resulted in diverse cultures</li> <li>• analyze how early U.S. history was influenced by the physical environment</li> <li>• interpret maps, globes, graphs, charts, and electronic data</li> </ul>
	<b>Teacher’s Notes</b>		

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<b>Content Guidelines: Historical Perspective</b>			
<b>Academic Expectations</b>	<b>Grade Six</b>	<b>Grade Seven</b>	<b>Grade Eight</b>
<p><b>Academic Expectation 2.20</b> Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.</p> <p><b>Academic Expectation 2.58</b> Students demonstrate an understanding of the relationship between faith and culture as it is found in the arts, sciences, and technology.</p> <p><b>National Standards:</b> 1, 2, 3, 4, 5, 6, 7, 8, 9, 10</p>	<ul style="list-style-type: none"> <li>• Chronology, causality, change, and conflicts in relation to people, places, and events</li> <li>• Cultural values and belief systems</li> <li>• Historical change throughout regions</li> <li>• Primary sources such as artifacts, manuscripts, documents, and letters as reference tools</li> </ul>	<ul style="list-style-type: none"> <li>• Historical contributions of individuals and groups</li> <li>• Chronology and relationships of key people, places and events</li> <li>• World religions (e.g., Christianity, Islam, Buddhism, Hinduism)</li> </ul>	<ul style="list-style-type: none"> <li>• Role of various groups (e.g., Native American, European explorers and settlers, African slaves, pioneers) on historical development</li> <li>• Impact of conflict and war on American history</li> <li>• Religious, political, and economic influences on historical events</li> </ul>
	<b>Performance Standards</b>		
	<p>Students will:</p> <ul style="list-style-type: none"> <li>• graph key conflicts and events</li> <li>• use timelines to arrange historical events in chronological order</li> <li>• analyze the impact of cultural values and beliefs on historical systems</li> <li>• examine the transmission of culture and the link between past and present using primary sources such as artifacts, manuscripts, documents, and letters</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate a chronological understanding of early world history</li> <li>• use timelines to arrange historical events in chronological order</li> <li>• examine relationships between people, places, events, and religions in world history</li> <li>• incorporate the terms BC, AD, BCE and CE as related to chronology</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• analyze the cause and effect of conflict and war in U.S. history</li> <li>• use timelines to arrange historical events in chronological order</li> <li>• evaluate the significant individuals and groups in early U.S. history</li> <li>• explain the impact of religious, political, economic, and technological influences on U.S. history</li> <li>• use primary sources to link past and present</li> </ul>
<b>Teacher's Notes</b>			

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<b>Essential Understandings</b>	<b>Guided Questions</b>
<p><b>2.14, 2.19, 2.20, 2.41, and 2.58</b></p> <ul style="list-style-type: none"> <li>Societal and environmental forces cause change.</li> </ul>	<ul style="list-style-type: none"> <li>How have economic, historical, environmental, social, and technological forces resulted in change?</li> <li>What factors influence rate of change in society or the environment?</li> <li>How do beliefs and actions influence ways people interact with the environment?</li> <li>How do changes in the environment affect people's lives?</li> </ul>
<p><b>2.14, 2.16, 2.17, 2.20, 2.41, 2.58, 4.5, and 7.10</b></p> <ul style="list-style-type: none"> <li>Different cultural and societal groups impact a society.</li> </ul>	<ul style="list-style-type: none"> <li>How are various political, ethnic, racial, and social groups similar and different?</li> <li>How do bias, equity, and justice grow out of cultural differences?</li> <li>What issues arise as a result of interactions among different groups within a society?</li> <li>How do language and culture impact global views?</li> </ul>
<p><b>2.14, 2.18, 2.19, 2.20, 2.41, and 2.58</b></p> <ul style="list-style-type: none"> <li>Ability to provide for the wants and needs of a society depends upon availability, management, and distribution of resources.</li> </ul>	<ul style="list-style-type: none"> <li>How do basic economic principles such as scarcity and supply and demand operate within a society?</li> <li>Why does conflict result from a scarcity of resources for meeting wants and needs?</li> <li>How does economic specialization throughout the world promote increased trade and interdependence among societies?</li> <li>How do technology, transportation, and communication support and impact social, political, environmental, and economic systems?</li> </ul>
<p><b>2.14, 2.16, 2.17, 2.18, 2.19, 2.20, 2.41, and 2.58</b></p> <ul style="list-style-type: none"> <li>Systems develop in response to individual and group needs.</li> </ul>	<ul style="list-style-type: none"> <li>How do social systems, such as health and education, attempt to meet the needs of individuals and groups?</li> <li>How are social, political, economic, and environmental systems interconnected?</li> <li>What social systems exist that respond to citizen needs?</li> </ul>
<p><b>2.14, 2.15, 2.17, 2.20, 2.41, 2.58, and 2.67</b></p> <ul style="list-style-type: none"> <li>Civic ideals and fundamental principles of government shape national identities.</li> </ul>	<ul style="list-style-type: none"> <li>How did political documents impact the formation of our nation?</li> <li>How do the principles of the Constitution shape our identity as a nation?</li> <li>How are our daily lives affected by the principles of the Constitution?</li> <li>How does the U.S. political system manifest the principles of the Constitution?</li> <li>How do citizens influence decisions in the American democratic system?</li> <li>How does the U.S. democratic system compare to other systems of government?</li> <li>How has inclusive citizenship evolved?</li> <li>How does the U.S. government protect the democratic system?</li> </ul>

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<b>Essential Understandings</b>	<b>Guided Questions</b>
<p><b>2.14, 2.15, 2.16, 2.17, 2.18, 2.41, 2.58, 2.67, and 7.10</b></p> <ul style="list-style-type: none"> <li>The relationship between rights and responsibilities defines a society.</li> </ul>	<ul style="list-style-type: none"> <li>How do individual rights relate to responsibilities and community rights in a society?</li> <li>How do national interests affect international relations?</li> <li>What is the role of national/international organizations in world relations?</li> <li>What are personal responsibilities of all U.S. citizens?</li> </ul>
<p><b>2.14, 2.16, 2.17, 2.41, 2.58, and 2.67</b></p> <ul style="list-style-type: none"> <li>Individual actions reflect differing perspectives.</li> </ul>	<ul style="list-style-type: none"> <li>How do personal beliefs, feelings and convictions influence behaviors?</li> <li>What is the importance of understanding differing perspectives?</li> <li>How do traditions, rituals and rules reflect personal beliefs?</li> <li>How do culturally defined roles influence individual identity?</li> </ul>
<p><b>2.14, 2.15, 2.16, 2.17, 2.18, 2.19, 2.20, 2.41, 2.58, 2.67, and 7.1</b></p> <ul style="list-style-type: none"> <li>Maintaining a healthy environment requires responsible action by individuals and groups.</li> </ul>	<ul style="list-style-type: none"> <li>How do individuals and societies weigh environmental impact when making decisions about discoveries and innovations?</li> <li>How can individuals assume responsibility for environmental issues?</li> <li>How do government policies affect individuals, groups, and environments?</li> </ul>

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<b>Essential Processes and Skills</b>			
<b>Thinking and Learning</b>	<b>Communicating</b>	<b>Collaborating</b>	<b>Applying and Producing</b>
<p><b>Investigate historical and current issues</b></p> <ul style="list-style-type: none"> <li>• Identify problems, patterns, trends, and changes</li> <li>• Formulate questions to conduct inquiry</li> <li>• Identify relevant and irrelevant information</li> <li>• Assess the impact of ideas and technological developments on society and the environment</li> </ul> <p><b>Collect and organize information</b></p> <ul style="list-style-type: none"> <li>• Access information using printed materials, maps, models, visuals, technology and primary and secondary sources</li> <li>• Conduct interviews</li> <li>• Evaluate sources for reliability</li> <li>• Make observations</li> <li>• Record information and data in appropriate forms</li> </ul> <p><b>Process and apply information</b></p> <ul style="list-style-type: none"> <li>• Interpret and create tables, graphs, timelines, maps, and graphic organizers</li> <li>• Differentiate between facts and interpretations</li> <li>• Recognize bias and stereotypes</li> <li>• Examine issues from multiple perspectives</li> <li>• Analyze errors in thinking</li> <li>• Form generalizations</li> <li>• Propose solutions and predict consequences</li> <li>• Use strategies to implement decisions</li> <li>• Evaluate and refine the investigative process</li> </ul>	<p><b>Use reading, writing, and oral language to learn and communicate about history, geography, culture, civics, and economics</b></p> <ul style="list-style-type: none"> <li>• Develop and use related vocabulary</li> <li>• Paraphrase from conversations and print</li> <li>• Articulate personal beliefs, feelings, and convictions related to social and environmental issues</li> <li>• Describe and illustrate stages of historical, cultural, or environmental change</li> <li>• Present to a variety of audiences</li> <li>• Support/justify ideas</li> <li>• Communicate various points of view</li> <li>• Listen objectively to other viewpoints</li> <li>• Enhance oral and written presentations with visuals</li> <li>• Read for key information</li> <li>• Develop note-taking skills</li> <li>• Draw from prior knowledge</li> <li>• Question and summarize while reading</li> </ul>	<p><b>Work in teams in a variety of roles</b></p> <ul style="list-style-type: none"> <li>• Lead, follow and perform various tasks in teams</li> <li>• Set and work toward group goals</li> <li>• Evaluate and refine collaborative processes</li> </ul> <p><b>Interact effectively with others</b></p> <ul style="list-style-type: none"> <li>• Demonstrate responsibility when working in a group</li> <li>• Give and respond to feedback constructively</li> <li>• Cooperate with people from different backgrounds, genders, and abilities</li> <li>• Use strategies to manage conflict and stress</li> <li>• Practice the democratic process to make decisions, plan events, and resolve issues</li> </ul>	<p><b>Create quality products to communicate</b></p> <ul style="list-style-type: none"> <li>• Use standards to develop and evaluate quality work</li> <li>• Locate and use a variety of resources, tools and technologies for designing/developing products</li> <li>• Set goals and develop a work plan</li> </ul> <p><b>Develop and apply skills</b></p> <ul style="list-style-type: none"> <li>• Investigate careers related to topics of study and interest</li> <li>• Apply skills and academic knowledge in home, school, and community settings</li> </ul> <p><b>Apply citizenship skills</b></p> <ul style="list-style-type: none"> <li>• Develop awareness of issues that affect society</li> </ul>

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**Suggested Topics of Study – Middle School**

<ul style="list-style-type: none"> <li>• World Regions in Context of Five Themes of Geography</li> <li>• Resources of the Earth</li> <li>• Populations of the Earth</li> <li>• Cultures</li> <li>• U.S. and Canada</li> <li>• World Trade</li> </ul>	<ul style="list-style-type: none"> <li>• Prehistoric People</li> <li>• River Valley Civilizations</li> <li>• The Rise of Empires</li> <li>• The Middle Ages</li> <li>• Emergence and Development of Modern Nations</li> </ul>	<ul style="list-style-type: none"> <li>• The Americas: Geography, Native Americans, and Exploration</li> <li>• Colonial Settlement</li> <li>• Conflict and Revolution</li> <li>• The New Republic: Formation of the Constitution and the Bill of Rights</li> <li>• The Nation Expands</li> <li>• Civil War and Reconstruction</li> </ul>
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**Suggested Technology/Library Media**

<ul style="list-style-type: none"> <li>• Research tools (e.g., Internet, database, encyclopedias, dictionaries, special dictionaries {geographical, biographical}, almanacs)</li> <li>• Timeline software</li> <li>• Multimedia presentations (e.g., video, audio, presentation software, spreadsheets)</li> <li>• Global positioning systems</li> <li>• Interactive white board</li> <li>• Software, videos, and video clips</li> <li>• Web-quest</li> <li>• Personal response system</li> <li>• Virtual field trips</li> </ul>
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**Examples of Assessments**

<ul style="list-style-type: none"> <li>Pre-assessment of prior knowledge</li> <li>Objective tests</li> <li>Open-response questions</li> <li>Compare and contrast essays</li> <li>Short essays</li> <li>Exit tickets</li> <li>Construction of charts, graphic organizers, graphs, and maps</li> <li>Summaries</li> </ul>	<ul style="list-style-type: none"> <li>Role playing</li> <li>Oral presentations</li> <li>Cooperative group presentations</li> <li>Interviews</li> <li>Teacher observations</li> <li>Creative writing assignments (e.g., newspapers, articles)</li> <li>Portfolio entries</li> <li>PowerPoint presentations</li> </ul>
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# **Foreign Language Curriculum Framework**

# FOREIGN LANGUAGE PHILOSOPHY/RATIONALE AND THE CURRICULUM GUIDE

## Philosophy/Rationale

In Archdiocese of Louisville schools, we believe that each person is created in God's image as unique and loveable. By learning a foreign language and about various cultures, we honor the diversity that God has created. Through communication with people from different cultures, students gain self-awareness, self-expression, and well being. The Foreign Language Curriculum Framework fosters a cross-curricular approach that allows all students to reach their fullest potential in all areas of human development – spiritual, intellectual, physical, social, and emotional. Foreign language learning presents opportunities for students to develop higher levels of thought through unique creative experiences that help build self-esteem and foster the recognition and the appreciation of differences among individuals and cultures. Foreign language learning encourages collaboration, communication, inquiry, discovery, and wonder. By learning a new language, students are heading toward a future that will allow them to become more connected to the global society.

## Curriculum Guide

In 2005, the *Archdiocese of Louisville Foreign Language Curriculum Guide* was developed and introduced. It was revised in 2011. The guide is based upon the latest research and best practices, was written by experienced and successful foreign language teachers within the archdiocese, and is aligned with National Standards for Foreign Language Education from the American Council on the Teaching of Foreign Languages (ACTFL).

The guide contains the Archdiocese of Louisville Foreign Language Curriculum Framework. The guide also includes assessment information, a variety of contacts and resources, and a glossary to support teachers at all levels of expertise with the implementation of the local foreign language curriculum.

Copies of the Archdiocese of Louisville Foreign Language Curriculum Framework and Curriculum Guide can be found on the Archdiocese of Louisville website, [www.archlou.org](http://www.archlou.org).

# **Foreign Language Curriculum Framework**

## **Archdiocese of Louisville**

The Archdiocese of Louisville Foreign Language Curriculum Framework is standards and performance based. The curriculum is aligned with the *National Standards for Foreign Language Education*.

### **National Standards for Foreign Language Education**

In 1993, an eleven-member task force, representing a variety of languages, levels of instruction, program models, and geographic regions, was appointed to define content standards in foreign language education. The final document, *Standards for Foreign Language Learning: Preparing for the 21<sup>st</sup> Century*, was first published in 1996. The new 3<sup>rd</sup> Edition *Standards for Foreign Language Learning* is now available.

National standards for foreign language learning guide educators in understanding what should be taught to American students learning foreign languages. The national standards outline the general knowledge and skills students should achieve in foreign language education. The national standards are not a curriculum guide. They do not describe specific course content.

The task force identified five goal areas that encompass all reasons for foreign language education. Referred to as the five C's of foreign language education, they are Communication (Communicate in Languages Other than English), Cultures (Gain Knowledge and Understanding of Other Cultures), Connections (Connect with Other Disciplines and Acquire Information), Comparisons (Develop Insight into the Nature of Language and Culture), and Communities (Participate in Multilingual Communities at Home and Around the World).

*Adapted with permission from the American Council on the Teaching of Foreign Languages (ACTFL), Alexandria, VA.  
Reprinted from: Standards for Foreign Language Learning.*

## National Standards for Foreign Language Learning

### **Communication – Communicate in Languages Other than English**

*Standard 1.1: Students engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions.*

*Standard 1.2: Students understand and interpret written and spoken language on a variety of topics.*

*Standard 1.3: Students present information, concepts, and ideas to an audience of listeners or readers on a variety of topics.*

### **Cultures – Gain Knowledge and Understanding of Other Cultures**

*Standard 2.1: Students demonstrate an understanding of the relationship between the practices and perspectives of the culture studied.*

*Standard 2.2: Students demonstrate an understanding of the relationship between the products and perspectives of the culture studied.*

### **Connections – Connect with Other Disciplines and Acquire Information**

*Standard 3.1: Students reinforce and further their knowledge of other disciplines through the foreign language.*

*Standard 3.2: Students acquire information and recognize the distinctive viewpoints that are only available through the foreign language and its cultures.*

### **Comparisons – Develop Insight into the Nature of Language and Culture**

*Standard 4.1: Students demonstrate understanding of the nature of language through comparisons of the language studied and their own.*

*Standard 4.2: Students demonstrate understanding of the concept of culture through comparisons of the cultures studied and their own.*

### **Communities – Participate in Multilingual Communities at Home and Around the World**

*Standard 5.1: Students use the language both within and beyond the school setting.*

*Standard 5.2: Students show evidence of becoming life-long learners by using the language for personal enjoyment and enrichment.*

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<b>Communication Kindergarten</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language is relevant and useful in a global society.</li> <li>• Learning a foreign language is a gratifying experience.</li> <li>• Learning a foreign language enables students to communicate with people of other cultures.</li> </ul>	<ul style="list-style-type: none"> <li>• Why is it important to learn a foreign language?</li> <li>• What benefits are gained from learning a foreign language?</li> <li>• How can foreign language skills be used in daily life?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 1.4</b> Students make sense of the various messages to which they listen.</p> <p><b>Academic Expectation 1.12</b> Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 2.28</b> Students understand and communicate in a second language.</p> <p><b>Academic Expectation 3.4</b> Students demonstrate the ability to be resourceful and creative.</p>	<ul style="list-style-type: none"> <li>• Greetings and introductions</li> <li>• Manners</li> <li>• Colors</li> <li>• Numbers 1-10</li> <li>• Days of the week</li> <li>• Months</li> <li>• Opposites</li> <li>• Body parts</li> <li>• Animals (cognates)</li> <li>• Family members</li> <li>• Food items</li> <li>• Likes and dislikes</li> <li>• Sound/letter association</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• respond logically to oral directions and questions</li> <li>• identify colors and match color names</li> <li>• state numbers in sequence</li> <li>• state days of the week and months of the year</li> <li>• identify the opposite of given words</li> <li>• identify basic body parts</li> <li>• identify animals and match cognates</li> <li>• distinguish members of immediate family</li> <li>• recognize basic food items</li> <li>• express likes and dislikes utilizing vocabulary</li> <li>• apply pre-reading skills</li> <li>• match written letter to corresponding sound</li> </ul>

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<b>Cultures Kindergarten</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning about other cultures promotes understanding and acceptance of others.</li> <li>• Culture impacts the way people interact with others.</li> <li>• Exposure to other cultures helps students to understand that all people are connected in some way.</li> </ul>	<ul style="list-style-type: none"> <li>• Why is it important to learn about other cultures?</li> <li>• How does learning about other cultures help individuals become better people?</li> <li>• How are people from various cultures connected?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.65</b> Students demonstrate an understanding of Christ's command to love and serve one another.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p>	<ul style="list-style-type: none"> <li>• Cultural perspectives and practices in target culture</li> <li>• Products in target culture</li> <li>• Influences of the target culture</li> <li>• Visual and performing arts</li> <li>• Myths and folklore</li> <li>• Visual representations</li> <li>• Verbal and non-verbal forms of communication in target culture</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explore and compare basic cultural traditions, holidays, religion, and food with those of their own</li> <li>• discover differences between products (e.g., currency, artifacts, manufactured goods, traditional dress)</li> <li>• investigate influences (e.g., agriculture, inventions, people)</li> <li>• demonstrate appreciation (e.g., music, instruments, dance, fine art)</li> <li>• explore myths and folklore of the target culture</li> <li>• critique visual representations (e.g., flags, Mayan calendar, maps, architecture)</li> <li>• demonstrate cultural sensitivity by participating in hands-on activities (e.g., arts and crafts, music, movement)</li> </ul>

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<b>Connections</b>		
Kindergarten		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language enhances learning in other content areas.</li> <li>• Learning a foreign language enables students to link knowledge in all content areas.</li> <li>• Language is the way people share knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>• How can learning a foreign language help in other content areas?</li> <li>• How is learning a foreign language the same as learning in other content areas?</li> <li>• How is knowledge shared through language?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.13</b> Students make sense of ideas and communicate ideas with visual arts.</p> <p><b>Academic Expectation 1.14</b> Students make sense of ideas and communicate with music.</p> <p><b>Academic Expectation 2.68</b> Students acknowledge the diverse cultural expressions of Catholicism.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p> <p><b>Academic Expectation 6.2</b> Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.</p> <p><b>Academic Expectation 6.3</b> Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<ul style="list-style-type: none"> <li>• Religion</li> <li>• Language Arts</li> <li>• Math</li> <li>• Science</li> <li>• Social Studies</li> <li>• Visual Arts</li> <li>• Music/Performing Arts</li> <li>• Physical Education</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• relate the basic concepts and skills from other disciplines:               <ul style="list-style-type: none"> <li>• religion (e.g., holidays, rites, prayers, symbols)</li> <li>• language arts (e.g., vocabulary, speech patterns)</li> <li>• math (e.g., numbers, shapes)</li> <li>• science (e.g., body parts, animals, food, agriculture)</li> <li>• social studies (e.g., traditions, holidays, maps, currency)</li> <li>• visual arts (e.g., folk art, crafts, artifacts)</li> <li>• music/performing arts (e.g., songs, instruments, dance)</li> <li>• physical education (e.g., movement, health)</li> </ul> </li> </ul>

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<b>Comparisons</b>		
Kindergarten		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• There are similarities and differences in languages and cultures.</li> <li>• People are unique, yet they share common experiences.</li> <li>• Discovering linguistic similarities simplifies learning a foreign language.</li> </ul>	<ul style="list-style-type: none"> <li>• How are we similar to and different from people throughout the world?</li> <li>• How are our experiences the same as, or different from, those of other cultures?</li> <li>• How is our language similar to other languages?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p>	<ul style="list-style-type: none"> <li>• Linguistic patterns</li> <li>• Non-verbal forms of communication</li> <li>• Cultural aspects and traditions</li> <li>• Geographical features</li> <li>• Traits of peoples</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• compare target language (cognates) with English</li> <li>• demonstrate knowledge of vocabulary through actions</li> <li>• identify universal aspects of cultures</li> <li>• identify aspects that are unique to a culture</li> <li>• investigate geographical features of various countries</li> <li>• recognize similarities and differences in people</li> </ul>

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<b>Communities</b>		
Kindergarten		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language promotes cooperation in a global society.</li> <li>• Knowledge of foreign languages and cultures can be applied in the community.</li> <li>• Foreign language skills provide students with tools that will be used beyond the school setting now and in the future.</li> </ul>	<ul style="list-style-type: none"> <li>• In what ways can an individual show that others are valuable members of the community?</li> <li>• Where are examples of foreign languages and cultures found within the community?</li> <li>• How will learning a foreign language provide benefits in the future?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.33</b> Students demonstrate the skills to evaluate and use services and resources available in their community.</p> <p><b>Academic Expectation 2.37</b> Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p><b>Academic Expectation 4.4</b> Students demonstrate the ability to accept the rights and responsibilities for self and others.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, Church, and with all creation.</p>	<ul style="list-style-type: none"> <li>• Awareness of culture and language in local community</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• interact with heritage speakers using target language</li> <li>• recognize the presence of target culture throughout the community</li> <li>• develop an appreciation for cultural diversity</li> </ul>

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<b>Communication Grade One</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language is relevant and useful in a global society.</li> <li>• Learning a foreign language is a gratifying experience.</li> <li>• Learning a foreign language enables students to communicate with people of other cultures.</li> </ul>	<ul style="list-style-type: none"> <li>• Why is it important to learn a foreign language?</li> <li>• What benefits are gained from learning a foreign language?</li> <li>• How can foreign language skills be used in daily life?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.2</b> Students make sense of the variety of materials they read.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 1.4</b> Students make sense of the various messages to which they listen.</p> <p><b>Academic Expectation 1.12</b> Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and</p>	<ul style="list-style-type: none"> <li>• Greetings, introductions, and polite expressions</li> <li>• Classroom directions and objects</li> <li>• Needs and wants</li> <li>• Colors</li> <li>• Numbers 1-20</li> <li>• Calendar vocabulary</li> <li>• Seasons/weather</li> <li>• Alphabet</li> <li>• Sound/letter association, including vowels</li> <li>• Body parts</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• recall vocabulary and respond logically to oral directions and questions</li> <li>• respond logically to oral directions</li> <li>• identify classroom objects</li> <li>• express needs and wants</li> <li>• read and write color words</li> <li>• count from 1-20</li> <li>• arrange numbers in sequence</li> <li>• identify calendar vocabulary</li> <li>• show understanding of various weather conditions</li> <li>• apply pre-reading skills</li> <li>• read and write simple words</li> <li>• label and identify body parts</li> </ul>

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<p>differences among languages.</p> <p><b>Academic Expectation 2.28</b> Students understand and communicate in a second language.</p> <p><b>Academic Expectation 3.4</b> Students demonstrate the ability to be resourceful and creative.</p>	<ul style="list-style-type: none"> <li>• Items of clothing</li> <li>• Family members</li> <li>• Animals</li> <li>• Likes and dislikes</li> <li>• Food items</li> <li>• Sports</li> <li>• Transportation</li> <li>• Feelings and emotions</li> <li>• Opposites</li> </ul>	<ul style="list-style-type: none"> <li>• name various items of clothing</li> <li>• recognize names for family members</li> <li>• identify animals and match cognates</li> <li>• categorize likes and dislikes through vocabulary terms</li> <li>• identify names of various food items</li> <li>• show understanding of vocabulary</li> <li>• identify and categorize types of transportation</li> <li>• demonstrate understanding of various feelings and emotions</li> <li>• demonstrate understanding of opposites</li> </ul>
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<b>Cultures Grade One</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning about other cultures promotes understanding and acceptance of others.</li> <li>• Culture impacts the way people interact with others.</li> <li>• Exposure to other cultures helps students to understand that all people are connected in some way.</li> </ul>	<ul style="list-style-type: none"> <li>• Why is it important to learn about other cultures?</li> <li>• How does learning about other cultures help individuals become better people?</li> <li>• How are people from various cultures connected?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.65</b> Students demonstrate an understanding of Christ's command to love and serve one another.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p>	<ul style="list-style-type: none"> <li>• Cultural perspectives and practices in target culture</li> <li>• Products in target culture</li> <li>• Influences of the target culture</li> <li>• Visual and performing arts</li> <li>• Myths and folklore</li> <li>• Visual representations</li> <li>• Verbal and non-verbal forms of communication in target culture</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explore and compare basic cultural traditions, holidays, religion, and food with those of their own</li> <li>• discover differences between products (e.g., currency, artifacts, manufactured goods, traditional dress)</li> <li>• investigate influences (e.g., agriculture, inventions, people)</li> <li>• demonstrate appreciation (e.g., music, instruments, dance, fine art)</li> <li>• explore myths and folklore of the target culture</li> <li>• critique visual representations (e.g., flags, Mayan calendar, maps, architecture)</li> <li>• demonstrate cultural sensitivity by participating in hands-on activities (e.g., arts and crafts, music, movement)</li> </ul>

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<b>Connections</b> Grade One		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language enhances learning in other content areas.</li> <li>• Learning a foreign language enables students to link knowledge in all content areas.</li> <li>• Language is the way people share knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>• How can learning a foreign language help in other content areas?</li> <li>• How is learning a foreign language the same as learning in other content areas?</li> <li>• How is knowledge shared through language?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.13</b> Students make sense of ideas and communicate ideas with visual arts.</p> <p><b>Academic Expectation 1.14</b> Students make sense of ideas and communicate with music.</p> <p><b>Academic Expectation 2.68</b> Students acknowledge the diverse cultural expressions of Catholicism.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p> <p><b>Academic Expectation 6.2</b> Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.</p> <p><b>Academic Expectation 6.3</b> Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<ul style="list-style-type: none"> <li>• Religion</li> <li>• Language Arts</li> <li>• Math</li> <li>• Science</li> <li>• Social Studies</li> <li>• Visual Arts</li> <li>• Music/Performing Arts</li> <li>• Physical Education</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• relate the basic concepts and skills from other disciplines:               <ul style="list-style-type: none"> <li>• religion (e.g., holidays, rites, prayers, symbols)</li> <li>• language arts (e.g., sound/letter association, vocabulary, speech patterns)</li> <li>• math (e.g., numbers, shapes)</li> <li>• science (e.g., weather, body parts, animals, food, agriculture)</li> <li>• social studies (e.g., traditions, holidays, maps, currency, transportation)</li> <li>• visual arts (e.g., folk art, crafts, artifacts)</li> <li>• music/performing arts (e.g., songs, instruments, dance)</li> <li>• physical education (e.g., movement, health)</li> </ul> </li> </ul>

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<b>Comparisons</b> Grade One		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• There are similarities and differences in languages and cultures.</li> <li>• People are unique, yet they share common experiences.</li> <li>• Discovering linguistic similarities simplifies learning a foreign language.</li> </ul>	<ul style="list-style-type: none"> <li>• How are we similar to and different from people throughout the world?</li> <li>• How are our experiences the same as, or different from, those of other cultures?</li> <li>• How is our language similar to other languages?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p>	<ul style="list-style-type: none"> <li>• Linguistic patterns</li> <li>• Grammatical and structural patterns</li> <li>• Non-verbal forms of communication</li> <li>• Cultural aspects and traditions</li> <li>• Geographical features</li> <li>• Traits of peoples</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• compare target language (cognates) with English</li> <li>• identify patterns in sentence construction</li> <li>• demonstrate knowledge of vocabulary through actions</li> <li>• identify universal aspects of cultures</li> <li>• identify aspects that are unique to a culture</li> <li>• investigate geographical features of various countries</li> <li>• recognize similarities and differences in people</li> </ul>

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<b>Communities</b> Grade One		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language promotes cooperation in a global society.</li> <li>• Knowledge of foreign languages and cultures can be applied in the community.</li> <li>• Foreign language skills provide students with tools that will be used beyond the school setting now and in the future.</li> </ul>	<ul style="list-style-type: none"> <li>• In what ways can an individual show that others are valuable members of the community?</li> <li>• Where are examples of foreign languages and cultures found within the community?</li> <li>• How will learning a foreign language provide benefits in the future?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.33</b> Students demonstrate the skills to evaluate and use services and resources available in their community.</p> <p><b>Academic Expectation 2.37</b> Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p><b>Academic Expectation 4.4</b> Students demonstrate the ability to accept the rights and responsibilities for self and others.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, Church, and with all creation.</p>	<ul style="list-style-type: none"> <li>• Awareness of culture and language in local community</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• interact with heritage speakers using target language</li> <li>• recognize the presence of target culture throughout the community</li> <li>• develop an appreciation for cultural diversity</li> </ul>

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<b>Communication Grade Two</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language is relevant and useful in a global society.</li> <li>• Learning a foreign language is a gratifying experience.</li> <li>• Learning a foreign language enables students to communicate with people of other cultures.</li> </ul>	<ul style="list-style-type: none"> <li>• Why is it important to learn a foreign language?</li> <li>• What benefits are gained from learning a foreign language?</li> <li>• How can foreign language skills be used in daily life?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.2</b> Students make sense of the variety of materials they read.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 1.4</b> Students make sense of the various messages to which they listen.</p> <p><b>Academic Expectation 1.12</b> Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p>	<ul style="list-style-type: none"> <li>• Greetings, introductions, and polite expressions</li> <li>• Classroom directions</li> <li>• Basic needs</li> <li>• Colors</li> <li>• Numbers 1-60</li> <li>• Calendar vocabulary</li> <li>• Seasons/weather</li> <li>• Alphabet</li> <li>• Sound/letter association, including vowels</li> <li>• Body parts</li> <li>• Items of clothing</li> <li>• Family members</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• recall vocabulary and respond logically to oral directions and questions</li> <li>• respond logically to oral directions</li> <li>• express needs and wants</li> <li>• read and write color words</li> <li>• count from 1-60</li> <li>• arrange numbers in sequence</li> <li>• identify calendar vocabulary</li> <li>• recognize various weather conditions</li> <li>• apply phonetic skills</li> <li>• read and write simple words and common expressions</li> <li>• label and identify body parts</li> <li>• name and categorize various items of clothing</li> <li>• recognize names for immediate and extended family members</li> </ul>

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<p><b>Academic Expectation 2.28</b> Students understand and communicate in a second language.</p> <p><b>Academic Expectation 3.4</b> Students demonstrate the ability to be resourceful and creative.</p>	<ul style="list-style-type: none"> <li>• Animals</li> <li>• Food items</li> <li>• Places in the community</li> <li>• Occupations</li> <li>• Feelings and emotions</li> <li>• Opposites</li> </ul>	<ul style="list-style-type: none"> <li>• identify animals and their habitats</li> <li>• identify and categorize various food items</li> <li>• name types of buildings and places within a community</li> <li>• identify different occupations and the places of work within a community</li> <li>• demonstrate understanding of various feelings and emotions in particular situations</li> <li>• identify and use opposites</li> </ul>
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<b>Cultures Grade Two</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning about other cultures promotes understanding and acceptance of others.</li> <li>• Culture impacts the way people interact with others.</li> <li>• Exposure to other cultures helps students to understand that all people are connected in some way.</li> </ul>	<ul style="list-style-type: none"> <li>• Why is it important to learn about other cultures?</li> <li>• How does learning about other cultures help individuals to be better people?</li> <li>• How are people from various cultures connected?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.16</b> Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.65</b> Students demonstrate an understanding of Christ's command to love and serve one another.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p>	<ul style="list-style-type: none"> <li>• Cultural perspectives and practices in target culture</li> <li>• Products in target culture</li> <li>• Influences of the target culture</li> <li>• Visual and performing arts</li> <li>• Myths and folklore</li> <li>• Visual representations</li> <li>• Verbal and non-verbal forms of communication in target culture</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explore and compare cultural traditions, holidays, religion, and food with those of their own</li> <li>• discover differences between products (e.g., currency, artifacts, manufactured goods, traditional dress)</li> <li>• investigate influences (e.g., agriculture, inventions, people)</li> <li>• demonstrate appreciation (e.g., music, instruments, dance, fine art)</li> <li>• explore myths and folklore of the target culture</li> <li>• critique visual representations (e.g., flags, Mayan calendar, maps, architecture)</li> <li>• demonstrate cultural sensitivity by participating in hands-on activities (e.g., arts and crafts, music, movement)</li> </ul>

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<b>Connections</b> Grade Two		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language enhances learning in other content areas.</li> <li>• Learning a foreign language enables students to link knowledge in all content areas.</li> <li>• Language is the way people share knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>• How can learning a foreign language help in other content areas?</li> <li>• How is learning a foreign language the same as learning in other content areas?</li> <li>• How is knowledge shared through language?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.13</b> Students make sense of ideas and communicate ideas with visual arts.</p> <p><b>Academic Expectation 1.14</b> Students make sense of ideas and communicate with music.</p> <p><b>Academic Expectation 2.68</b> Students acknowledge the diverse cultural expressions of Catholicism.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p> <p><b>Academic Expectation 6.2</b> Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.</p> <p><b>Academic Expectation 6.3</b> Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<ul style="list-style-type: none"> <li>• Religion</li> <li>• Language Arts</li> <li>• Math</li> <li>• Science</li> <li>• Social Studies</li> <li>• Visual Arts</li> <li>• Music/Performing Arts</li> <li>• Physical Education</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• recognize the connections to basic concepts and skills from other disciplines:               <ul style="list-style-type: none"> <li>• religion (e.g., holidays, rites, prayers, symbols)</li> <li>• language arts (e.g., sound/letter association, vocabulary, speech patterns)</li> <li>• math (e.g., numbers, equations)</li> <li>• science (e.g., weather, body parts, animals, food, agriculture)</li> <li>• social studies (e.g., traditions, holidays, maps, currency, clothing)</li> <li>• visual arts (e.g., folk art, crafts, artifacts)</li> <li>• music/performing arts (e.g., songs, instruments, dance)</li> <li>• physical education (e.g., movement, health, sports)</li> </ul> </li> </ul>

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<b>Comparisons</b> Grade Two		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• There are similarities and differences in languages and cultures.</li> <li>• People are unique, yet they share common experiences.</li> <li>• Discovering linguistic similarities simplifies learning a foreign language.</li> </ul>	<ul style="list-style-type: none"> <li>• How are we similar to and different from people throughout the world?</li> <li>• How are our experiences the same as, or different from, those of other cultures?</li> <li>• How is our language similar to other languages?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p>	<ul style="list-style-type: none"> <li>• Linguistic patterns</li> <li>• Grammatical and structural patterns</li> <li>• Non-verbal forms of communication</li> <li>• Cultural aspects and traditions</li> <li>• Geographical features</li> <li>• Traits of peoples</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• compare target language with English</li> <li>• identify patterns in sentence construction</li> <li>• demonstrate knowledge of vocabulary through actions</li> <li>• identify universal aspects of cultures</li> <li>• identify aspects that are unique to a culture</li> <li>• investigate geographical features of various countries</li> <li>• recognize similarities and differences in people</li> </ul>

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<b>Communities</b> Grade Two		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language promotes cooperation in a global society.</li> <li>• Knowledge of foreign languages and cultures can be applied in the community.</li> <li>• Foreign language skills provide students with tools that will be used beyond the school setting now and in the future.</li> </ul>	<ul style="list-style-type: none"> <li>• In what ways can an individual show that others are valuable members of the community?</li> <li>• Where are examples of foreign languages and cultures found within the community?</li> <li>• How will learning a foreign language provide benefits in the future?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.33</b> Students demonstrate the skills to evaluate and use services and resources available in their community.</p> <p><b>Academic Expectation 2.37</b> Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p><b>Academic Expectation 4.4</b> Students demonstrate the ability to accept the rights and responsibilities for self and others.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, Church, and with all creation.</p>	<ul style="list-style-type: none"> <li>• Awareness of culture and language in local community</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• interact with heritage speakers using target language</li> <li>• recognize the presence of target culture throughout the community</li> <li>• develop an appreciation for cultural diversity</li> </ul>

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<b>Communication</b> Grade Three		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language is relevant and useful in a global society.</li> <li>• Learning a foreign language is a gratifying experience.</li> <li>• Learning a foreign language enables students to communicate with people of other cultures.</li> </ul>	<ul style="list-style-type: none"> <li>• What is the value of learning a foreign language?</li> <li>• What advantages are acquired through learning a foreign language?</li> <li>• How are foreign language skills applied to daily life?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.1</b> Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p><b>Academic Expectation 1.2</b> Students make sense of the variety of materials they read.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 1.4</b> Students make sense of the various messages to which they listen.</p> <p><b>Academic Expectation 1.10</b> Students organize information through development and use of classification rules and systems.</p> <p><b>Academic Expectation 1.11</b> Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p>	<ul style="list-style-type: none"> <li>• Greetings, introductions, and polite expressions</li> <li>• Numbers 1-100</li> <li>• Telling time</li> <li>• Sound/letter association, including vowels</li> <li>• Simple sentence structure</li> <li>• Gender agreement</li> <li>• Number agreement</li> <li>• Definite and indefinite articles</li> <li>• Adjectives</li> <li>• Infinitives</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• recall vocabulary and respond logically to oral directions and questions</li> <li>• count from 1-100</li> <li>• arrange numbers in sequence</li> <li>• tell time to the hour and half hour</li> <li>• apply phonetic skills</li> <li>• read and write simple words and common expressions</li> <li>• compose simple sentences</li> <li>• express simple ideas both orally and in writing</li> <li>• identify regular gender of nouns</li> <li>• identify and make plurals</li> <li>• show understanding of definite and indefinite articles</li> <li>• recognize proper placement of adjectives</li> <li>• recognize infinitives</li> </ul>

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<p><b>Academic Expectation 1.12</b> Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 2.28</b> Students understand and communicate in a second language.</p> <p><b>Academic Expectation 3.4</b> Students demonstrate the ability to be resourceful and creative.</p>	<ul style="list-style-type: none"> <li>• Birthdays and holidays</li> <li>• Seasons and weather</li> <li>• Body parts</li> <li>• Items of clothing</li> <li>• Family members</li> <li>• Animals</li> <li>• Food items</li> <li>• Places in the community</li> <li>• Occupations</li> <li>• Feelings and emotions</li> </ul>	<ul style="list-style-type: none"> <li>• recall vocabulary for specific dates</li> <li>• recognize various weather conditions</li> <li>• apply vocabulary of body parts in different contexts</li> <li>• describe various items of clothing (e.g., color, size, texture)</li> <li>• utilize terms for immediate and extended family members</li> <li>• describe family members (e.g., physical characteristics, age)</li> <li>• classify and describe animals and their habitats</li> <li>• classify and describe various food items</li> <li>• locate buildings and places within a community</li> <li>• identify different occupations and places of work within a community</li> <li>• demonstrate understanding of various feelings and emotions in particular situations</li> </ul>
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<b>Cultures</b> Grade Three		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning about other cultures promotes understanding and acceptance of others.</li> <li>• Culture impacts the way people interact with others.</li> <li>• Exposure to other cultures helps students to understand that all people are connected in some way.</li> </ul>	<ul style="list-style-type: none"> <li>• What is the importance of learning about other cultures?</li> <li>• How does learning about other cultures enhance the quality of interactions with others?</li> <li>• How does exposure to other cultures increase the understanding of connections between people?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.16</b> Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.65</b> Students demonstrate an understanding of Christ's command to love and serve one another.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p>	<ul style="list-style-type: none"> <li>• Cultural perspectives and practices in target culture</li> <li>• Products</li> <li>• Influences of the target culture</li> <li>• Visual and performing arts</li> <li>• Myths and folklore</li> <li>• Visual representations</li> <li>• Verbal and non-verbal forms of communication in target culture</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explore and understand cultural traditions, holidays, religion, and food</li> <li>• discover differences between products (e.g., currency, artifacts, manufactured goods, traditional dress)</li> <li>• investigate influences (e.g., agriculture, inventions, people)</li> <li>• demonstrate appreciation (e.g., music, instruments, dance, fine art)</li> <li>• explore myths and folklore of the target culture</li> <li>• critique visual representations (e.g., flags, Mayan calendar, maps, architecture)</li> <li>• engage in simple conversations</li> <li>• demonstrate appreciation of various cultures through hands-on activities (e.g., writing, arts and crafts, music, movement)</li> </ul>

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<b>Connections</b> Grade Three		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language enhances learning in other content areas.</li> <li>• Learning a foreign language enables students to link knowledge in all content areas.</li> <li>• Language is the way people share knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>• How is learning in various content areas enhanced through understanding of a foreign language?</li> <li>• Which skills are learned in other content areas that are also learned in a foreign language?</li> <li>• How does language enhance the sharing of knowledge?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.13</b> Students make sense of ideas and communicate ideas with visual arts.</p> <p><b>Academic Expectation 1.14</b> Students make sense of ideas and communicate with music.</p> <p><b>Academic Expectation 2.8</b> Students understand various mathematical procedures and use them appropriately and adequately.</p> <p><b>Academic Expectation 2.68</b> Students acknowledge the diverse cultural expressions of Catholicism.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p> <p><b>Academic Expectation 6.2</b> Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.</p> <p><b>Academic Expectation 6.3</b> Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<ul style="list-style-type: none"> <li>• Religion</li> <li>• Language Arts</li> <li>• Math</li> <li>• Science</li> <li>• Social Studies</li> <li>• Visual Arts</li> <li>• Music/Performing Arts</li> <li>• Physical Education</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• recognize the connections to basic concepts and skills from other disciplines:               <ul style="list-style-type: none"> <li>• religion (e.g., holidays, rites, prayers, symbols)</li> <li>• language arts (e.g., sound/letter association, parts of speech, vocabulary, speech patterns)</li> <li>• math (e.g., numbers, equations, telling time, calendar)</li> <li>• science (e.g., weather, seasons, animals, food, agriculture)</li> <li>• social studies (e.g., traditions, holidays, maps, currency, clothing, occupations)</li> <li>• visual arts (e.g., folk art, crafts, artifacts)</li> <li>• music/performing arts (e.g., songs, instruments, dance)</li> <li>• physical education (e.g., movement, health, sports)</li> </ul> </li> </ul>

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<b>Comparisons</b> Grade Three		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• There are similarities and differences in languages and cultures.</li> <li>• People are unique, yet they share common experiences.</li> <li>• Discovering linguistic similarities simplifies learning a foreign language.</li> </ul>	<ul style="list-style-type: none"> <li>• What can be discovered through the investigation of other cultures?</li> <li>• What common experiences do all people share?</li> <li>• How are languages similar?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p>	<ul style="list-style-type: none"> <li>• Linguistic patterns</li> <li>• Grammatical and structural patterns</li> <li>• Verbal and non-verbal forms of communication</li> <li>• Cultural aspects and traditions</li> <li>• Geographical features</li> <li>• Traits of peoples</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• compare target language with English</li> <li>• identify patterns in sentence construction</li> <li>• demonstrate knowledge of vocabulary through speaking, actions, and writing</li> <li>• compare and contrast universal and unique aspects of cultures</li> <li>• demonstrate knowledge of geographical features of various countries</li> <li>• recognize similarities and differences in people</li> <li>• develop an appreciation for cultural diversity</li> </ul>

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<b>Communities</b> Grade Three		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language promotes cooperation in a global society.</li> <li>• Knowledge of foreign languages and cultures can be applied in the community.</li> <li>• Foreign language skills provide students with tools they will use beyond the school setting now and in the future.</li> </ul>	<ul style="list-style-type: none"> <li>• In what ways does learning a foreign language promote cultural acceptance?</li> <li>• How are languages used within the community?</li> <li>• What advantages are gained through the knowledge of foreign languages?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.33</b> Students demonstrate the skills to evaluate and use services and resources available in their community.</p> <p><b>Academic Expectation 2.37</b> Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p><b>Academic Expectation 4.4</b> Students demonstrate the ability to accept the rights and responsibilities for self and others.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, Church, and with all creation.</p>	<ul style="list-style-type: none"> <li>• Awareness of culture and language in local community</li> <li>• Possible career options that use a foreign language</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• interact with heritage speakers using target language</li> <li>• recognize the presence of target culture throughout the community</li> <li>• develop an appreciation for cultural diversity</li> <li>• identify and determine benefits of the use of foreign languages in various occupations</li> </ul>

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<b>Communication Grade Four</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language is relevant and useful in a global society.</li> <li>• Learning a foreign language is a gratifying experience.</li> <li>• Learning a foreign language enables students to communicate with people of other cultures.</li> </ul>	<ul style="list-style-type: none"> <li>• What is the value of learning a foreign language?</li> <li>• What advantages are acquired through learning a foreign language?</li> <li>• How are foreign language skills applied to daily life?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.1</b> Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p><b>Academic Expectation 1.2</b> Students make sense of the variety of materials they read.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 1.4</b> Students make sense of the various messages to which they listen.</p> <p><b>Academic Expectation 1.10</b> Students organize information through development and use of classification rules and systems.</p> <p><b>Academic Expectation 1.11</b> Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p>	<ul style="list-style-type: none"> <li>• Vocabulary               <ul style="list-style-type: none"> <li>• Seasons and weather</li> <li>• Items of clothing</li> <li>• Food items</li> <li>• Occupations</li> <li>• Feelings and emotions</li> <li>• Basic needs</li> </ul> </li> <li>• Rooms in a house</li> <li>• Household items</li> <li>• Numbers, counting by hundreds</li> <li>• Telling time</li> <li>• Bilingual dictionary</li> <li>• Sound/letter association, including vowels</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• utilize previous and newly acquired vocabulary words in various contexts</li> <li>• identify various rooms in a house</li> <li>• locate household items by appropriate room</li> <li>• apply vocabulary in different contexts</li> <li>• recognize numbers in random order from 1-500</li> <li>• arrange numbers in sequence</li> <li>• count by hundreds to 500</li> <li>• tell time to the hour, half hour, minute, minutes before and after</li> <li>• understand the structure of a bilingual dictionary</li> <li>• apply phonetic skills</li> </ul>

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<p><b>Academic Expectation 1.12</b> Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 2.28</b> Students understand and communicate in a second language.</p> <p><b>Academic Expectation 3.3</b> Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.</p> <p><b>Academic Expectation 3.4</b> Students demonstrate the ability to be resourceful and creative.</p>	<ul style="list-style-type: none"> <li>• Simple sentence structure</li> <li>• Gender and number agreement</li> <li>• Definite and indefinite articles</li> <li>• Adjectives</li> <li>• Subject pronouns</li> <li>• Infinitives</li> <li>• Regular, present tense verbs</li> <li>• Commonly used expressions with irregular verbs</li> <li>• Interrogatives</li> </ul>	<ul style="list-style-type: none"> <li>• read, write, and orally express simple sentences and common expressions</li> <li>• identify regular gender of nouns</li> <li>• identify and make plurals</li> <li>• show understanding of definite and indefinite articles</li> <li>• recognize proper placement of adjectives</li> <li>• demonstrate understanding of subject pronouns</li> <li>• recognize infinitives</li> <li>• recognize regular, present tense verbs</li> <li>• apply concepts of irregular verbs and commonly used expressions</li> <li>• identify and use interrogatives</li> </ul>
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<b>Cultures Grade Four</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning about other cultures promotes understanding and acceptance of others.</li> <li>• Culture impacts the way people interact with others.</li> <li>• Exposure to other cultures helps students to understand that all people are connected in some way.</li> </ul>	<ul style="list-style-type: none"> <li>• What is the importance of learning about other cultures?</li> <li>• How does learning about other cultures enhance the quality of interactions with others?</li> <li>• How does exposure to other cultures increase the understanding of connections between people?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.16</b> Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.</p> <p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.65</b> Students demonstrate an understanding of Christ’s command to love and serve one another.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p>	<ul style="list-style-type: none"> <li>• Cultural perspectives and practices in target culture</li> <li>• Products</li> <li>• Influences of the target culture</li> <li>• Visual and performing arts</li> <li>• Myths and folklore</li> <li>• Visual representations</li> <li>• Verbal and non-verbal forms of communication in target culture</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explore and understand cultural traditions, holidays, religion, and food</li> <li>• define differences between products (e.g., currency, artifacts, manufactured goods, traditional dress)</li> <li>• investigate influences (e.g., agriculture, inventions, people)</li> <li>• demonstrate appreciation (e.g., music, instruments, dance, fine art)</li> <li>• describe cultural value displayed in works of art, music, and dance</li> <li>• explore myths and folklore of the target culture</li> <li>• critique visual representations (e.g., flags, Mayan calendar, maps, architecture)</li> <li>• engage in simple conversations</li> <li>• demonstrate appreciation of various cultures through hands-on activities (e.g., writing, arts and crafts, music, movement)</li> </ul>

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<b>Connections</b>		
<b>Grade Four</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language enhances learning in other content areas.</li> <li>• Learning a foreign language enables students to link knowledge in all content areas.</li> <li>• Language is the way people share knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>• How is learning in various content areas enhanced through understanding of a foreign language?</li> <li>• Which skills are learned in other content areas that are also learned in a foreign language?</li> <li>• How does language enhance the sharing of knowledge?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.16</b> Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p><b>Academic Expectation 2.8</b> Students understand various mathematical procedures and use them appropriately and adequately.</p> <p><b>Academic Expectation 2.68</b> Students acknowledge the diverse cultural expressions of Catholicism.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p> <p><b>Academic Expectation 6.2</b> Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.</p> <p><b>Academic Expectation 6.3</b> Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<ul style="list-style-type: none"> <li>• Religion</li> <li>• Language Arts</li>   <li>• Math</li>   <li>• Science</li>   <li>• Social Studies</li>   <li>• Visual Arts</li>   <li>• Music/Performing Arts</li>   <li>• Physical Education</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• recognize the connections to basic concepts and skills from other disciplines:               <ul style="list-style-type: none"> <li>• religion (e.g., holidays, rites, prayers, symbols)</li> <li>• language arts (e.g., sound/letter association, parts of speech, vocabulary, speech patterns, dictionary skills)</li> <li>• math (e.g., numbers, equations, telling time, calendar)</li> <li>• science (e.g., weather, seasons, animals, food, agriculture)</li> <li>• social studies (e.g., traditions, holidays, maps, currency, clothing, occupations)</li> <li>• visual arts (e.g., folk art, crafts, artifacts)</li> <li>• music/performing arts (e.g., songs, instruments, dance)</li> <li>• physical education (e.g., movement, health, sports)</li> </ul> </li> </ul>

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<b>Comparisons Grade Four</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• There are similarities and differences in languages and cultures.</li> <li>• People are unique, yet they share common experiences.</li> <li>• Discovering linguistic similarities simplifies learning a foreign language.</li> </ul>	<ul style="list-style-type: none"> <li>• What can be discovered through the investigation of other cultures?</li> <li>• What common experiences do all people share?</li> <li>• How are languages similar?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p>	<ul style="list-style-type: none"> <li>• Linguistic patterns</li> <li>• Grammatical and structural patterns</li> <li>• Verbal and non-verbal forms of communication</li> <li>• Cultural aspects and traditions</li> <li>• Geographical features</li> <li>• Traits of peoples</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• compare and contrast target language with English</li> <li>• identify patterns in sentence construction</li> <li>• demonstrate knowledge of vocabulary through speaking, actions, and writing</li> <li>• compare and contrast universal and unique aspects of cultures</li> <li>• demonstrate flexibility for multiple perspectives</li> <li>• recognize similarities and differences in geographical features of various countries</li> <li>• recognize similarities and differences in people</li> <li>• develop an appreciation for cultural diversity</li> </ul>

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<b>Communities</b> Grade Four		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language promotes cooperation in a global society.</li> <li>• Knowledge of foreign languages and cultures can be applied in the community.</li> <li>• Foreign language skills provide students with tools they will use beyond the school setting now and in the future.</li> </ul>	<ul style="list-style-type: none"> <li>• In what ways does learning a foreign language promote cultural acceptance?</li> <li>• How are languages used within the community?</li> <li>• What advantages are gained through the knowledge of foreign languages?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.33</b> Students demonstrate the skills to evaluate and use services and resources available in their community.</p> <p><b>Academic Expectation 2.37</b> Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p><b>Academic Expectation 4.4</b> Students demonstrate the ability to accept the rights and responsibilities for self and others.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, Church, and with all creation.</p>	<ul style="list-style-type: none"> <li>• Awareness of culture and language in local community</li> <li>• Possible career options that use a foreign language</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• interact with heritage speakers using target language</li> <li>• recognize the presence of target culture throughout the community</li> <li>• demonstrate an appreciation for cultural diversity</li> <li>• identify and determine benefits of the use of foreign languages in various occupations</li> </ul>

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<b>Communication Grade Five</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language is relevant and useful in a global society.</li> <li>• Learning a foreign language is a gratifying experience.</li> <li>• Learning a foreign language enables students to communicate with people of other cultures.</li> </ul>	<ul style="list-style-type: none"> <li>• What is the value of learning a foreign language?</li> <li>• What advantages are acquired through learning a foreign language?</li> <li>• How can we apply foreign language skills to daily life?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.1</b> Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p><b>Academic Expectation 1.2</b> Students make sense of the variety of materials they read.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 1.4</b> Students make sense of the various messages to which they listen.</p> <p><b>Academic Expectation 1.10</b> Students organize information through development and use of classification rules and systems.</p> <p><b>Academic Expectation 1.11</b> Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p><b>Academic Expectation 1.12</b></p>	<ul style="list-style-type: none"> <li>• Vocabulary               <ul style="list-style-type: none"> <li>• Class subjects</li> </ul> </li> <li>• Numbers 1-1,000</li> <li>• Time</li> <li>• Use of bilingual dictionary</li> <li>• Gender and number agreement</li> <li>• Definite and indefinite articles</li> <li>• Subject pronouns</li> <li>• Regular, present tense verbs</li> <li>• Irregular verbs</li> <li>• Sentences using conjunctions</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• utilize previous and newly acquired vocabulary words in various contexts</li> <li>• translate single words, phrases, and sentences</li> <li>• recognize numbers in random order from 1-1,000</li> <li>• arrange numbers in sequence</li> <li>• count by hundreds to 1,000</li> <li>• tell time to the hour, half hour, minute, minutes before and after, time of day</li> <li>• utilize a bilingual dictionary</li> <li>• read, write, and orally express simple sentences and common expressions</li> <li>• apply concept of subject pronouns</li> <li>• show understanding of proper noun/verb agreement for regular, present tense verbs</li> <li>• apply concepts of irregular verbs and commonly used expressions</li> <li>• utilize conjunctions to construct sentences</li> </ul>

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<p>Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 2.28</b> Students understand and communicate in a second language.</p> <p><b>Academic Expectation 3.3</b> Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.</p> <p><b>Academic Expectation 3.4</b> Students demonstrate the ability to be resourceful and creative.</p>	<ul style="list-style-type: none"> <li>• Interrogatives</li> <li>• Adjectives</li> <li>• Personal descriptions</li> <li>• Nationalities</li> <li>• Locations using prepositions</li> <li>• States of being</li> </ul>	<ul style="list-style-type: none"> <li>• identify and use interrogatives for asking and responding to questions</li> <li>• recognize and properly use adjectives</li> <li>• describe self and others using personal descriptions</li> <li>• identify nationality of self and others</li> <li>• describe location of various items using prepositions</li> <li>• express physical and emotional condition of individuals</li> </ul>
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<b>Cultures Grade Five</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning about other cultures promotes understanding and acceptance of others.</li> <li>• Culture impacts the way people interact with others.</li> <li>• Exposure to other cultures helps students to understand that all people are connected in some way.</li> </ul>	<ul style="list-style-type: none"> <li>• What is the importance of learning about other cultures?</li> <li>• How does learning about other cultures enhance the quality of interactions with others?</li> <li>• How does exposure to other cultures increase the understanding of connections between people?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.16</b> Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.</p> <p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.65</b> Students demonstrate an understanding of Christ’s command to love and serve one another.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p>	<ul style="list-style-type: none"> <li>• Cultural perspectives and practices in target culture</li> <li>• Products</li> <li>• Influences of the target culture</li> <li>• Visual and performing arts</li> <li>• Myths and folklore</li> <li>• Visual representations</li> <li>• Verbal and non-verbal forms of communication in target culture</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explore and understand cultural traditions, holidays, religion, and food</li> <li>• define differences between products (e.g., currency, artifacts, manufactured goods, traditional dress)</li> <li>• investigate influences (e.g., agriculture, inventions, people)</li> <li>• demonstrate appreciation (e.g., music, instruments, dance, fine art)</li> <li>• describe cultural value displayed in works of art, music, and dance</li> <li>• explore myths and folklore of the target culture</li> <li>• critique visual representations (e.g., flags, Mayan calendar, maps, architecture)</li> <li>• engage in conversations</li> <li>• demonstrate appreciation of various cultures through hands-on activities (e.g., writing, arts and crafts, music, movement)</li> </ul>

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<b>Connections</b> Grade Five		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language enhances learning in other content areas.</li> <li>• Learning a foreign language enables students to link knowledge in all content areas.</li> <li>• Language is the way people share knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>• How is learning in various content areas enhanced through understanding of a foreign language?</li> <li>• Which skills are learned in other content areas that are also learned in a foreign language?</li> <li>• How does language enhance the sharing of knowledge?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.16</b> Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p><b>Academic Expectation 2.8</b> Students understand various mathematical procedures and use them appropriately and adequately.</p> <p><b>Academic Expectation 2.68</b> Students acknowledge the diverse cultural expressions of Catholicism.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p> <p><b>Academic Expectation 6.2</b> Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.</p> <p><b>Academic Expectation 6.3</b> Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.</p>	<ul style="list-style-type: none"> <li>• Religion</li> <li>• Language Arts</li>   <li>• Math</li>   <li>• Science</li>   <li>• Social Studies</li>   <li>• Visual Arts</li>   <li>• Music/Performing Arts</li>   <li>• Physical Education</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• recognize the connections to basic concepts and skills from other disciplines:               <ul style="list-style-type: none"> <li>• religion (e.g., holidays, rites, prayers, symbols)</li> <li>• language arts (e.g., listening, speaking, reading and writing skills, parts of speech, vocabulary, speech patterns, dictionary skills)</li> <li>• math (e.g., numbers, equations, telling time, calendar)</li> <li>• science (e.g., weather, seasons, animals, food, agriculture)</li> <li>• social studies (e.g., traditions, holidays, maps, currency, clothing, occupations)</li> <li>• visual arts (e.g., folk art, crafts, artifacts)</li> <li>• music/performing arts (e.g., songs, instruments, dance)</li> <li>• physical education (e.g., movement, health, sports)</li> </ul> </li> </ul>

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<b>Comparisons Grade Five</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• There are similarities and differences in languages and cultures.</li> <li>• People are unique, yet they share common experiences.</li> <li>• Discovering linguistic similarities simplifies learning a foreign language.</li> </ul>	<ul style="list-style-type: none"> <li>• What can be discovered through the investigation of other cultures?</li> <li>• What common experiences do all people share?</li> <li>• How are languages similar?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p>	<ul style="list-style-type: none"> <li>• Linguistic patterns</li> <li>• Grammatical and structural patterns</li> <li>• Verbal and non-verbal forms of communication</li> <li>• Cultural aspects and traditions</li> <li>• Geographical features</li> <li>• Traits of peoples</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• compare and contrast target language with English</li> <li>• identify patterns in sentence construction</li> <li>• demonstrate knowledge of vocabulary through speaking, actions, and writing</li> <li>• compare and contrast universal and unique aspects of cultures</li> <li>• demonstrate flexibility for multiple perspectives</li> <li>• recognize similarities and differences in geographical features of various countries</li> <li>• recognize similarities and differences in people</li> <li>• develop an appreciation for cultural diversity</li> </ul>

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<b>Communities</b> Grade Five		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language promotes cooperation in a global society.</li> <li>• Knowledge of foreign languages and cultures can be applied in the community.</li> <li>• Foreign language skills provide students with tools that will be used beyond the school setting now and in the future.</li> </ul>	<ul style="list-style-type: none"> <li>• In what ways does learning a foreign language promote cultural acceptance?</li> <li>• How are languages and cultures used within the community?</li> <li>• What advantages are gained through the knowledge of foreign languages?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.33</b> Students demonstrate the skills to evaluate and use services and resources available in their community.</p> <p><b>Academic Expectation 2.37</b> Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p><b>Academic Expectation 4.4</b> Students demonstrate the ability to accept the rights and responsibilities for self and others.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, Church, and with all creation.</p>	<ul style="list-style-type: none"> <li>• Awareness of culture and language in local community</li> <li>• Possible career options that use a foreign language</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• interact with heritage speakers using target language</li> <li>• recognize the presence of target culture throughout the community</li> <li>• demonstrate an appreciation for cultural diversity</li> <li>• identify and determine benefits of the use of foreign languages in various occupations</li> </ul>

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<b>Communication</b> Grade Six		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language is relevant and useful in a global society.</li> <li>• Learning a foreign language impacts the individual's future success.</li> <li>• Learning a foreign language enables students to communicate with people of other cultures.</li> </ul>	<ul style="list-style-type: none"> <li>• What is the significance of learning a foreign language?</li> <li>• How does learning a language impact future success?</li> <li>• How are foreign language skills applied to real-life experiences?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.1</b> Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p><b>Academic Expectation 1.2</b> Students make sense of the variety of materials they read.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 1.4</b> Students make sense of the various messages to which they listen.</p> <p><b>Academic Expectation 1.10</b> Students organize information through development and use of classification rules and systems.</p> <p><b>Academic Expectation 1.11</b> Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p>	<ul style="list-style-type: none"> <li>• Vocabulary</li> <li>• Ordinal numbers</li> <li>• Sentences using conjunctions and prepositions</li> <li>• Gender and number agreement</li> <li>• Regular and irregular verbs</li> <li>• Negatives</li> <li>• Adjectives</li> <li>• Adverbs</li> <li>• Interrogatives</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• utilize previous and newly acquired vocabulary words in various contexts</li> <li>• translate single words, phrases, sentences, and stories</li> <li>• recognize vocabulary and position of ordinal numbers</li> <li>• read, write, and orally express sentences and common expressions</li> <li>• utilize conjunctions to construct sentences</li> <li>• describe location of items using prepositions</li> <li>• show understanding of proper noun/verb agreement for regular and irregular, present tense verbs</li> <li>• identify irregular verbs and commonly used expressions</li> <li>• create sentences in negative form</li> <li>• recognize and properly use adjectives</li> <li>• recognize and use adverbs</li> <li>• apply interrogatives when asking and responding to questions</li> </ul>

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<p><b>Academic Expectation 1.12</b> Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 2.28</b> Students understand and communicate in a second language.</p> <p><b>Academic Expectation 3.3</b> Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.</p> <p><b>Academic Expectation 3.4</b> Students demonstrate the ability to be resourceful and creative.</p>	<ul style="list-style-type: none"> <li>• Likes and dislikes</li> <li>• Personal descriptions</li> <li>• States of being</li> <li>• Pastimes and activities</li> <li>• Future plans and destinations</li> </ul>	<ul style="list-style-type: none"> <li>• express likes and dislikes</li> <li>• describe self and others using personal descriptions</li> <li>• express physical and emotional condition of individuals</li> <li>• describe pastimes and activities</li> <li>• express ideas in future tense</li> </ul>
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<b>Cultures Grade Six</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning about other cultures promotes understanding and acceptance of others.</li> <li>• Culture impacts the way people interact with others.</li> <li>• Exposure to other cultures helps students to understand that all people are connected in some way.</li> </ul>	<ul style="list-style-type: none"> <li>• What advantages are gained from learning about other cultures?</li> <li>• How does learning about other cultures enhance the quality of interactions with others?</li> <li>• What insights are gained by studying other cultures?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.16</b> Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.</p> <p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.65</b> Students demonstrate an understanding of Christ’s command to love and serve one another.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p>	<ul style="list-style-type: none"> <li>• Cultural perspectives and practices in target culture</li> <li>• Products</li> <li>• Influences of the target culture</li> <li>• Visual and performing arts</li> <li>• Myths and folklore</li> <li>• Visual representations</li> <li>• Verbal and non-verbal forms of communication in target culture</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• defend purposes for learning about different cultures</li> <li>• demonstrate cultural sensitivity by producing authentic cultural projects (e.g., arts and crafts, music, movement)</li> <li>• demonstrate flexibility for multiple perspectives</li> <li>• identify and interpret visual representations and products of target culture (e.g., currency, artifacts, manufactured goods, traditional dress)</li> <li>• investigate influences (e.g., agriculture, inventions, people, societal structures)</li> <li>• demonstrate appreciation (e.g., music, instruments, dance, fine art)</li> <li>• describe cultural value displayed in works of art, music, and dance</li> <li>• analyze myths and folklore of the target culture</li> <li>• critique visual representations (e.g., flags, Mayan calendar, maps, architecture)</li> <li>• engage in conversations</li> <li>• demonstrate appreciation of various cultures through hands-on activities (e.g., writing, arts and crafts, music, movement)</li> </ul>

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<b>Connections</b> Grade Six		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Learning a foreign language enables students to link knowledge in all content areas.</li> <li>Language is the way people share knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>How is knowledge in other content areas improved through learning a foreign language?</li> <li>How does the acquisition of a foreign language deepen the sharing of knowledge?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.14</b> Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p> <p><b>Academic Expectation 2.68</b> Students acknowledge the diverse cultural expressions of Catholicism.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p> <p><b>Academic Expectation 6.2</b> Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.</p>	<ul style="list-style-type: none"> <li>Religion</li> <li>Language Arts</li> <li>Math</li> <li>Science</li> <li>Social Studies</li> <li>Visual Arts</li> <li>Music/Performing Arts</li> <li>Physical Education</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>explore the connections to basic concepts and skills from other disciplines: <ul style="list-style-type: none"> <li>religion (e.g., holidays, rites, prayers, symbols, religious architecture, religious histories of people and places)</li> <li>language arts (e.g., listening, speaking, reading and writing skills, parts of speech, vocabulary, speech patterns, dictionary skills, research)</li> <li>math (e.g., cardinal numbers, ordinal numbers, equations, telling time, calendar, temperature)</li> <li>science (e.g., weather, seasons, food, agriculture, nutrition)</li> <li>social studies (e.g., traditions, holidays, geography, currency, clothing, nationalities, recipes)</li> <li>visual arts (e.g., folk art, crafts, artifacts, artists, architecture)</li> <li>music/performing arts (e.g., songs, composers, instruments, dance, musical artists)</li> <li>physical education (e.g., movement, health, sports)</li> </ul> </li> </ul>

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<b>Comparisons</b> Grade Six		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• There are similarities and differences in languages and cultures.</li> <li>• People are unique, yet they share common experiences.</li> <li>• Discovering linguistic similarities simplifies learning a foreign language.</li> </ul>	<ul style="list-style-type: none"> <li>• What insights are gained through the exploration of multiple cultures?</li> <li>• What is unique and what is universal across all cultures?</li> <li>• How do language patterns simplify learning?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p>	<ul style="list-style-type: none"> <li>• Linguistic patterns</li> <li>• Grammatical and structural patterns</li> <li>• Verbal and non-verbal forms of communication</li> <li>• Cultural aspects and traditions</li> <li>• Geographical features</li> <li>• Traits of peoples</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• analyze similarities and differences between target language and English</li> <li>• identify and apply patterns in sentence construction</li> <li>• demonstrate knowledge of vocabulary through speaking, actions, and writing</li> <li>• compare and contrast aspects that are unique to a culture and aspects that are universal to cultures</li> <li>• demonstrate flexibility for multiple perspectives</li> <li>• recognize similarities and differences in geographical features of various countries</li> <li>• recognize similarities and differences in people</li> <li>• develop an appreciation for cultural diversity</li> </ul>

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<b>Communities</b> Grade Six		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language promotes cooperation in a global society.</li> <li>• Knowledge of languages and culture can be applied in the community.</li> <li>• Foreign language skills provide students with tools that will be used beyond the school setting now and in the future.</li> </ul>	<ul style="list-style-type: none"> <li>• How can cultural diversity be embraced?</li> <li>• Why is cultural diversity important in every community?</li> <li>• How does learning a foreign language enhance future success?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.33</b> Students demonstrate the skills to evaluate and use services and resources available in their community.</p> <p><b>Academic Expectation 2.37</b> Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p><b>Academic Expectation 4.4</b> Students demonstrate the ability to accept the rights and responsibilities for self and others.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, Church, and with all creation.</p>	<ul style="list-style-type: none"> <li>• Awareness of culture and language in local community</li> <li>• Possible career options that use a foreign language</li> <li>• Role of languages in a global society</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• initiate conversation with heritage speakers</li> <li>• embrace the presence of target culture throughout the community</li> <li>• demonstrate flexibility when interacting with people of different cultural backgrounds</li> <li>• understand unique career opportunities resulting from bilingual and bi-cultural knowledge and skills</li> <li>• identify and determine benefits of the use of foreign languages in a global society</li> </ul>

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<b>Communication Grade Seven</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language is relevant and useful in a global society.</li> <li>• Learning a foreign language impacts the individual's future success.</li> <li>• Learning a foreign language enables students to communicate with people of other cultures.</li> </ul>	<ul style="list-style-type: none"> <li>• What is the significance of learning a foreign language?</li> <li>• How does learning a language impact future success?</li> <li>• How are foreign language skills applied to real-life experiences?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.1</b> Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p><b>Academic Expectation 1.2</b> Students make sense of the variety of materials they read.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 1.4</b> Students make sense of the various messages to which they listen.</p> <p><b>Academic Expectation 1.10</b> Students organize information through development and use of classification rules and systems.</p> <p><b>Academic Expectation 1.11</b> Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p>	<ul style="list-style-type: none"> <li>• Vocabulary               <ul style="list-style-type: none"> <li>• Real-life vocabulary (e.g., shopping, traveling, dining)</li> <li>• Illness and injuries</li> <li>• Environment and nature</li> </ul> </li> <li>• Paragraphs               <ul style="list-style-type: none"> <li>• Gender and number agreement</li> <li>• Adverbs</li> <li>• Negatives</li> <li>• Interrogatives</li> <li>• Comparatives and superlatives</li> </ul> </li> <li>• Verbs               <ul style="list-style-type: none"> <li>• Regular and irregular verbs</li> <li>• Present progressive tense</li> <li>• Reflexive verbs</li> <li>• Past tense</li> <li>• Future tense (Ir)</li> </ul> </li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• utilize previous and newly acquired vocabulary words in various contexts</li> <li>• respond logically using target language</li> <li>• read, write, and orally express sentences and common expressions</li> <li>• translate written material</li> <li>• apply grammatical concepts to express ideas</li> <li>• show understanding of proper noun/verb agreement for regular and irregular, present, present progressive, reflexive, past, and future tense verbs</li> </ul>

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<p><b>Academic Expectation 1.12</b> Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 2.28</b> Students understand and communicate in a second language.</p> <p><b>Academic Expectation 3.3</b> Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.</p> <p><b>Academic Expectation 3.4</b> Students demonstrate the ability to be resourceful and creative.</p>		
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<b>Cultures</b> Grade Seven		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning about other cultures promotes understanding and acceptance of others.</li> <li>• Culture impacts the way people interact with others.</li> <li>• Exposure to other cultures helps students to understand that all people are connected in some way.</li> </ul>	<ul style="list-style-type: none"> <li>• What advantages are gained from learning about other cultures?</li> <li>• How does learning about other cultures enhance the quality of interactions with others?</li> <li>• What insights are gained by studying other cultures?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.16</b> Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.</p> <p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.65</b> Students demonstrate an understanding of Christ’s command to love and serve one another.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p>	<ul style="list-style-type: none"> <li>• Cultural perspectives and practices in target culture</li> <li>• Products</li> <li>• Influences of the target culture</li> <li>• Visual and performing arts</li> <li>• Myths and folklore</li> <li>• Visual representations</li> <li>• Verbal and non-verbal forms of communication in target culture</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• defend purposes for learning about different cultures</li> <li>• demonstrate cultural sensitivity by producing authentic cultural projects (e.g., arts and crafts, music, movement)</li> <li>• demonstrate flexibility for multiple perspectives</li> <li>• identify and interpret visual representations and products of target culture (e.g., currency, artifacts, manufactured goods, traditional dress)</li> <li>• analyze influences and contributions (e.g., agriculture, inventions, people, societal structures)</li> <li>• demonstrate appreciation (e.g., music, instruments, dance, fine art)</li> <li>• describe cultural value displayed in works of art, music, and dance</li> <li>• analyze myths and folklore of the target culture</li> <li>• critique visual representations (e.g., flags, Mayan calendar, maps, architecture)</li> <li>• engage in conversations</li> <li>• demonstrate appreciation of various cultures through hands-on activities (e.g., writing, arts and crafts, music, movement)</li> </ul>

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<b>Connections</b> Grade Seven		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Learning a foreign language enables students to link knowledge in all content areas.</li> <li>Language is the way people share knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>How is knowledge in other content areas improved through learning a foreign language?</li> <li>How does the acquisition of a foreign language deepen the sharing of knowledge?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.14</b> Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p> <p><b>Academic Expectation 2.68</b> Students acknowledge the diverse cultural expressions of Catholicism.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p> <p><b>Academic Expectation 6.2</b> Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.</p>	<ul style="list-style-type: none"> <li>Religion</li> <li>Language Arts</li> <li>Math</li> <li>Science</li> <li>Social Studies</li> <li>Visual Arts</li> <li>Music/Performing Arts</li> <li>Physical Education</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>explore the connections to basic concepts and skills from other disciplines: <ul style="list-style-type: none"> <li>religion (e.g., holidays, rites, prayers, symbols, religious architecture, religious histories of people and places)</li> <li>language arts (e.g., listening, speaking, reading and writing skills, parts of speech, vocabulary, speech patterns, dictionary skills, research)</li> <li>math (e.g., monetary values, conversions, cardinal numbers, ordinal numbers, equations)</li> <li>science (e.g., weather, food, agriculture, nutrition, temperature, forecasts)</li> <li>social studies (e.g., traditions, holidays, geography, currency, clothing, recipes, natural phenomenon)</li> <li>visual arts (e.g., folk art, crafts, artifacts, artists, architecture)</li> <li>music/performing arts (e.g., songs, composers, instruments, dance, musical artists)</li> <li>physical education (e.g., movement, health, sports)</li> </ul> </li> </ul>

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<b>Comparisons Grade Seven</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• There are similarities and differences in languages and cultures.</li> <li>• People are unique, yet they share common experiences.</li> <li>• Discovering linguistic similarities simplifies learning a foreign language.</li> </ul>	<ul style="list-style-type: none"> <li>• What insights are gained through the exploration of multiple cultures?</li> <li>• What is unique and what is universal across all cultures?</li> <li>• How do language patterns simplify learning?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p>	<ul style="list-style-type: none"> <li>• Linguistic patterns</li> <li>• Grammatical and structural patterns</li> <li>• Verbal and non-verbal forms of communication</li> <li>• Cultural aspects and traditions</li> <li>• Geographical features</li> <li>• Traits of peoples</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• evaluate similarities and differences between target language and English</li> <li>• identify and apply patterns in sentence construction</li> <li>• demonstrate knowledge of vocabulary through speaking, actions, and writing</li> <li>• compare and contrast aspects that are unique to a culture and aspects that are universal to cultures</li> <li>• demonstrate flexibility for multiple perspectives</li> <li>• recognize similarities and differences in geographical features of various countries</li> <li>• recognize similarities and differences in people</li> <li>• develop an appreciation for cultural diversity</li> </ul>

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<b>Communities</b> Grade Seven		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language promotes cooperation in a global society.</li> <li>• Knowledge of foreign languages and cultures can be applied in the community.</li> <li>• Foreign language skills provide students with tools that will be used beyond the school setting now and in the future.</li> </ul>	<ul style="list-style-type: none"> <li>• How can cultural diversity be embraced?</li> <li>• Why is cultural diversity important in every community?</li> <li>• How does learning a foreign language enhance future success?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.33</b> Students demonstrate the skills to evaluate and use services and resources available in their community.</p> <p><b>Academic Expectation 2.37</b> Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p><b>Academic Expectation 4.4</b> Students demonstrate the ability to accept the rights and responsibilities for self and others.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, Church, and with all creation.</p>	<ul style="list-style-type: none"> <li>• Awareness of culture and language in local community</li> <li>• Possible career options that use a foreign language</li> <li>• Role of languages in a global society</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• initiate conversation with heritage speakers</li> <li>• embrace the presence of target culture throughout the community</li> <li>• demonstrate flexibility when interacting with people of different cultural backgrounds</li> <li>• understand unique career opportunities resulting from bilingual and bi-cultural knowledge and skills</li> <li>• identify and determine benefits of the use of foreign languages in a global society</li> </ul>

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<b>Communication Grade Eight</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language is relevant and useful in a global society.</li> <li>• Learning a foreign language impacts the individual's future success.</li> <li>• Learning a foreign language enables students to communicate with people of other cultures.</li> </ul>	<ul style="list-style-type: none"> <li>• What is the significance of learning a foreign language?</li> <li>• How does learning a language impact future success?</li> <li>• How are foreign language skills applied to real-life experiences?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.1</b> Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p><b>Academic Expectation 1.2</b> Students make sense of the variety of materials they read.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 1.4</b> Students make sense of the various messages to which they listen.</p> <p><b>Academic Expectation 1.10</b> Students organize information through development and use of classification rules and systems.</p> <p><b>Academic Expectation 1.11</b> Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p>	<ul style="list-style-type: none"> <li>• Vocabulary               <ul style="list-style-type: none"> <li>• Real-life vocabulary (e.g., shopping, traveling, dining, environment, nature)</li> <li>• Illness and injuries</li> <li>• Environment and nature</li> <li>• Current events</li> </ul> </li> <li>• Paragraphs               <ul style="list-style-type: none"> <li>• Gender and number agreement</li> <li>• Adverbs</li> <li>• Negatives</li> <li>• Interrogatives</li> <li>• Comparatives and superlatives</li> <li>• Demonstrative adjectives</li> <li>• Direct and indirect objects</li> </ul> </li> <li>• Verbs               <ul style="list-style-type: none"> <li>• Regular and irregular verbs</li> <li>• Present progressive tense, including irregular verbs</li> </ul> </li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• utilize previous and newly acquired vocabulary words in various contexts</li> <li>• respond logically using target language</li> </ul> <ul style="list-style-type: none"> <li>• read, write, and orally express sentences and common expressions</li> <li>• translate and interpret written material</li> <li>• apply grammatical concepts to express ideas</li> </ul> <ul style="list-style-type: none"> <li>• show understanding of proper noun/verb agreement for regular and irregular, present, present progressive, reflexive, past, and future tense verbs</li> <li>• utilize various verb tenses in speaking and writing</li> </ul>

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<p><b>Academic Expectation 1.12</b> Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.</p> <p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.7</b> Students understand number concepts and use numbers appropriately and accurately.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 2.28</b> Students understand and communicate in a second language.</p> <p><b>Academic Expectation 3.3</b> Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.</p> <p><b>Academic Expectation 3.4</b> Students demonstrate the ability to be resourceful and creative.</p>	<ul style="list-style-type: none"> <li>• Reflexive verbs</li> <li>• Past tense</li> <li>• Future tense (Ir)</li> <li>• Formal regular and irregular commands</li> </ul>	
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<b>Cultures Grade Eight</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning about other cultures promotes understanding and acceptance of others.</li> <li>• Culture impacts the way people interact with others.</li> <li>• Exposure to other cultures helps students to understand that all people are connected in some way.</li> </ul>	<ul style="list-style-type: none"> <li>• What advantages are gained from learning about other cultures?</li> <li>• How does learning about other cultures enhance the quality of interactions with others?</li> <li>• What insights are gained by studying other cultures?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.16</b> Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.</p> <p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.65</b> Students demonstrate an understanding of Christ’s command to love and serve one another.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p>	<ul style="list-style-type: none"> <li>• Cultural perspectives and practices in target culture</li> <li>• Products</li> <li>• Influences of the target culture</li> <li>• Visual and performing arts</li> <li>• Myths and folklore</li> <li>• Visual representations</li> <li>• Verbal and non-verbal forms of communication in target culture</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• defend purposes for learning about different cultures</li> <li>• demonstrate cultural sensitivity by producing authentic cultural projects (e.g., arts and crafts, music, movement)</li> <li>• demonstrate flexibility for multiple perspectives</li> <li>• identify and interpret visual representations and products of target culture (e.g., currency, artifacts, manufactured goods, traditional dress)</li> <li>• analyze influences and contributions (e.g., agriculture, inventions, people, societal structures)</li> <li>• demonstrate appreciation (e.g., music, instruments, dance, fine art)</li> <li>• describe cultural value displayed in works of art, music, and dance</li> <li>• analyze myths and folklore of the target culture</li> <li>• critique visual representations (e.g., flags, Mayan calendar, maps, architecture)</li> <li>• engage in conversations</li> <li>• demonstrate appreciation of various cultures through hands-on activities (e.g., writing, arts and crafts, music, movement)</li> </ul>

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<b>Connections</b> Grade Eight		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Learning a foreign language enables students to link knowledge in all content areas.</li> <li>Language is the way people share knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>How is knowledge in other content areas improved through learning a foreign language?</li> <li>How does the acquisition of a foreign language deepen the sharing of knowledge?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.14</b> Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p> <p><b>Academic Expectation 2.68</b> Students acknowledge the diverse cultural expressions of Catholicism.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p> <p><b>Academic Expectation 6.2</b> Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.</p>	<ul style="list-style-type: none"> <li>Religion</li> <li>Language Arts</li> <li>Math</li> <li>Science</li> <li>Social Studies</li> <li>Visual Arts</li> <li>Music/Performing Arts</li> <li>Physical Education</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>explore the connections to basic concepts and skills from other disciplines: <ul style="list-style-type: none"> <li>religion (e.g., holidays, rites, prayers, symbols, religious architecture, religious histories of people and places)</li> <li>language arts (e.g., listening, speaking, reading and writing skills, storytelling, parts of speech, vocabulary, speech patterns, dictionary skills, research)</li> <li>math (e.g., monetary values, conversions, cardinal numbers, ordinal numbers, equations)</li> <li>science (e.g., weather, food, agriculture, nutrition, temperature, forecasts)</li> <li>social studies (e.g., traditions, holidays, geography, currency, clothing, recipes, natural phenomenon, current events)</li> <li>visual arts (e.g., folk art, crafts, artifacts, artists, architecture)</li> <li>music/performing arts (e.g., songs, composers, instruments, dance, musical artists)</li> <li>physical education (e.g., movement, health, sports)</li> </ul> </li> </ul>

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<b>Comparisons Grade Eight</b>		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• There are similarities and differences in languages and cultures.</li> <li>• People are unique, yet they share common experiences.</li> <li>• Discovering linguistic similarities simplifies learning a foreign language.</li> </ul>	<ul style="list-style-type: none"> <li>• What insights are gained through the exploration of multiple cultures?</li> <li>• What is unique and what is universal across all cultures?</li> <li>• How do language patterns simplify learning?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.27</b> Students recognize and understand the similarities and differences among languages.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p>	<ul style="list-style-type: none"> <li>• Linguistic patterns</li> <li>• Grammatical and structural patterns</li> <li>• Verbal and non-verbal forms of communication</li> <li>• Cultural aspects and traditions</li> <li>• Geographical features</li> <li>• Traits of peoples</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• evaluate similarities and differences between target language and English</li> <li>• identify and apply patterns in sentence construction</li> <li>• demonstrate knowledge of vocabulary through speaking, actions, and writing</li> <li>• compare and contrast aspects that are unique to a culture and aspects that are universal to cultures</li> <li>• demonstrate flexibility for multiple perspectives</li> <li>• describe similarities and differences in geographical features of various countries</li> <li>• examine similarities and differences in people</li> <li>• develop an appreciation for cultural diversity</li> </ul>

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<b>Communities</b> Grade Eight		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Learning a foreign language promotes cooperation in a global society.</li> <li>• Knowledge of foreign languages and cultures can be applied in the community.</li> <li>• Foreign language skills provide students with tools that will be used beyond the school setting now and in the future.</li> </ul>	<ul style="list-style-type: none"> <li>• How can cultural diversity be embraced?</li> <li>• Why is cultural diversity important in every community?</li> <li>• How does learning a foreign language enhance future success?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.19</b> Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.</p> <p><b>Academic Expectation 2.33</b> Students demonstrate the skills to evaluate and use services and resources available in their community.</p> <p><b>Academic Expectation 2.37</b> Students demonstrate skills and work habits that lead to success in future schooling and work.</p> <p><b>Academic Expectation 4.4</b> Students demonstrate the ability to accept the rights and responsibilities for self and others.</p> <p><b>Academic Expectation 7.6</b> Students apply Catholic principles to interpersonal relationships as found in the family, the workplace, society, Church, and with all creation.</p>	<ul style="list-style-type: none"> <li>• Awareness of culture and language in local community</li> <li>• Possible career options that use a foreign language</li> <li>• Role of languages in a global society</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• initiate conversation with heritage speakers</li> <li>• embrace the presence of target culture throughout the community</li> <li>• demonstrate flexibility when interacting with people of different cultural backgrounds</li> <li>• evaluate personal talents and skills in light of career opportunities resulting from bilingual and bi-cultural knowledge and skills</li> <li>• internalize the use of foreign languages in a global society</li> </ul>

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**Suggested Applications for Technology and Library Media**

**Reinforce core content through the use of:**

- Software
- Web pages
- Word processing documents
- Computer
- Digital camera and document camera
- Multimedia projects
- Interactive whiteboard
- Student response systems
- Video equipment
- Audio equipment
- Scanners
- Video conferencing equipment
- Skype
- Interactive Software
- Wikis
- Blogs

**Include multimedia resources:**

- Internet websites
- DVDs
- CDs

**Incorporate a variety of print materials:**

- Books (including picture books)
- Charts
- Magazines
- Dictionaries
- Maps
- Newsprint
- Encyclopedias
- Almanacs
- Reference tools

**Include multimedia presentations:**

- PowerPoint
- Slide shows
- Brochures
- Prezi

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**Examples of Formative and Summative Assessment**

Anchor activities  
Anecdotal records  
Art, dance, and music performances  
Brochures  
Collages and posters  
Debates  
Diagrams  
Dramatizations  
Entrance and exit slips  
File folder games  
Graphic organizers  
Group projects and presentations  
Interviews  
K-W-L chart  
Maps and drawings  
Mobiles  
Models

Multiple choice assessments  
Observations  
Oral presentations  
Oral response  
PowerPoint presentations  
Pre- and post-assessments  
Real-life task performances  
Self-evaluation  
Slide show presentations  
Songs  
Student created questions, tests, and quizzes  
Student taught lessons  
Summaries  
Teacher created/book generated tests and quizzes  
Video productions  
Web pages  
Writing

# **Visual Arts Curriculum Framework**

# VISUAL ARTS

## PHILOSOPHY/RATIONALE AND THE CURRICULUM GUIDE

### **Philosophy/Rationale**

In Archdiocese of Louisville schools, we believe that as human beings, we reflect our humanity, the beauty of creation, and our understanding of God's love through our own creative, artistic endeavors. We believe that art is a conscious expression in a visual form. Multiple opportunities for conscious expression are vital to the fullest possible development of young minds. Consequently, art is a critical component of a comprehensive and rich curriculum, whether implemented formally or informally, because it promotes self-expression, makes connections to higher levels of thinking, and fosters the recognition and the appreciation of differences among individuals and cultures. Art encourages discovery, inquiry, and wonder, and art can be a key to understanding past times and cultures and to envisioning the future.

### **Curriculum Guide**

In 2001, the *Archdiocese of Louisville Visual Arts Curriculum Guide* was developed and introduced. It was revised in 2005 and again in 2010. The 2001 curriculum guide replaced the former art curriculum guide from 1985.

The *Archdiocese of Louisville Visual Arts Curriculum Guide* is based upon research and best practices, was written by experienced and successful art teachers within the archdiocese, and is aligned with *National Standards for Arts Education* from the Consortium of National Arts Education Associations.

The guide also includes assessment information and a variety of resources to support teachers at all levels of expertise with the implementation of the local art curriculum.

Each elementary school received copies of the guide and curriculum framework. If a school does not have a full time/part time art teacher and the art curriculum is taught in the regular classroom, those teachers should have copies of the curriculum framework and access to the curriculum guide to assist them with implementation of the local art curriculum.

Copies of the Archdiocese of Louisville Visual Arts Curriculum Framework and Curriculum Guide can be found on the Archdiocese of Louisville website, [www.archlou.org](http://www.archlou.org).

# **Visual Arts Curriculum Framework**

## Archdiocese of Louisville

The Archdiocese of Louisville Visual Arts Curriculum Framework is standards and performance based. The curriculum framework is aligned with the *National Standards for Arts Education* put forth by the National Art Education Association. These national standards specify the understandings and levels of achievement (benchmarks) that students are expected to attain in the competencies, for each of the arts, at the completion of grades 4, 8, and 12.

### **National Standards for Arts Education**

The following Content Standards specify what students should know and be able to do in the visual arts discipline:

1. Understanding and applying media, techniques, and processes.
2. Using knowledge of structures and functions.
3. Choosing and evaluating a range of subject matter, symbols, and ideas.
4. Understanding the visual arts in relation to history and cultures.
5. Reflecting upon and assessing the characteristics and merits of their work and the work of others.
6. Making connections between visual arts and other disciplines.

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## **Alignment with National Standards**

The Visual Arts Curriculum Framework in the Archdiocese of Louisville is aligned with the ***National Standards for Arts Education*** and with the **Learning Goals and Academic Expectations of the Kentucky Department of Education** and the **Archdiocese of Louisville**.

The National Standards state that:

**Students should be able to communicate at a basic level in the visual arts discipline.** *This includes knowledge and skills in the use of the basic vocabularies, materials, tools, techniques, and intellectual methods.*

**Students should be able to communicate proficiently in at least one art form,** *including the ability to define and solve artistic problems with insight, reason, and technical proficiency.*

**Students should be able to develop and present basic analysis of works of art** *from structural, historical, and cultural perspectives, and from combinations of those perspectives. This includes the ability to understand and evaluate work in the various arts disciplines.*

**Students should have an informed acquaintance with exemplary works of art from a variety of cultures and historical periods,** *and a basic understanding of historical development in the arts disciplines and within cultures.*

**Students should be able to relate various types of art knowledge and skills within and across the arts disciplines.** *This includes mixing and matching competencies and understandings in art making, history and culture, and analysis in any arts-related project.*

The existence of state and national standards for art learning demands that students be evaluated on their ability to achieve those standards. Art teachers must know the standards, base their instruction on the standards, and assess the degree to which their students have demonstrated the standards.

As a result of developing these capabilities, students can arrive at their own knowledge, beliefs, and values for making personal and artistic decisions. In other terms, they can arrive at a broad-based, well-grounded understanding of the nature, value, and meaning of the arts as a part of their own humanity.

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## Creativity and the Arts – Pre-K

Essential Understandings	Guided Questions
<ul style="list-style-type: none"> <li>• Art fosters creativity and is an avenue for personal expression.</li> <li>• Creativity and the arts promote the development of the whole child.</li> </ul>	<ul style="list-style-type: none"> <li>• How does this creation/experience make you feel?</li> <li>• What did you gain from this experience?</li> <li>• How does being exposed to the different art forms expand your awareness of the world around you?</li> </ul>
Content Guidelines	Performance Standards
<p>Creativity</p> <p>Appreciation</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• use a variety of media, materials, and tools for creative expression</li> <li>• demonstrate self-expression and creativity in a variety of forms and contexts, including play, visual arts, music, drama, and dance</li> <li>• show and talk about what they have made or done</li> <li>• show interest and respect for the creative work of self and others</li> <li>• demonstrate appreciation for different forms of artistic expression</li> <li>• share opinions and thoughts about art and creative expression in a respectful manner</li> </ul>

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**Understanding and Applying Media, Techniques, and Processes**  
Kindergarten through Grade Two

Essential Understandings	Guided Questions	
<p>Art forms have basic elements.</p> <p>Art materials and tools have a specific purpose.</p>	<ul style="list-style-type: none"> <li>• What are the basic elements of various art forms?</li> <li>• Why is it important to take care of art materials and use them safely?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.13</b> Students make sense of ideas and communicate ideas with the visual arts.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p>	<ul style="list-style-type: none"> <li>• 2-D and 3-D art</li> <li>• Safety</li> <li>• Technology and tools</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate and express understanding of a variety of media techniques and processes in 2-D and 3-D art</li> <li>• use materials and tools in a safe and responsible manner</li> <li>• explore the uses of technology and tools</li> </ul>

**Using Knowledge of Structures and Functions**  
**Kindergarten through Grade Two**

Essential Understandings	Guided Questions	
<p>Artists create different effects by changing elements of an art form.</p> <p>Artists use visual structures and functions of art to communicate ideas.</p>	<ul style="list-style-type: none"> <li>• How does changing one element in an artwork make people feel differently?</li> <li>• How do artists communicate ideas to an audience?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.10</b> Students organize information through development and use of classification rules and systems.</p> <p><b>Academic Expectation 1.13</b> Students make sense of ideas and communicate ideas with the visual arts.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p>	<ul style="list-style-type: none"> <li>• Elements of art</li> <li>• Art mediums</li> <li>• Types of art</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate an understanding of the elements of art (line, shape, color, value, form, texture, and space)</li> <li>• create with a variety of art mediums</li> <li>• create works of art using portraiture, landscape, narrative, and still life</li> </ul>

**Choosing and Evaluating a Range of Subject Matter, Symbols, and Ideas**  
**Kindergarten through Grade Two**

<b>Essential Understandings</b>	<b>Guided Questions</b>	
<p>Creating art involves problem-solving.</p> <p>Artists express ideas and emotions through the arts.</p> <p>Artists select and use subject matter, symbols, and ideas to communicate meaning.</p>	<ul style="list-style-type: none"> <li>• How does planning ahead and problem-solving help in producing art?</li> <li>• Why do artists create different kinds of art?</li> <li>• How does the artist communicate ideas and feelings?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.24</b>            Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 5.4</b>            Students use a decision-making process to make informed decisions among options.</p>	<ul style="list-style-type: none"> <li>• Purposes of art</li> <li>• Relevant artists</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• create art work using ceremonial, expressive, narrative, functional, persuasive, and/or decorative art forms</li> <li>• explore various artists and their work</li> <li>• use various artists as inspiration for their own work</li> </ul>

## Understanding the Visual Arts in Relation to History and Cultures

Kindergarten through Grade Two

Essential Understandings	Guided Questions	
<p>Art reflects an artist's experience and background.</p> <p>Cultures express ideas through a variety of works of art.</p>	<ul style="list-style-type: none"> <li>• How do artists' experiences influence their art?</li> <li>• What do you learn about various cultures from the art they make?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p>	<ul style="list-style-type: none"> <li>• Multicultural art</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explore and experience art of different cultures, periods, and forms (e.g., masks, sculptures, ritual objects)</li> </ul>

**Reflecting upon and Assessing the Characteristics and Merits of Their Work and the Work of Others**  
**Kindergarten through Grade Two**

Essential Understandings	Guided Questions	
<p>People interpret the arts in different ways.</p> <p>Standards of quality guide evaluation of a work of art.</p>	<ul style="list-style-type: none"> <li>• How do likes and dislikes influence personal responses to art?</li> <li>• What are appropriate audience behaviors for various art forms and presentations?</li> <li>• How do the arts help people to see things in different ways?</li>   <li>• How do artists determine the quality of their work?</li> <li>• Why is critiquing important to the artist?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.13</b> Students make sense of ideas and communicate ideas with the visual arts.</p> <p><b>Academic Expectation 1.4</b> Students make sense of the various messages to which they listen.</p> <p><b>Academic Expectation 2.23</b> Students analyze their own and others' artistic products and performances using accepted standards.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p> <p><b>Academic Expectation 5.3</b> Students organize information to develop or change their understanding of a concept</p>	<ul style="list-style-type: none"> <li>• Artist statement</li>   <li>• Active listening</li>   <li>• Critique</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• recognize various purposes for creating art</li> <li>• create an artist statement about their work (verbal and/or written)</li>   <li>• listen in a respectful Christian manner to a variety of opinions</li>   <li>• voice opinions in a respectful Christian manner</li> <li>• offer constructive criticism when critiquing a piece of art</li> </ul>

## Making Connections between Visual Arts and Other Disciplines

Kindergarten through Grade Two

Essential Understandings	Guided Questions	
Art and other content areas are interconnected.	<ul style="list-style-type: none"> <li>• How is art connected to other subjects?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p> <p><b>Academic Expectation 7.4</b> Students participate actively in a community of faith.</p>	<ul style="list-style-type: none"> <li>• Collaborative projects</li> <li>• Community involvement</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explore connections between art and other disciplines</li> <li>• create public art (e.g., displays in the hall, art contests, art fairs, auction projects)</li> <li>• create works of art for community outreach (e.g., Pinwheels for Peace, projects for the homebound, stewardship projects)</li> </ul>

## Understanding and Applying Media, Techniques, and Processes

Grades Three through Five

Essential Understandings	Guided Questions	
<p>Unique elements characterize different art forms.</p> <p>Art materials and tools have a specific purpose.</p>	<ul style="list-style-type: none"> <li>• How are forms of art similar and different?</li> <li>• Why is it important to take care of art materials and use them safely?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.13</b> Students make sense of ideas and communicate ideas with the visual arts.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p>	<ul style="list-style-type: none"> <li>• Media techniques and processes</li> <li>• 2-D and 3-D art</li> <li>• Safety</li> <li>• Technology and tools</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate how different media techniques and processes cause different effects (drawing, painting, video, and installations)</li> <li>• use the creative process from beginning to end (pre-planning, brainstorming, writing, creation, and critique)</li> <li>• create using a variety of art media</li> <li>• use materials and tools in a safe and responsible manner</li> <li>• explore the uses of technology and tools</li> <li>• use technology and tools to create images and communicate ideas</li> </ul>

**Using Knowledge of Structures and Functions**  
**Grades Three through Five**

<b>Essential Understandings</b>	<b>Guided Questions</b>	
Artists use elements of art and principles of design to produce a variety of effects.	<ul style="list-style-type: none"> <li>• How do the elements of art and the principles of design influence art forms?</li> <li>• How do artists use art forms to communicate?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.10</b> Students organize information through development and use of classification rules and systems.</p> <p><b>Academic Expectation 1.13</b> Students make sense of ideas and communicate ideas with the visual arts.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p>	<ul style="list-style-type: none"> <li>• Elements of art</li> <li>• Principles of design</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• discuss and create using the elements of art (line, shape, color, value, form, texture, and space)</li> <li>• apply and discuss the principles of design (balance, contrast, emphasis, movement, pattern, rhythm, and unity)</li> </ul>

**Choosing and Evaluating a Range of Subject Matter, Symbols, and Ideas**  
**Grades Three through Five**

<b>Essential Understandings</b>	<b>Guided Questions</b>	
<p>Creating art involves analytical and creative thinking.</p> <p>Arts enhance communication of information, ideas, and feelings.</p>	<ul style="list-style-type: none"> <li>• How do artists evaluate their work during the creation process?</li> <li>• How does critique help in refining art?</li> <li>• What is the difference between copying and creating original work?</li>   <li>• What role does art play in the act of communication?</li> <li>• How does art reflect feelings and attitudes?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.24</b>            Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 5.4</b>            Students use a decision-making process to make informed decisions among options.</p>	<ul style="list-style-type: none"> <li>• Symbolism and ideas</li>   <li>• Types of art</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• discuss ideas and symbols that communicate meaning</li> <li>• create works with various ideas and symbolic meanings</li>   <li>• create works of art using portraiture, landscape, narrative, abstract, non-objective, genre, and/or still life</li> </ul>



**Reflecting upon and Assessing the Characteristics and Merits of Their Work and the Work of Others**  
**Grades Three through Five**

Essential Understandings	Guided Questions	
<p>Art enriches experiences and understandings.</p> <p>Standards of quality guide evaluation of a work of art.</p>	<ul style="list-style-type: none"> <li>• What are appropriate audience behaviors for various art forms and presentations?</li> <li>• How do the arts help people see a different viewpoint?</li> <li>• How do listening to and observing others help people to generate new ideas?</li> <li>• What factors influence an artist's style?</li>   <li>• How are standards of quality determined?</li> <li>• How do standards impact responses and interpretations?</li> <li>• What standards of quality are used to evaluate specific forms of art?</li> <li>• How do evaluation or critique of art impact the artist's work?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.13</b> Students make sense of ideas and communicate ideas with the visual arts.</p> <p><b>Academic Expectation 1.4</b> Students make sense of the various messages to which they listen.</p> <p><b>Academic Expectation 2.23</b> Students analyze their own and others' artistic products and performances using accepted standards.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p> <p><b>Academic Expectation 5.3</b> Students organize information to develop or change their understanding of a concept.</p>	<ul style="list-style-type: none"> <li>• Artist statements</li>   <li>• Critiques</li>     <li>• Active listening</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• produce an artist statement which includes process and rationale</li>   <li>• compare and contrast a variety of artworks</li> <li>• discuss basic standards (history, elements and principles, theme, culture)</li> <li>• identify elements of art and principles of design in a variety of art works</li>   <li>• demonstrate active listening skills and respectful Christian behaviors during critiques</li> </ul>

## Making Connections between Visual Arts and Other Disciplines

Grades Three through Five

Essential Understandings	Guided Questions	
<p>All knowledge is interconnected.</p> <p>The arts are unique in that they stand alone and enrich other content areas.</p>	<ul style="list-style-type: none"> <li>• How do art professions enhance society?</li> <li>• How do art galleries and museums impact their community?</li> <li>• Why do we value the arts?</li>   <li>• How do the arts connect to other content areas?</li> <li>• Why do we collaborate?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p> <p><b>Academic Expectation 7.4</b> Students participate actively in a community of faith.</p>	<ul style="list-style-type: none"> <li>• Cultural experiences</li>   <li>• Art professions</li>   <li>• Community involvement</li>   <li>• Collaborative projects</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• understand the contribution of galleries, studios, and museums to society (e.g., virtual tours, classroom exhibits, travelling suitcases, online collections)</li>   <li>• identify careers available to artists</li>   <li>• create public art (e.g., displays in the hall, art contests, art fairs, auction projects)</li> <li>• create works of art for community outreach (e.g., Pinwheels for Peace, projects for the homebound, stewardship projects)</li>   <li>• expand connections between art and other disciplines</li> <li>• participate in collaborative projects</li> </ul>

**Understanding and Applying Media, Techniques, and Processes**  
**Grades Six through Eight**

Essential Understandings	Guided Questions	
Form follows function.	<ul style="list-style-type: none"> <li>• How does function influence the design of an object?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.13</b> Students make sense of ideas and communicate ideas with the visual arts.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p>	<ul style="list-style-type: none"> <li>• Media techniques and processes</li>   <li>• 2-D and 3-D art</li>   <li>• Safety</li>   <li>• Technology and tools</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• select appropriate media, techniques, and processes to convey their artistic vision</li> <li>• use the creative process from beginning to end (pre-planning, brainstorming, writing, creation, and critique)</li>   <li>• create using a variety of art media</li>   <li>• use materials and tools in a safe and responsible manner</li>   <li>• explore the uses of technology and tools</li> <li>• use technology and tools to create images and communicate ideas</li> </ul>

## Using Knowledge of Structures and Functions

### Grades Six through Eight

Essential Understandings	Guided Questions	
Artists manipulate elements of art and principles of design to create art.	<ul style="list-style-type: none"> <li>• How do the elements of art and the principles of design influence the viewer?</li> <li>• How does art influence and manipulate the viewing public?</li> <li>• How does art drive consumerism?</li> <li>• How important is the audience in art production?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.10</b> Students organize information through development and use of classification rules and systems.</p> <p><b>Academic Expectation 1.13</b> Students make sense of ideas and communicate ideas with the visual arts.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p>	<ul style="list-style-type: none"> <li>• Elements of art</li>   <li>• Principles of design</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• evaluate the use of the elements of art (line, shape, color, value, form, texture, and space) to convey a personal message (e.g., social justice, environmental themes, political message, advertisement, consumerism)</li>   <li>• evaluate the use of the principles of design (balance, contrast, emphasis, movement, pattern, rhythm, and unity) to convey a personal message (e.g., social justice, environmental themes, political message, advertisement, consumerism)</li> </ul>

**Choosing and Evaluating a Range of Subject Matter, Symbols, and Ideas**  
**Grades Six through Eight**

Essential Understandings	Guided Questions	
Arts and artistic style enhance communication of information and influence ideas and feelings.	<ul style="list-style-type: none"> <li>• How do artists use symbols to create and express ideas, moods, and feelings?</li> <li>• How are consumer choices influenced by the arts?</li> <li>• How does risk-taking influence personal style?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 2.24</b>            Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.25</b>            In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p>	<ul style="list-style-type: none"> <li>• Symbolism and ideas</li>   <li>• Styles of art</li> </ul>	Students will: <ul style="list-style-type: none"> <li>• communicate points of view through manipulation of symbols and media</li> <li>• create works with various ideas and symbolic meanings</li>   <li>• explain ways an artist's intent plays a crucial role in the aesthetic value of an object</li> <li>• use research and contextual information to identify responses to a work of art</li> <li>• integrate appropriate skills and techniques with the subject matter to communicate the intended meaning of the artwork</li> </ul>

**Understanding the Visual Arts in Relation to History and Cultures**  
**Grades Six through Eight**

Essential Understandings	Guided Questions	
Art forms are an integral part of the human experience.	<ul style="list-style-type: none"> <li>• How is art part of the human experience?</li> <li>• How can art influence culture and events over time?</li> <li>• How does art contribute to an appreciation and respect of multiple cultures?</li> <li>• How do cultural elements affect artistic styles?</li> <li>• How does personal experience influence appreciation of art?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p>	<ul style="list-style-type: none"> <li>• Multicultural art</li>   <li>• Art history</li>   <li>• Movements of art</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• interpret the contribution of various cultures, periods, and styles to the human experience</li> <li>• evaluate the importance of craft as an art form</li> <li>• create crafts reflecting various cultures (e.g., textiles, quilts, weavings, arpilleras, masks, jewelry, ceramics, embossing, basketry, woodworking, folk art)</li>   <li>• examine the role of art throughout history and its effect on culture</li> <li>• create projects that demonstrate forms of art throughout history (prehistoric through present day)</li>   <li>• identify different movements in art and their characteristics</li> <li>• understand the influences that brought about the different art movements</li> </ul>

**Reflecting upon and Assessing the Characteristics and Merits of Their Work and the Work of Others**  
**Grades Six through Eight**

Essential Understandings	Guided Questions	
<p>Standards of quality guide evaluation of a work of art.</p> <p>Standards of quality facilitate analysis and interpretation of an art form.</p>	<ul style="list-style-type: none"> <li>• What are the criteria for judging how effectively a work of art communicates?</li> <li>• Why do the standards of quality change over time?</li> <li>• How does a society influence the standards of quality?</li>   <li>• How does the artist know if a work of art communicates intended ideas or feelings?</li> <li>• What is the responsibility of the artist and the viewer?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.13</b> Students make sense of ideas and communicate ideas with the visual arts.</p> <p><b>Academic Expectation 1.4</b> Students make sense of the various messages to which they listen.</p> <p><b>Academic Expectation 2.23</b> Students analyze their own and others' artistic products and performances using accepted standards.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 4.6</b> Students demonstrate an open mind to alternative perspectives.</p> <p><b>Academic Expectation 5.3</b> Students organize information to develop or change their understanding of a concept.</p>	<ul style="list-style-type: none"> <li>• Artist statements</li>   <li>• Critiques</li>   <li>• Active listening</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• produce an artist statement which includes process and rationale</li> <li>• understand the intent of a work through the artist's statement</li>   <li>• compare and contrast a variety of artworks</li> <li>• evaluate the basic standards (history, elements and principles, themes, culture)</li> <li>• analyze elements of art and principles of design in a variety of art works</li>   <li>• demonstrate active listening skills and respectful Christian behaviors during critiques</li> </ul>

## Making Connections between Visual Arts and Other Disciplines

### Grades Six through Eight

Essential Understandings	Guided Questions	
<p>All knowledge is interconnected.</p> <p>Creating art requires ethical awareness, responsibility, and collaboration.</p>	<ul style="list-style-type: none"> <li>• How do the arts connect to the real world and other professions?</li> <li>• How are the lessons taught through the arts essential to the business world?</li> <li>• How does consumerism drive art?</li> <li>• How can the arts connect with other disciplines in an ever-changing world?</li>   <li>• How does collaboration with others contribute to the production of art?</li> <li>• What role do ethics play in selecting ideas for creating a work of art?</li> <li>• How is plagiarism related to responsible choices in art production?</li> <li>• How does the artist use humor responsibly?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 6.1</b> Students connect knowledge and experiences from different subject areas.</p> <p><b>Academic Expectation 7.4</b> Students participate actively in a community of faith.</p>	<ul style="list-style-type: none"> <li>• Cultural experiences</li>   <li>• Professions and careers</li>   <li>• Community involvement</li>   <li>• Collaborative projects</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• analyze the contribution of galleries, studios, and museums to society (e.g., virtual tours, classroom exhibits, travelling suitcases, online collections)</li>   <li>• investigate ways the arts are used in different professions and careers</li> <li>• explore ways communication, collaboration, creative problem solving, critical thinking, and technology skills connect art with other professions</li>   <li>• create public art (e.g., displays in the hall, art contests, art fairs, auction projects)</li>   <li>• create works of art for community outreach (e.g., Pinwheels for Peace, projects for the homebound, stewardship projects)</li> <li>• participate in collaborative projects</li> </ul>

# **Music and Performing Arts Curriculum Framework**

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# MUSIC AND PERFORMING ARTS PHILOSOPHY AND RATIONALE

## Philosophy

Music is a part of daily life and essential to the development of the whole child (physical, emotional, mental, and spiritual). Music education fosters thinking, socialization, and communication skills; promotes self-expression; and stimulates creativity. All human beings are innately musical regardless of age, talent, or ability level. The study of music/performing arts benefits both students and society, touching human beings in ways that are solely unique to the music/performing arts disciplines.

## Rationale for a Music/Performing Arts Program

In Archdiocese of Louisville schools, we believe and understand that each person is created in the image of God as unique and loveable. We are endowed with personal and collective worth through God's love. As independent thinkers and lifelong learners, we must practice the principles of stewardship and share our God-given innate talents and gifts.

Because of these beliefs, each school must work toward developing a comprehensive and fully implemented Music/Performing Arts Program.

Such a program:

- provides avenues for self-expression, communication, and creativity
- promotes socialization and appreciation for diversity
- addresses a variety of interests, learning styles, and readiness levels
- increases cognitive development, critical thinking and problem-solving skills, and higher-order thinking skills
- improves student self-esteem, attendance, and school atmosphere
- reinforces cross-curricular and life-skills learning
- engages spiraling, life-long learning processes

If a school does not have a full time/part time music/performing arts teacher and the music curriculum is taught in the regular classroom, those teachers should have copies of the curriculum framework and access to the curriculum guide to assist them with implementation of the local music curriculum. Copies of the Archdiocese of Louisville Music/Performing Arts Curriculum Framework and Curriculum Guide can be found on the Archdiocese of Louisville website, [www.archlou.org](http://www.archlou.org).

# **Music and Performing Arts Curriculum Framework**

## Archdiocese of Louisville

The Archdiocese of Louisville Music and Performing Arts Curriculum Framework is standards and performance based. The curriculum framework is aligned with the Music Educators National Conference *National Standards for Arts Education*.

### **National Content Standards for Music/Performing Arts**

#### **Music Educators National Conference**

A musically educated person will demonstrate:

1. Singing, alone and with others, a varied repertoire of music
2. Performing on instruments, alone and with others, a varied repertoire of music
3. Improvising melodies, variations, and accompaniments
4. Composing and arranging music within specified guidelines
5. Reading and notating music
6. Listening, analyzing, and describing music
7. Evaluating music and music performances
8. Understanding relationships between music, the other arts, and disciplines outside the arts
9. Understanding music in relation to history and culture

From *National Standards for Arts Education*. Copyright ©1994 by MENC: The National Association for Music Education. Used with permission. Further information relating to the National Standards is available at our website [www.menc.org/resources](http://www.menc.org/resources).

## Creativity and the Arts – Pre-K

Essential Understandings	Guided Questions
<ul style="list-style-type: none"> <li>• Art fosters creativity and is an avenue for personal expression.</li> <li>• Creativity and the arts promote the development of the whole child.</li> </ul>	<ul style="list-style-type: none"> <li>• How does this creation/experience make you feel?</li> <li>• What did you gain from this experience?</li> <li>• How does being exposed to the different art forms expand your awareness of the world around you?</li> </ul>
Content Guidelines	Performance Standards
<p>Creativity</p> <p>Appreciation</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• use a variety of media, materials, and tools for creative expression</li> <li>• demonstrate self-expression and creativity in a variety of forms and contexts, including play, visual arts, music, drama, and dance</li> <li>• show and talk about what they have made or done</li> <li>• show interest and respect for the creative work of self and others</li> <li>• demonstrate appreciation for different forms of artistic expression</li> <li>• share opinions and thoughts about art and creative expression in a respectful manner</li> </ul>

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<b>Singing</b> Kindergarten through Grade Two		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Vocal repertoire incorporates the ten elements of music.</li> <li>• Accurate participation involves engaged listening.</li> <li>• Singers express ideas and emotions through music.</li> <li>• Singers interpret music in different ways.</li> </ul>	<ul style="list-style-type: none"> <li>• How are the elements of music incorporated when singing a song?</li> <li>• How does changing one musical element make the listener feel differently?</li> <li>• Why is it important to listen while singing?</li> <li>• What occurs during group singing when singers do not listen to each other?</li> <li>• What are the ideas and emotions expressed in a given song?</li> <li>• How does the singer communicate ideas and feelings?</li> <li>• How does the song make you feel?</li> <li>• How does the song help the listener to see things in different ways?</li> <li>• Why do particular songs make the listener want to move?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.14</b> Students make sense of ideas and communicate ideas with music.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.64</b> Students demonstrate recognition of the sacredness of time through the celebration of the hours, liturgical seasons, and special feasts and days.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p> <p><b>Academic Expectation 7.4</b> Students participate actively in a community of faith.</p>	<ul style="list-style-type: none"> <li>• Vocal pedagogy</li> <li>• Speech, chant, and song repertoire</li> <li>• Solfege syllables</li> <li>• Rhythmic syllables</li> <li>• Meter</li> <li>• Vocal harmony</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• participate in vocal warm-up exercises (e.g., breathing, vowels, tone placement, body alignment, diction)</li> <li>• demonstrate high/low melodic contour</li> <li>• produce sound using head voice and chest voice</li> <li>• sing with appropriate timbre, diction, and body alignment, maintaining a steady tempo</li> <li>• follow simple, basic conducting cues related to dynamics, phrasing, and interpretation</li> <li>• speak, chant, and sing expressively and accurately while following the conductor</li> <li>• sing, individually and in groups, a variety of musical styles, tempi, rhythms, pentatonic melodies, and tonal centers</li> <li>• perform a varied repertoire (e.g., American folk songs, world folk songs, popular songs, nursery rhymes, poetry)</li> <li>• sing simple songs, responses, and refrains for seasonal liturgies</li> <li>• match and perform simple pitches (e.g., sol, mi, la and/or mi, re, do)</li> <li>• perform simple rhythm patterns with use of syllables (e.g., ta and ti-ti)</li> <li>• perform simple ostinati in duple and triple patterns</li> <li>• perform partner songs, canons, rounds, and vocal ostinati</li> </ul>

<b>Instruments</b> Kindergarten through Grade Two		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Instrumental repertoire incorporates the ten elements of music.</li> <li>• Accurate participation involves engaged listening.</li> <li>• People experience music through their various senses.</li> <li>• Musicians express ideas and emotions through music.</li> <li>• Musicians create different effects by changing musical elements.</li> </ul>	<ul style="list-style-type: none"> <li>• How are the elements of music incorporated when playing a piece?</li> <li>• How does changing one musical element make the listener feel differently?</li> <li>• Why is it important to listen while playing an ensemble piece?</li> <li>• What occurs during ensemble playing when musicians do not listen to each other?</li> <li>• How does playing the music make the listener feel?</li> <li>• How does the music help the listener to respond in a different way?</li> <li>• How does the musician communicate ideas and feelings?</li> <li>• What are the ideas and emotions expressed in a given piece?</li> <li>• How do musicians create different effects by changing musical elements?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p>	<ul style="list-style-type: none"> <li>• Instrumental pedagogy</li> <li>• Speech, chant, body percussion, and pitched and non-pitched percussion repertoire</li> <li>• Meter and rhythmic imitation</li> <li>• Melodic and harmonic imitation</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate simple procedures for the care, management, and playing of instruments</li> <li>• model body placement relating to use of pitched and non-pitched percussion technique</li> <li>• perform in ensembles expressively and accurately, blending timbres, dynamic levels, phrasing and interpretation while responding correctly to conducting cues</li> <li>• perform simple accompaniments: speech, chant, body percussion, bordun, rhythmic ostinati, tremolos, and glissandi</li> <li>• perform on instruments, in a group/individually, a variety of musical styles, rhythms, and tonal centers</li> <li>• perform on a wide assortment of standard, ethnic, and homemade instruments (e.g., xylophones, drums, and shakers)</li> <li>• perform using body percussion and/or instruments in a liturgical setting</li> <li>• recognize conducting patterns</li> <li>• echo simple rhythms with the use of syllables (e.g., ta and ti-ti for rhythm)</li> <li>• play simple ostinato patterns</li> <li>• echo-sing melodic patterns using pitches with text, letter names, and solfege syllables</li> <li>• play melodic ostinati, canons, and rounds</li> </ul>

## Improvising and Composing

### Kindergarten through Grade Two

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Music has basic elements and structure.</li> <li>• Musicians create different effects by changing musical elements.</li> <li>• Creating music involves problem solving.</li> </ul>	<ul style="list-style-type: none"> <li>• How does the composer use the basic elements of music within a select structure?</li> <li>• How does changing one musical element alter the composition?</li> <li>• How does a composer's experience influence music?</li> <li>• How might a composer refine a musical creation?</li> <li>• What cooperative skills and social skills might composers use?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.16</b> Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.23</b> Students analyze works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p>	<ul style="list-style-type: none"> <li>• Exploring and improvising</li> <li>• Composing and arranging</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• explore musical instruments</li> <li>• invent "question" and "answer" phrases of a determined length</li> <li>• improvise both rhythmic and melodic "question" and "answer" phrases</li> <li>• improvise simple rhythmic and melodic ostinato patterns</li> <li>• improvise to familiar melodies through movement</li> <li>• compose short songs and instrumental pieces within given musical guidelines</li> <li>• use a variety of sound sources when composing music (e.g., body percussion, invented instruments)</li> <li>• compose rhythmic/melodic ostinatos</li> <li>• arrange simple original pieces for voices or instruments using a variety of forms (canon, round, binary, ternary, and rondo form)</li> <li>• use technology to collect and organize ideas, and compose musical pieces (e.g., finale)</li> </ul>

## Reading and Notating Music

### Kindergarten through Grade Two

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Music consists of basic elements and form.</li> <li>• Musicians utilize a system of symbols to convey meaning.</li> </ul>	<ul style="list-style-type: none"> <li>• How are musical elements and form indicated?</li> <li>• How are forms of music similar and different?</li> <li>• How do musicians identify individual written symbols?</li> <li>• How do musicians create combinations of written symbols?</li> <li>• How does working together benefit the production of music?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.16</b> Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p>	<ul style="list-style-type: none"> <li>• Reading and notating music</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• represent musical elements through movement and graphic and standard notation</li> <li>• recognize, read, notate, and correctly perform music using graphic and standard notation for form, timbre, meter, rhythm, tonality, intervals, dynamics, tempo (fast and slow), and articulation</li> <li>• use systems describing how music is similar or different (e.g., verse/refrain, binary, ternary)</li> <li>• recognize duple and triple meters ((2/4, 4/4, and 3/4)</li> <li>• apply and organize rhythm (eighth, quarter, half, and whole notes/rests)</li> <li>• use a system (i.e. syllables, numbers, or letters) to read simple pitch notation in treble clef</li> <li>• recognize melodic intervals (step, skip, leap, repeat)</li> <li>• practice reading and notating with technology (e.g., Music Ace Maestro)</li> </ul>

## Listening, Analyzing, Describing, and Evaluating Music and Music Performances

### Kindergarten through Grade Two

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Musicians express ideas and emotions through music and assorted performance venues.</li> <li>• People interpret music and musical performances in different ways.</li> <li>• People experience music and performances through their various senses.</li> <li>• Musical performances portray and transmit culture.</li> </ul>	<ul style="list-style-type: none"> <li>• How are new ideas generated by listening to and watching others?</li> <li>• Why do people have diverse responses to music?</li> <li>• How does the musician communicate ideas and feelings?</li> <li>• How do different types of music and performances make you feel?</li> <li>• What are appropriate audience responses and behaviors for various musical venues?</li> <li>• How do purpose and audience influence choices in music?</li> <li>• How might an understanding of a culture enhance the listener's experience?</li> <li>• Why are there different styles in music?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.16</b> Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p><b>Academic Expectation 2.23</b> Students analyze works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.3</b> Students identify and analyze systems and the ways the components work together or affect each other.</p> <p><b>Academic Expectation 2.34</b> Students perform physical movement skills effectively in a variety of settings.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p>	<ul style="list-style-type: none"> <li>• Listening, analyzing , and describing</li> <li>• Evaluating music and music performances</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• respond through movement to musical and drama elements and styles</li> <li>• use appropriate music terminology to explain dynamics, tempi, articulation, and musical performances</li> <li>• identify simple music forms (e.g., call and response, binary, ternary )</li> <li>• identify instrumental sounds and human voices</li> <li>• compare and contrast similarities and differences between musical selections and performances</li> <li>• use musical terminology, movement, and/or art to positively critique their own and others' performances and compositions</li> <li>• evaluate the effectiveness of sets, music, costumes, lighting, and sound in conveying the intended emotion and message</li> </ul>

## Understanding Relationships between Music, Fine Arts, and Other Academic Disciplines

### Kindergarten through Grade Two

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Musical study can highlight basic relationships between fine arts and other academic disciplines.</li>   <li>• Historical and cultural influences shape music.</li>   <li>• Musical evolution enriches and deepens human understanding.</li> </ul>	<ul style="list-style-type: none"> <li>• How does music study help people perceive things in different ways?</li> <li>• How does music study promote the understanding of relationships between fine arts and other disciplines?</li>   <li>• How do historical and cultural influences impact music?</li> <li>• What influences a musician's style?</li>   <li>• How is the music of various cultures similar and different?</li> <li>• How do people understand history and cultures through the study of music?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.14</b> Students make sense of ideas and communicate ideas with music.</p> <p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.58</b> Students demonstrate an understanding of the relationship between faith and culture as it is found in the arts, sciences, and technology.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p>	<ul style="list-style-type: none"> <li>• Music and fine arts</li>   <li>• Music and other disciplines</li>   <li>• Music culture and history</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• compare and contrast the use of terms common to the various fine arts (e.g., line, color, pattern)</li> <li>• identify and describe relationships between the study of music and theatre, dance, opera, and visual art</li>   <li>• apply music principles to curricular areas (e.g., math: geometric shapes used in simple folk dancing; science: sound production related to vibrations)</li>   <li>• perform world songs, speech chants, poems, and rhymes in English and other languages</li> <li>• perform body percussion, hand clap games, jump rope rhymes, circle games, marches, and folk dances from a variety of world cultures</li> <li>• dramatize childhood stories and literature (e.g., Mother Goose, multicultural fables, and fairy tales)</li> <li>• compare and contrast how elements of music are used throughout the world</li> <li>• identify various uses of music within culture (e.g., lullaby, patriotic songs, work songs, religious hymns)</li> <li>• identify the role of musicians within a social structure (e.g., cantor, orchestral conductor, master drummer)</li> <li>• model appropriate audience behavior according to cultural etiquette</li> </ul>

## Singing Grades Three through Five

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>Participation involves engaged listening and focused performance skills.</li> <li>Unique elements characterize different vocal styles and interpretations.</li> <li>Music enhances communication of information, ideas, and feelings.</li> </ul>	<ul style="list-style-type: none"> <li>How does working together benefit the production of music?</li> <li>How does engaged listening improve the sound of the ensemble?</li> <li>How do the elements of music distinguish distinctive vocal styles?</li> <li>How does changing one or more musical elements make the listener respond differently?</li> <li>How are ideas and emotions expressed in a song?</li> <li>How does the singer communicate information, ideas, and feelings?</li> <li>How does the same song evoke different reactions from different listeners?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.14</b> Students make sense of ideas and communicate ideas with music.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.64</b> Students demonstrate recognition of the sacredness of time through the celebration of the hours, liturgical seasons, and special feasts and days.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p> <p><b>Academic Expectation 7.4</b> Students participate actively in a community of faith.</p>	<ul style="list-style-type: none"> <li>Vocal pedagogy</li> <li>Speech, chant, and song repertoire</li> <li>Solfege syllables</li> <li>Rhythmic syllables</li> <li>Meter</li> <li>Vocal harmony</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>participate in vocal warm-up exercises (e.g., breathing, vowels, tone placement, body alignment, diction)</li> <li>demonstrate high/low melodic contour</li> <li>produce sound using head voice and chest voice</li> <li>sing with appropriate timbre, diction, and body alignment, maintaining a steady tempo</li> <li>follow conducting cues related to dynamics, phrasing, and interpretation</li> <li>speak, chant, and sing expressively and accurately while following the conductor</li> <li>sing, individually and in groups, a variety of musical styles, tempi, rhythms, pentatonic melodies, and tonal centers</li> <li>perform a varied repertoire (e.g., American folk songs, world folk songs, popular songs, nursery rhymes, poetry)</li> <li>sing hymns and responses for liturgies</li> <li>match and perform pitches</li> <li>perform rhythm patterns</li> <li>perform simple ostinati in varied metric patterns</li> <li>model basic conducting patterns</li> <li>perform partner songs, canons, rounds, and vocal ostinati</li> <li>perform in two-part and three-part harmony</li> </ul>

<b>Instruments</b> Grades Three through Five		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Performing on instruments enriches and extends experiences and understandings.</li>   <li>• Musicians change and combine elements of music to produce an effect.</li>   <li>• Music enhances communication of information, ideas, and feelings.</li>   <li>• Music portrays and transmits culture.</li> </ul>	<ul style="list-style-type: none"> <li>• How does performing on instruments enrich and extend experiences and understandings?</li> <li>• What influences musicians when they choose to perform on select instruments?</li> <li>• How does working together benefit the production of instrumental ensemble music?</li>   <li>• How do musicians change the instrumentation and dynamics to serve the music?</li> <li>• How does the change and combination of elements of music lead to a desired effect?</li> <li>• How are forms of music similar and different?</li>   <li>• How does performing instrumental music enhance the communication of information, ideas, and feelings?</li> <li>• What factors influence a musician's style?</li>   <li>• How is the music of various cultures similar and different?</li> <li>• In what ways does multicultural music impact our knowledge and understanding of history, people, and environments?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p>	<ul style="list-style-type: none"> <li>• Instrumental pedagogy</li>   <li>• Speech, chant, body percussion, and pitched and non-pitched percussion repertoire</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate competence in setting up, playing, caring for, and putting away instruments</li> <li>• model body placement, breath control, and bowing/stick control relating to use of pitched and non-pitched instruments</li> <li>• perform in ensembles expressively and accurately, blending timbres, dynamic levels, phrasing, and interpretation while responding correctly to teacher/student conducting cues</li> <li>• perform with an increasing range of dynamics, phrasing, and expression</li> <li>• analyze ways instruments of various families create sound, ways size of instruments affects pitch, and ways different playing techniques affect sound</li>   <li>• perform complex accompaniments: speech, chant, body percussion, bordun, rhythmic ostinati, tremolos, and glissandi</li> <li>• perform on instruments, in a group/individually, a variety of musical styles, rhythms, and tonal centers</li> <li>• perform on a wide assortment of standard, ethnic, and homemade instruments (e.g., xylophones, drums, recorders, PVC pipe, tuned glasses)</li> <li>• perform using body percussion and/or instruments in a liturgical setting</li> </ul>

	<ul style="list-style-type: none"> <li>• Meter and rhythmic imitation</li>   <li>• Melodic and harmonic imitation</li> </ul>	<ul style="list-style-type: none"> <li>• perform in instrumental ensembles (e.g., recorder, hand bells, strings, brass, keyboard)</li>   <li>• apply conducting patterns</li> <li>• play ostinato patterns</li> <li>• perform complex rhythms</li>   <li>• echo-sing melodic patterns using pitches with text, letter names, and solfege syllables</li> <li>• play melodic ostinati, canons, and rounds</li> <li>• perform complex pitches</li> <li>• sight-read music for a variety of instruments using limited pitches and rhythms</li> <li>• perform two- to four-part canons/rounds</li> </ul>
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**Improvising and Composing  
Grades Three through Five**

<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Creating and composing music involves analytical and divergent thinking.</li> <li>• Musicians change, develop, and combine unique elements to create different musical forms.</li> <li>• Independent musical improvisation occurs as a result of ongoing melodic and harmonic exploration and practice.</li> </ul>	<ul style="list-style-type: none"> <li>• How does the musician determine the most appropriate musical form?</li> <li>• What is the difference between imitating given material and creating new material?</li> <li>• How do feedback and self-reflection help in refining music?</li> <li>• How does positive evaluation or critique of music impact the musician’s work?</li> <li>• How do purpose and audience influence choices in music?</li> <li>• How can listening to and watching others generate new ideas?</li> <li>• How does working together benefit the production of music?</li> <li>• How does the musician improvise through exploration of melody?</li> <li>• How does the musician improvise through exploration of harmony?</li> <li>• How does an evaluation process impact the musician’s work?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.16</b> Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.23</b> Students analyze works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p>	<ul style="list-style-type: none"> <li>• Exploring and improvising</li> <li>• Composing and arranging</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• invent “question” and “answer” phrases of a determined length</li> <li>• improvise both rhythmic and melodic “question” and “answer” phrases</li> <li>• improvise rhythmic and melodic ostinato patterns</li> <li>• create improvisation based on familiar melodies using movement, rhythmic variation, and melodic and/or harmonic embellishment</li> <li>• improvise within given musical guidelines exploring how musical elements create unity and variety</li> <li>• create music to accompany literature/poetry, liturgical readings, folklore, and dramatizations</li> <li>• improvise more complex rhythmic, melodic, and harmonic accompaniments</li> <li>• improvise short melodies using varied styles, meters, and tonalities</li> <li>• compose short songs and instrumental pieces within given musical guidelines (e.g., unison, two-part and three-part harmony)</li> <li>• use a variety of sound sources when composing music (e.g., body percussion, invented instruments)</li> <li>• compose rhythmic/melodic ostinati</li> <li>• arrange simple original pieces for voices or instruments using a variety of forms (canon, round, binary, ternary, and rondo form)</li> <li>• compose within given musical guidelines exploring how musical elements create unity and variety</li> <li>• compose music to accompany literature/poetry, liturgical readings, folklore, and dramatizations</li> <li>• use technology to collect and organize ideas and compose musical pieces (e.g., finale)</li> </ul>

**Reading and Notating Music**  
**Grades Three through Five**

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Musicians make sense of symbols.</li> <li>• Many musicians communicate through a common written language.</li> <li>• Musicians create varied forms.</li> </ul>	<ul style="list-style-type: none"> <li>• How do musicians make sense of individual written symbols?</li> <li>• How do musicians make sense of combinations of written symbols?</li> <li>• How do musicians communicate through a common written language?</li> <li>• Why is music sometimes called the “universal language”?</li> <li>• What might be the limitations of a written musical language?</li> <li>• How are forms of music similar and different?</li> <li>• How does working together benefit the production of music?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.16</b>            Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p><b>Academic Expectation 1.3</b>            Students make sense of the various things they observe.</p> <p><b>Academic Expectation 2.22</b>            Students create works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.24</b>            Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p>	<ul style="list-style-type: none"> <li>• Reading and notating music</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• represent musical elements through movement and graphic and standard notation</li> <li>• recognize, read, notate, and correctly perform music using graphic and standard notation</li> <li>• use systems describing how music is similar or different (e.g., verse/refrain, binary, ternary)</li> <li>• recognize duple (2/4 and 4/4), triple (3/4), and compound meters (6/8)</li> <li>• apply and organize rhythm (simple syncopation, dotted quarter note, dotted half note, eighth rest, sixteenth notes, sixteenth rest, triplets )</li> <li>• use a system (i.e. syllables, numbers, or letters) to read simple pitch notation in treble clef with pentatonic, major, minor, ethnic scales</li> <li>• recognize melodic intervals (step, skip, leap, repeat)</li> <li>• perform with additional solfege fa and ti syllables</li> <li>• perform chordal patterns (e.g., bordun, triads, arpeggio, I, IV, V)</li> <li>• illustrate two and three part harmonizations</li> <li>• apply ff, f, mf, mp, pp, crescendo, and decrescendo</li> <li>• apply tempo markings (e.g., allegro, moderato, adagio, largo)</li> <li>• perform articulation markings (e.g., legato, staccato, marcato, accent)</li> <li>• perform expression markings (e.g., animato, cantabile, dolce)</li> <li>• practice reading and notating with technology (e.g., Music Ace Maestro)</li> <li>• sight-read music for a variety of instruments</li> </ul>

## Listening, Analyzing, Describing, and Evaluating Music and Music Performances

### Grades Three through Five

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Unique elements characterize different musical forms.</li> <li>• Music enhances communication of information, ideas, and feelings.</li> <li>• Musical performances portray and transmit culture.</li> <li>• Evaluating a variety of musical performances promotes deeper understanding of the universality of musical expression.</li> </ul>	<ul style="list-style-type: none"> <li>• How are unique elements characteristic of different musical forms?</li> <li>• How are forms of music similar and different?</li> <li>• How can music increase the effectiveness of communication?</li> <li>• How are feelings and attitudes reflected in music?</li> <li>• How do artists choose and combine art forms to communicate?</li> <li>• How do purpose and audience influence choices in music?</li> <li>• How are new ideas generated by listening to and watching others?</li> <li>• Why do people have diverse responses to music?</li> <li>• What are appropriate audience responses to an art form or presentation?</li> <li>• In what way is an evaluation process most meaningful?</li> <li>• How does constructive feedback and self-reflection help in refining music?</li> <li>• How can listening to and watching others generate new ideas?</li> <li>• How does working together benefit the production of music?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.16</b> Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p><b>Academic Expectation 2.23</b> Students analyze works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.3</b> Students identify and analyze systems and the ways the components work together or affect each other.</p> <p><b>Academic Expectation 2.34</b> Students perform physical movement skills effectively in a variety of settings.</p>	<ul style="list-style-type: none"> <li>• Listening, analyzing, and describing</li> <li>• Evaluating music and music performances</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• respond through movement to musical elements and styles</li> <li>• describe musical styles (e.g., ethnic, band, orchestral, jazz, folk)</li> <li>• use appropriate music terminology to explain meter, rhythm, dynamics, tempi, articulation, tonality, chords, harmonization, and musical performances</li> <li>• identify music forms (e.g., call and response, binary, ternary, rondo, theme, variation)</li> <li>• classify instrumental sounds and human voices</li> <li>• compare and contrast similarities and differences between musical selections and performances</li> <li>• demonstrate similarities/differences between musical instrumentation, elements, and style through written, verbal, and artistic expression</li> <li>• apply rubrics to assess peers and self</li> <li>• evaluate the effectiveness of sets, music, costumes, lighting, and sound in conveying the intended emotion and message</li> </ul>

## Understanding Relationships between Music, Fine Arts, and Other Academic Disciplines

### Grades Three through Five

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Musical study can clarify and illuminate myriad relationships between fine arts and other academic disciplines.</li> <li>• Music is shaped by and influences history and culture.</li> <li>• Musical evolution enriches and deepens understanding of history and culture.</li> </ul>	<ul style="list-style-type: none"> <li>• How does music study help people see a broader viewpoint?</li> <li>• How does music study promote the understanding of relationships between fine arts and other disciplines?</li> <li>• What historical and cultural factors influence a musician's style?</li> <li>• Why do people have diverse responses to music?</li> <li>• How is the music of various cultures similar and different?</li> <li>• How does music affect knowledge and understanding of history, people, and environments?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.14</b> Students make sense of ideas and communicate ideas with music.</p> <p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.58</b> Students demonstrate an understanding of the relationship between faith and culture as it is found in the arts, sciences, and technology.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p>	<ul style="list-style-type: none"> <li>• Music and fine arts</li> <li>• Music and other disciplines</li> <li>• Music, culture, and history</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• compare and contrast the use of terms common to the various fine arts</li> <li>• identify and describe relationships between the study of music and theatre, dance, opera, and visual art</li> <li>• apply music principles to curricular areas (e.g., math: fractions and note values; science: the human hearing process and causes of hearing loss)</li> <li>• perform world songs, speech chants, poems, and rhymes in English and other languages</li> <li>• perform body percussion, hand clap games, jump rope rhymes, circle games, marches, and folk dances from a variety of world cultures</li> <li>• dramatize childhood stories and literature (e.g., Mother Goose, multicultural fables, and fairy tales)</li> <li>• compare and contrast how elements of music are used throughout the world</li> <li>• identify various uses of music within culture (e.g., lullaby, patriotic songs, work songs, religious hymns)</li> <li>• identify the role of musicians within a social structure (e.g., cantor, orchestral conductor, master drummer)</li> <li>• model appropriate audience behavior according to cultural etiquette</li> </ul>

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## Singing Grades Six through Eight

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>Participation involves engaged listening and focused performance skills.</li> <li>Unique elements characterize different vocal styles and interpretations.</li> <li>Music and musical styles enhance communication of information, ideas, and feelings.</li> </ul>	<ul style="list-style-type: none"> <li>How does working together benefit the production of music?</li> <li>How does engaged listening improve the sound of the ensemble?</li> <li>What challenges are presented by the maturing voice?</li> <li>How do the elements of music distinguish distinctive vocal styles?</li> <li>How does changing one or more musical elements make the listener respond differently?</li> <li>How are ideas and emotions expressed in a song?</li> <li>How does the singer communicate information, ideas, and feelings?</li> <li>How does the same song evoke different reactions from different listeners?</li> <li>How does mastery of basic elements impact development of style?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p> <p><b>Academic Expectation 2.28</b> Students understand and communicate in a second language.</p>	<ul style="list-style-type: none"> <li>Vocal pedagogy</li> <li>Speech, chant, and song repertoire</li> <li>Solfège syllables</li> <li>Rhythm</li> <li>Meter</li> <li>Vocal harmony</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>participate in vocal warm-up exercises (e.g., breathing, vowels, tone placement, body alignment, diction)</li> <li>produce sound using head voice and chest voice</li> <li>sing with appropriate timbre, unified vowels, diction, and body alignment in groups, small ensembles, and independently</li> <li>respond to increasingly complex conductor cues indicating changes in meter, volume, tempo, and expression simultaneously</li> <li>speak, chant, and sing expressively and accurately</li> <li>sing, individually and in groups, a variety of musical styles, tempi, rhythms, and tonal centers</li> <li>perform a varied repertoire (e.g., American folk songs, world folk songs, popular songs, songs from musical theater, art songs, poetry)</li> <li>sing hymns and responses for liturgies</li> <li>demonstrate leadership in liturgies (e.g., music planner, cantor, choral ensemble/choir singer)</li> <li>sing multi-part choral literature</li> <li>match and perform pitches</li> <li>sight-sing unison or two-part music</li> <li>perform polyrhythmic patterns</li> <li>demonstrate standard counting or syllables</li> <li>perform simple ostinati in varied metric patterns</li> <li>model basic conducting patterns</li> <li>conduct metric patterns of duple and triple meter</li> <li>perform partner songs, canons, rounds, and vocal ostinati</li> <li>perform in multi-part harmony</li> </ul>

## Instruments

### Grades Six through Eight

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>Performing on instruments enriches and extends experiences and understandings.</li> <li>Musicians change and combine elements of music to produce an effect.</li> <li>Music and musical styles enhance communication of information, ideas, and feelings.</li> <li>Music portrays and transmits culture.</li> </ul>	<ul style="list-style-type: none"> <li>How does performing on instruments enrich and extend experiences and understandings?</li> <li>What influences musicians when they choose to perform on select instruments?</li> <li>How does working together benefit the production of instrumental ensemble music?</li> <li>How do musicians change the instrumentation and dynamics to serve the music?</li> <li>How does the change and combination of elements of music lead to a desired effect?</li> <li>How are forms of music similar and different?</li> <li>How does mastery of basic elements impact development of style?</li> <li>How does performing instrumental music enhance the communication of information, ideas, and feelings?</li> <li>What factors influence a musician's style?</li> <li>How is the music of various cultures similar and different?</li> <li>In what ways does multicultural music impact our knowledge and understanding of history, people, and environments?</li> </ul>	
<p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view</p>	<ul style="list-style-type: none"> <li>Instrumental pedagogy</li> <li>Speech, chant, body percussion, and pitched and non-pitched percussion repertoire</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>demonstrate competence in setting up, playing, caring for, and putting away instruments</li> <li>model body placement, breath control, and bowing/stick control relating to use of pitched and non-pitched instruments</li> <li>perform in ensembles expressively and accurately, blending timbres, dynamic levels, phrasing and interpretation while responding correctly to teacher/student conducting cues</li> <li>perform with an extensive range of dynamics, phrasing, expression, and interpretation</li> <li>analyze ways instruments of various families create sound, ways size of instruments affects pitch, and ways different playing techniques affect sound</li> <li>analyze and arrange various families of instruments for varied repertoire</li> <li>perform graded repertoire expressively (e.g., speech, chant, body percussion, bordun, rhythmic ostinati, tremolos, glissandi) while following teacher/student conductor</li> <li>perform on instruments, in a group/individually, a variety of musical style, rhythms, and tonal centers (e.g., recorder, hand bells, strings, brass, keyboard)</li> <li>perform on a wide assortment of standard, ethnic, and homemade instruments (e.g., xylophones, drums, recorders, PVC pipe, tuned glasses)</li> <li>perform using body percussion and/or instruments in a liturgical setting</li> </ul>

	<ul style="list-style-type: none"> <li>• Meter and rhythmic imitation</li>   <li>• Melodic and harmonic imitation</li> </ul>	<ul style="list-style-type: none"> <li>• play ostinato patterns</li> <li>• perform complex rhythms</li> <li>• apply conducting patterns in duple and triple meter</li>   <li>• echo-sing melodic patterns using pitches with text, letter names, and solfege syllables</li> <li>• play melodic ostinati, canons, and rounds</li> <li>• perform complex pitches</li> <li>• sight-read music for a variety of instruments using scales and rhythms</li> <li>• perform two- to four-part canons/rounds</li> <li>• perform simple melodies by ear on a melodic instrument</li> <li>• perform simple accompaniments by ear on a harmonic instrument</li> </ul>
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## Improvising and Composing Grades Six through Eight

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Creating and composing music involves analytical and divergent thinking.</li> <li>• Purpose and audience influence the creation of music.</li> <li>• Musicians manipulate, develop, and combine unique compositional elements to create an effect.</li> <li>• Independent musical improvisation occurs as a result of ongoing melodic and harmonic exploration and practice.</li> <li>• Creating music requires ethical awareness, responsibility, and collaboration.</li> </ul>	<ul style="list-style-type: none"> <li>• How does the musician determine the most appropriate musical form?</li> <li>• How does constructive feedback and self-reflection help in refining music?</li> <li>• How do purpose and audience influence choices in music?</li> <li>• How do life experiences trigger a response to compose?</li> <li>• How do musicians manipulate, develop, and combine unique compositional elements to create an effect?</li> <li>• How can listening to and watching others generate new ideas?</li> <li>• How does working together benefit the production of music?</li> <li>• How does the musician improvise through exploration of melody?</li> <li>• How does the musician improvise through exploration of harmony?</li> <li>• How does an evaluation process impact the musician's work?</li> <li>• How does risk taking lead to development of personal style?</li> <li>• What role do ethics play in selecting ideas for creating musical works?</li> <li>• How does the musician use language and humor responsibly?</li> <li>• What is the difference between imitating given material and creating new material?</li> <li>• How is plagiarism related to responsible choices in music production?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.16</b> Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.23</b> Students analyze works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p>	<ul style="list-style-type: none"> <li>• Exploring and improvising</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• invent “question” and “answer” phrases of a determined length</li> <li>• improvise both rhythmic and melodic “question” and “answer” phrases</li> <li>• improvise rhythmic and melodic ostinato patterns</li> <li>• create improvisation based on familiar melodies using movement, rhythmic variation, and melodic and/or harmonic embellishment</li> <li>• improvise melodic embellishments and simple rhythmic and melodic variations on given pentatonic melodies and melodies in major keys</li> <li>• improvise and explore ways musical elements create unity and variety</li> <li>• create music to accompany literature/poetry, liturgical readings, folklore, and dramatizations</li> <li>• improvise complex rhythmic, melodic, and harmonic accompaniments</li> <li>• improvise short melodies using varied styles, meters, and tonalities</li> </ul>

	<ul style="list-style-type: none"> <li>• Composing and arranging</li> </ul>	<ul style="list-style-type: none"> <li>• compose rhythmic/melodic ostinati</li> <li>• compose short songs and instrumental pieces within given musical guidelines (e.g., unison, two-part and three-part harmony)</li> <li>• use a variety of traditional and nontraditional sound sources when composing and arranging (e.g., body percussion, invented instruments)</li> <li>• arrange simple original pieces for voices or instruments using a variety of forms (canon, round, binary, ternary, and rondo form)</li> <li>• compose within given musical guidelines exploring how musical elements create unity and variety, tension and release</li> <li>• compose music to accompany literature/poetry, liturgical readings, folklore, and dramatizations</li> <li>• use technology to collect and organize ideas and compose musical pieces (e.g., finale)</li> <li>• arrange simple pieces for voices or instruments other than those for which the pieces were written</li> <li>• use technology to collect and organize ideas and compose musical pieces (e.g., finale)</li> </ul>
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## Reading and Notating Music

### Grades Six through Eight

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Musicians apply standard notation symbols.</li> <li>• Many musicians communicate through a common written language.</li> <li>• Musicians create varied forms.</li> </ul>	<ul style="list-style-type: none"> <li>• How do musicians apply standard notation symbols?</li> <li>• How do musicians combine standard notation symbols?</li> <li>• How do musicians communicate through a common written language?</li> <li>• Why is music sometimes called the “universal language”?</li> <li>• What might be the limitations of a written musical language?</li> <li>• How do musicians use symbols and elements to create form and express ideas, moods, and/or feelings?</li> <li>• How are forms of music similar and different?</li> <li>• How does working together benefit the production of music?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.16</b> Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p><b>Academic Expectation 1.3</b> Students make sense of the various things they observe.</p> <p><b>Academic Expectation 2.22</b> Students create works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p>	<ul style="list-style-type: none"> <li>• Reading and notating music</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate musical elements through movement and graphic and standard notation</li> <li>• recognize, read, notate, and correctly perform music using graphic and standard notation</li> <li>• use systems describing how music is similar or different (e.g., call and response, canon, fugue, theme and variation, sonata, twelve-bar blues, jazz)</li> <li>• recognize duple, triple, compound, and mixed meters</li> <li>• apply and organize rhythm (simple syncopation, dotted quarter note, dotted half note, eighth rest, sixteenth notes, sixteenth rest, triplets )</li> <li>• use a system to read standard notation in bass and treble clef (e.g., pentatonic, major, minor, ethnic scales, blues, jazz, whole tone scales)</li> <li>• recognize melodic intervals (step, skip, leap, repeat)</li> <li>• perform I IV V chordal progressions</li> <li>• illustrate multi-part harmonization</li> <li>• apply ff, f, mf, mp, pp, crescendo, and decrescendo</li> <li>• apply tempo markings (e.g., presto, scherzo, allegro, moderato, cantabile, dolce, adagio, largo)</li> <li>• perform articulation markings (e.g., legato, staccato, marcato, accent)</li> <li>• perform expression markings (e.g., animato, cantabile, dolce)</li> <li>• practice reading and notating with technology (e.g., Music Ace Maestro, finale)</li> <li>• sight-read music for a variety of instruments</li> </ul>

## Listening, Analyzing, Describing, and Evaluating Music and Music Performances

### Grades Six through Eight

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Unique elements characterize different musical forms.</li> <li>• Music enhances communication of information, ideas, and feelings.</li> <li>• Musical performances portray and transmit culture.</li> <li>• Evaluating a variety of musical performances promotes deeper understanding of the universality of musical expression.</li> </ul>	<ul style="list-style-type: none"> <li>• How are unique elements characteristic of different musical forms?</li> <li>• How are forms of music similar and different?</li> <li>• How can music increase the effectiveness of communication?</li> <li>• How are feelings and attitudes reflected in music?</li> <li>• How do artists choose and combine art forms to communicate?</li> <li>• How are consumer choices influenced by music?</li> <li>• How does the musician know if a selection communicates intended ideas or feelings?</li> <li>• How are new ideas generated by listening to and watching others?</li> <li>• Why do people have diverse responses to music?</li> <li>• What are appropriate audience responses to an art form or presentation?</li> <li>• How does consideration of function influence the creation of a musical selection?</li> <li>• How do purpose and audience influence choices in music?</li> <li>• In what way is an evaluation process most meaningful?</li> <li>• How do reflection and evaluation promote personal growth in the arts?</li> <li>• How does constructive feedback and self-reflection help in refining music?</li> <li>• How can listening to and watching others generate new ideas?</li> <li>• How does collaboration with others contribute to the production of musical works?</li> <li>• How does personal experience influence appreciation of music?</li> <li>• What are the criteria for judging how effectively a musical work communicates?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.16</b> Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.</p> <p><b>Academic Expectation 2.23</b> Students analyze works of art and make presentations to convey a point of view.</p> <p><b>Academic Expectation 2.24</b> Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.</p>	<ul style="list-style-type: none"> <li>• Listening, analyzing, and describing music and music performances</li> <li>• Evaluating music and music performances</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• respond through movement to musical elements and styles</li> <li>• describe musical styles (e.g., ethnic, band, orchestral, jazz, folk)</li> <li>• use appropriate music terminology to explain meter, rhythm, dynamics, tempi, articulation, tonality, chords, harmonization, and musical performances</li> <li>• identify music forms (e.g., call and response, canon, fugue, theme and variation, sonata, twelve-bar blues, jazz)</li> <li>• classify instrumentation and human voices (e.g., soprano, alto, tenor, bass)</li> <li>• analyze and demonstrate similarities/differences between musical instrumentation, elements, and style through written, verbal, and artistic expression</li> <li>• apply rubrics to assess peers and self</li> </ul>

<p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.3</b> Students identify and analyze systems and the ways the components work together or affect each other.</p> <p><b>Academic Expectation 2.34</b> Students perform physical movement skills effectively in a variety of settings.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p>		<ul style="list-style-type: none"> <li>• use musical terminology, movement, or art to constructively critique performances and compositions</li> <li>• evaluate the effectiveness of sets, music, costumes, lighting, and sound in conveying the intended emotion and message</li> </ul>
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## Understanding Relationships between Music, Fine Arts, and Other Academic Disciplines Grades Six through Eight

Essential Understandings	Guided Questions	
<ul style="list-style-type: none"> <li>• Music forms an integral part of the human experience.</li> <li>• Musical study can clarify and illuminate myriad relationships between fine arts and other academic disciplines.</li> <li>• Music is shaped by and influences history and culture.</li> <li>• Musical evolution enriches and deepens understanding of history and culture.</li> </ul>	<ul style="list-style-type: none"> <li>• How do events, cultures, people, and environments affect development of musical styles?</li> <li>• How does music study help people see a broader viewpoint?</li> <li>• How does music study promote the understanding of relationships between fine arts and other disciplines?</li> <li>• What historical and cultural factors influence a musician's style?</li> <li>• Why do people have diverse responses to music?</li> <li>• How does the use of technology impact a musician's style?</li> <li>• How does music affect knowledge and understanding of history, people, and environments?</li> <li>• Why are there different styles in music?</li> <li>• How does music contribute to an appreciation of and respect for different people and environments?</li> <li>• How does music influence culture and events over time?</li> </ul>	
Academic Expectations	Content Guidelines	Performance Standards
<p><b>Academic Expectation 1.14</b> Students make sense of ideas and communicate ideas with music.</p> <p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.25</b> In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.</p> <p><b>Academic Expectation 2.26</b> Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.</p> <p><b>Academic Expectation 2.58</b> Students demonstrate an understanding of the relationship between faith and culture as it is found in the arts, sciences, and technology.</p> <p><b>Academic Expectation 4.5</b> Students demonstrate an understanding of, appreciation for, and sensitivity to a multicultural and world view.</p>	<ul style="list-style-type: none"> <li>• Music and fine arts</li> <li>• Music and other disciplines</li> <li>• Music, culture, and history</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• compare and contrast the use of terms common to the various fine arts</li> <li>• identify and describe relationships between the study of music and theatre, dance, opera, and visual art</li> <li>• apply music principles to curricular areas (e.g., math: fractions and note values; science: the human hearing process and causes of hearing loss)</li> <li>• perform world songs, speech chants, poems, and rhymes in English and other languages</li> <li>• perform complex movement repertoire (e.g., body percussion, hand clap games, jump rope rhymes, circle games, marches, swing dance, jazz steps, ethnic dances, folk dances from a variety of world cultures)</li> <li>• dramatize stories and literature (e.g., plays, Shakespeare, Scripture)</li> <li>• compare and contrast how elements of music are used throughout the world</li> <li>• identify various uses of music within culture (e.g., lullaby, patriotic songs, work song, religious hymns)</li> <li>• identify the role of musicians within a social structure (e.g., cantor, orchestral conductor, master drummer)</li> <li>• analyze the relationships between historical and social events and music</li> <li>• model appropriate audience behavior according to cultural etiquette</li> </ul>

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# **Physical Education Curriculum Framework**

# PHYSICAL EDUCATION

## PHILOSOPHY/RATIONALE AND THE CURRICULUM GUIDE

### Philosophy/Rationale

In Archdiocese of Louisville schools, we believe and understand that each person is created in God's image as unique and loveable. As independent thinkers, lifelong learners, and caretakers of our bodies and the environments in which we dwell, we should practice the principles of stewardship and preserve these gifts from God. A comprehensive and fully implemented physical education program for each Catholic school provides students with the knowledge and competencies to build healthy bodies and minds.

### Curriculum Guide

In 1999, the *Archdiocese of Louisville Physical Education/ Exercise Science Curriculum Guide* was introduced. This curriculum guide replaced the former physical education curriculum guide from 1986. In 2009, this guide was revised and renamed the *Archdiocese of Louisville Physical Education Curriculum Guide*.

The area of physical education has undergone significant changes. The new guide reflects those changes, is based upon the latest research and best practices, and is aligned with national standards from the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) and the National Association for Sport and Physical Education (NASPE).

The guide contains grade level outcomes/ standards for five core content areas that are as follows:

- Motor Skills and Movement Patterns
- Components of Movement
- Physical Activity and Fitness
- Sportsmanship
- Healthy Lifestyle

The guide also includes assessment information, a variety of resources, and a glossary to support teachers at all levels of expertise with implementation of the local physical education curriculum.

If a school does not have a full time/part time physical education teacher and the physical education curriculum is taught in the regular classroom, those teachers should have copies of the curriculum framework and access to the curriculum guide to assist them with implementation of the local physical education curriculum. Copies of the Archdiocese of Louisville Physical Education Curriculum Framework and Curriculum Guide can be found on the Archdiocese of Louisville website, [www.archlou.org](http://www.archlou.org).

# **Physical Education Curriculum Framework**

## Archdiocese of Louisville

### **National Standards for Physical Education**

The K-8 Physical Education Curriculum Framework in the Archdiocese of Louisville is aligned with the Content Standards from the National Association for Sport and Physical Education (NASPE).

### **Content Standards in Physical Education**

National Association for Sport and Physical Education

A physically educated person:

- Demonstrates competency in motor skills and movement patterns needed to perform a variety of physical activities
- Demonstrates understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities
- Participates regularly in physical activity
- Achieves and maintains a health-enhancing level of physical fitness
- Exhibits responsible personal and social behavior that respects self and others in physical activity settings
- Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction

Reprinted from *Moving into the Future: National Standards for Physical Education* (2004) with permission from the National Association for Sport and Physical Education (NASPE), 1900 Association Drive, Reston, VA 20191-1599.

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<b>Content Guidelines: Kindergarten through Grade Eight</b>				
<p><b>Motor Skills and Movement Patterns</b></p> <ul style="list-style-type: none"> <li>• Motor skills               <ul style="list-style-type: none"> <li>• Locomotor skills</li> <li>• Non-locomotor skills</li> </ul> </li> <li>• Manipulative skills               <ul style="list-style-type: none"> <li>• Eye-hand coordination and control</li> <li>• Eye-foot coordination and control</li> </ul> </li> <li>• Body awareness               <ul style="list-style-type: none"> <li>• Spatial awareness</li> <li>• Movement exploration</li> </ul> </li> <li>• Rhythmic movement and dance               <ul style="list-style-type: none"> <li>• Patterns and sequences</li> <li>• Types of dance</li> </ul> </li> </ul>	<p><b>Components of Movement</b></p> <ul style="list-style-type: none"> <li>• Cognitive skills               <ul style="list-style-type: none"> <li>• Body awareness</li> <li>• Movement education</li> <li>• Safety</li> <li>• Fitness</li> </ul> </li> <li>• Sport and dance</li> </ul>	<p><b>Physical Activity and Fitness</b></p> <ul style="list-style-type: none"> <li>• Body preparation               <ul style="list-style-type: none"> <li>• Warm-up</li> <li>• Cool-down</li> </ul> </li> <li>• Flexibility</li> <li>• Agility</li> <li>• Muscular strength and endurance</li> <li>• Cardio-respiratory endurance</li> <li>• Lifelong fitness</li> </ul>	<p><b>Sportsmanship</b></p> <ul style="list-style-type: none"> <li>• Social interaction               <ul style="list-style-type: none"> <li>• Cooperation</li> <li>• Self-expression</li> <li>• Relationships</li> <li>• Respect for individual differences</li> </ul> </li> <li>• Safety               <ul style="list-style-type: none"> <li>• Directions and rules</li> <li>• Respect for self, others, facilities, and equipment</li> </ul> </li> </ul>	<p><b>Healthy Lifestyles</b></p> <ul style="list-style-type: none"> <li>• Health and wellness               <ul style="list-style-type: none"> <li>• Physical health</li> <li>• Mental health</li> <li>• Nutrition</li> <li>• Hygiene</li> <li>• Body systems</li> <li>• Safety</li> <li>• Substance use / abuse</li> <li>• Consumerism</li> </ul> </li> </ul>



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<b>Motor Skills and Movement Patterns</b> Kindergarten through Grade Two		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Competence in movement skills enhances active lifestyles.</li> </ul>	<ul style="list-style-type: none"> <li>How are basic motor skills performed in creative and efficient ways?</li> <li>How are basic motor skills linked to perform simple movement sequences?</li> <li>How are basic motor skills used in games, sports, and activities?</li> <li>How do we use space, time, and energy in movement?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.34</b> Students perform physical movement skills effectively in a variety of settings.</p> <p><b>Academic Expectation 2.35</b> Students demonstrate knowledge and skills that promote involvement in physical activity throughout their lives.</p> <p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p> <p><b>Related Academic Expectations</b> 3.1, 3.3, 3.4, 3.5, 4.3, 5.4, 6.2, 6.3</p>	<ul style="list-style-type: none"> <li>Motor skills               <ul style="list-style-type: none"> <li>Locomotor skills</li> <li>Non-locomotor skills</li> </ul> </li> <li>Manipulative skills               <ul style="list-style-type: none"> <li>Eye-hand coordination and control</li> <li>Eye-foot coordination and control</li> </ul> </li> <li>Body awareness               <ul style="list-style-type: none"> <li>Spatial awareness</li> <li>Movement exploration</li> </ul> </li> <li>Rhythmic movement and dance               <ul style="list-style-type: none"> <li>Patterns and sequences</li> <li>Types of dance</li> </ul> </li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>control movements in a variety of pathways (ex. straight, sideways, diagonal, zigzag, circular, curve, and backward)</li> <li>jump and land using a continuation of one and two foot take-off and landing</li> <li>change direction quickly</li> <li>balance, demonstrating momentary stillness, using a variety of body parts and body positions</li> <li>throw a ball using basic form (underhand and overhand)</li> <li>catch, using a variety of objects and proper hand positions (e.g., balloon, scarf, foam ball, whiffle ball, tennis ball, and football)</li> <li>dribble, using foot or hand</li> <li>strike the ball using a variety of manipulatives</li> <li>jump a rope continuously (turned by others or self-turned)</li> <li>skip, hop, gallop, and slide using a variety of mature motor patterns</li> <li>use the inside, outside, and top of the foot to kick a stationary or slowly moving ball, using a smooth continuous approach</li> <li>demonstrate a variety of relationships with objects (e.g., over, under, behind, through, and alongside)</li> <li>safely chase, flee, and dodge</li> <li>log roll (right and left) without hesitating or stopping</li> <li>cross the midline of the body (e.g., touch elbow to opposite knee)</li> <li>place a variety of body parts into high, middle, and low levels</li> <li>form round, narrow, wide, and twisted body shapes alone and with a partner</li> <li>combine a variety of traveling patterns in time to music</li> <li>combine shapes, levels, and pathways into simple sequences</li> <li>perform a variety of simple folk, square, children's, and creative dances (e.g., hokey pokey, chicken dance, tinkling, and ribbon dances)</li> </ul>

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<b>Components of Movement</b> Kindergarten through Grade Two		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Knowledge of the human body supports wellness.</li> <li>• Competency in movement skills enhances an active lifestyle.</li> <li>• Safe practices and responsible choices protect the individual.</li> <li>• Physical fitness improves well-being.</li> <li>• Practice increases competency over time.</li> </ul>	<ul style="list-style-type: none"> <li>• How are the various body parts used in physical activity and movement?</li> <li>• How does an understanding of movement impact daily activity?</li> <li>• When are specific safety precautions appropriate to a situation?</li> <li>• Why is it important to warm up and cool down in connection to physical activity?</li> <li>• How does the body change during and after continued physical activity?</li> <li>• How do cue words enhance skill development?</li> <li>• Why are the basic sport skills important?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.31</b> Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.</p> <p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p> <p><b>Related Academic Expectations</b> 3.1, 3.3, 3.4, 3.5</p>	<ul style="list-style-type: none"> <li>• Cognitive skills               <ul style="list-style-type: none"> <li>• Body awareness</li> </ul> </li> <li>• Movement education</li> <li>• Safety</li> <li>• Fitness</li> <li>• Sport</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• identify selected body parts (e.g., palm, forearm, and instep)</li> <li>• identify body planes (e.g., front, back, and side)</li> <li>• identify movement education vocabulary (e.g., levels, pathways, and planes)</li> <li>• correct movement error following descriptive feedback</li> <li>• recognize appropriate safety practices in various situations</li> <li>• respond appropriately to verbal directions (listening skills)</li> <li>• understand the importance of warm-up and cool-down for physical activity</li> <li>• identify changes in the body during physical activity in regard to heart and respiration</li> <li>• repeat cue words in order to demonstrate and explain physical movements (e.g., for overhand throw – step with the opposite foot, lead with the elbow, follow through – step, elbow, and follow through)</li> <li>• explain the connection between appropriate practice and performance</li> <li>• apply basic skills to lead-up games</li> </ul>

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<b>Physical Activity and Fitness</b> Kindergarten through Grade Two		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Physical fitness improves well-being.</li> </ul>	<ul style="list-style-type: none"> <li>• Why are warm-up and cool-down important?</li> <li>• Why is fitness important?</li> <li>• Why are the components of fitness essential to physical activity?</li> <li>• How is fitness measured?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.31</b> Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.</p> <p><b>Academic Expectation 2.34</b> Students perform physical movement skills effectively in a variety of settings.</p> <p><b>Academic Expectation 2.35</b> Students demonstrate knowledge and skills that promote involvement in physical activity throughout their lives.</p> <p><b>Academic Expectation 3.2</b> Students demonstrate the ability to maintain a healthy lifestyle.</p> <p><b>Related Academic Expectations</b> 2.29, 3.1, 3.3, 3.4, 3.5</p>	<ul style="list-style-type: none"> <li>• Body preparation               <ul style="list-style-type: none"> <li>• Warm-up</li> <li>• Cool-down</li> </ul> </li>   <li>• Flexibility</li>   <li>• Agility</li>   <li>• Muscular strength and endurance</li>   <li>• Cardio-respiratory endurance</li>   <li>• Lifelong fitness</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• engage in locomotor movements to elevate heart rate and respiration (e.g., jogging, jumping jacks, and skipping)</li> <li>• engage in relaxation methods to decrease heart rate and respiration (e.g., yoga poses, deep breathing, and stretching)</li>   <li>• move joints through a full range of motions (e.g., basic stretching, yoga, and Pilates)</li>   <li>• change direction quickly and safely in response to a signal (e.g., shuttle run and tagging games)</li>   <li>• support body weight while hanging, climbing, or balancing (e.g., push-ups, pull-ups, and wheelbarrow walking)</li>   <li>• engage in a series of locomotor activities (hopping, walking, jumping, and running) without tiring easily</li> <li>• participate in a variety of games that increase breathing and heart rate (e.g., dance, various tagging games, and endurance run)</li> <li>• sustain activity for increasingly longer periods of time</li>   <li>• identify changes in the body during physical activity</li> <li>• recognize positive feelings associated with physical activity</li> <li>• participate in daily vigorous activity (minimum of 60 minutes)</li> </ul>



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<b>Healthy Lifestyle</b> Kindergarten through Grade Two		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Healthy choices promote wellness.</li>   <li>• A positive self-concept contributes to well-being.</li>   <li>• Safe practices protect individuals, families, and communities.</li>   <li>• Knowledge of the human body supports wellness.</li> </ul>	<ul style="list-style-type: none"> <li>• What is wellness?</li> <li>• Why is physical activity important to being healthy?</li> <li>• How do healthy behaviors increase wellness?</li> <li>• How do food choices affect the body?</li> <li>• What are the similarities and differences between harmful and helpful drugs?</li>   <li>• How do feelings affect actions?</li> <li>• Why are certain activities enjoyable to one person and not to another?</li>   <li>• How do people stay safe?</li> <li>• When is it important to ask for help?</li>   <li>• How are body systems used in physical activity?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.30</b> Students evaluate consumer products and services and make effective consumer decisions.</p> <p><b>Academic Expectation 2.31</b> Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.</p> <p><b>Academic Expectation 2.32</b> Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.</p> <p><b>Academic Expectation 2.34</b> Students perform physical movement skills effectively in a variety of settings.</p> <p><b>Academic Expectation 2.35</b> Students demonstrate knowledge and skills that promote involvement in physical activity throughout their lives.</p> <p><b>Academic expectation 3.2</b> Students demonstrate the ability to maintain a healthy lifestyle.</p> <p><b>Related Academic Expectations</b> 2.29, 3.1, 3.3, 3.4, 3.5</p>	<ul style="list-style-type: none"> <li>• Health and wellness               <ul style="list-style-type: none"> <li>• Physical health</li>   <li>• Mental health</li>   <li>• Nutrition</li>   <li>• Body systems</li>   <li>• Safety</li>   <li>• Substance use / abuse</li> </ul> </li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• participate in daily physical activity and movement</li> <li>• demonstrate willingness to try new movements and activities</li> <li>• identify several activities that are personally enjoyable</li>   <li>• express personal feelings on progress made while learning</li>   <li>• recognize the importance of water hydration</li> <li>• understand the value of good nutrition</li> <li>• identify healthy snacks</li>   <li>• explore basic body systems (e.g., pulse, bones, and muscles)</li>   <li>• recognize school safety practices (e.g., bus, tornado, fire, earthquake, and intruder safety)</li> <li>• identify general health practices (personal hygiene)</li> <li>• identify safety practices</li>   <li>• recognize safe usage of prescription and non-prescription medication</li> <li>• understand the impact of substance abuse (e.g., tobacco, alcohol, and drugs)</li> </ul>

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<b>Motor Skills and Movement Patterns</b> Grades Three through Five		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>Competence in movement skills enhances and encourages active lifestyles.</li> </ul>	<ul style="list-style-type: none"> <li>How does posture affect movement?</li> <li>How are basic motor skills linked to perform more complex movement sequences?</li> <li>How are motor skills performed in creative and efficient ways?</li> <li>How are motor skills used in games, sports, and activities?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.34</b> Students perform physical movement skills effectively in a variety of settings.</p> <p><b>Academic Expectation 2.35</b> Students demonstrate knowledge and skills that promote involvement in physical activity throughout their lives.</p> <p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p> <p><b>Related Academic Expectations</b> 3.1, 3.3, 3.4, 3.5, 4.3, 5.4, 6.2, 6.3</p>	<ul style="list-style-type: none"> <li>Motor skills               <ul style="list-style-type: none"> <li>Locomotor skills</li> <li>Non-locomotor skills</li> </ul> </li> <li>Manipulative skills               <ul style="list-style-type: none"> <li>Eye-hand coordination and control</li> <li>Eye-foot coordination and control</li> </ul> </li> <li>Body and spatial awareness</li> <li>Rhythmic movement and dance               <ul style="list-style-type: none"> <li>Patterns and sequences</li> <li>Types of dance</li> </ul> </li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>control movements in a variety of pathways using mature motor skills (e.g., skipping, dodging, leaping, and fleeing by moving forward and backwards)</li> <li>leap, leading with either foot</li> <li>perform vertical and standing long jump using mature motor skills</li> <li>perform balance activities, with control, on a variety of objects</li> <li>maintain appropriate body alignment during physical activities (e.g., lifting, carrying, pushing, and pulling)</li> <li>change speed and direction quickly while traveling in response to a variety of rhythms</li> <li>throw a ball, using mature form, to a receiver</li> <li>catch objects of various sizes (e.g., playground ball, football, and basketball) using proper hand positions</li> <li>track and catch an object at different plane levels</li> <li>dribble a ball with control, using foot or hand</li> <li>strike a thrown ball consistently using a variety of manipulatives while demonstrating an appropriate grip and swing plane</li> <li>jump, repeatedly, a self-turned rope</li> <li>travel, without hesitation, in and out of a rope turned by others (e.g., single long rope and double dutch)</li> <li>punt using a smooth continuous approach</li> <li>cross the midline of the body (ex. juggling and cup stacking)</li> <li>support, lift, and control body weight in a variety of physical activities</li> <li>demonstrate good posture while lifting and carrying an object</li> <li>set defined boundaries, in regard to individual and group space</li> <li>combine a variety of traveling patterns in time to music</li> <li>develop patterns and combinations of movements into a repeatable sequence</li> <li>perform a variety of simple folk, square, line, and creative dances</li> </ul>

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<b>Components of Movement</b> Grades Three through Five		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Knowledge of the human body supports wellness.</li> <li>• Safe practices and responsible choices protect the individual.</li> <li>• Physical fitness improves well-being.</li> <li>• Practice increases competency.</li> </ul>	<ul style="list-style-type: none"> <li>• How are the various body systems stimulated in physical activity and movement?</li> <li>• How do rules and responsible decisions decrease the risk of injury?</li> <li>• Why is it important to warm up and cool down in connection to physical activity?</li> <li>• How are the concepts of space, time, and energy used in movement?</li> <li>• Why is the practice of sport-related skills important?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.31</b> Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.</p> <p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p> <p><b>Related Academic Expectations</b> 3.1, 3.3, 3.4, 3.5</p>	<ul style="list-style-type: none"> <li>• Cognitive skills               <ul style="list-style-type: none"> <li>• Body awareness</li> </ul> </li> <li>• Safety</li> <li>• Fitness</li> <li>• Sport and dance</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• describe body systems (e.g., muscular and skeletal)</li> <li>• describe body planes (e.g., axis, posterior, and anterior)</li> <li>• analyze possible risks / injury associated with physical activity</li> <li>• respond appropriately to verbal directions (listening skills)</li> <li>• demonstrate the way heart rate is used to monitor exercise intensity (e.g., maximum and target heart rates)</li> <li>• identify the importance of appropriate warm-up and cool-down for physical activity</li> <li>• compare / contrast changes in the body during physical activity in regard to heart and respiration</li> <li>• explain the personal benefits of strength, flexibility, and endurance on the ability to perform various physical activities</li> <li>• identify and demonstrate the key elements of a proper grip</li> <li>• demonstrate transfer of weight from back foot to front foot</li> <li>• explain the connection between a skill and improvement</li> <li>• accurately recognize critical elements of a skill and provide feedback to a peer</li> <li>• describe approach, direction, and sequence of various sports skills</li> <li>• relate skills to complex lead-up games</li> <li>• apply critical elements of mature movement patterns</li> <li>• develop an awareness of movement as an art form</li> </ul>

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<b>Physical Activity and Fitness</b> Grades Three through Five		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Physical fitness produces lifelong wellness.</li> </ul>	<ul style="list-style-type: none"> <li>• How do specific activities utilize the various components of fitness?</li> <li>• How are personal fitness levels measured?</li> <li>• How are personal fitness goals set?</li> <li>• How are strength, endurance, and flexibility increased?</li> <li>• How does exercise improve the structure and function of the human body?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.31</b> Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.</p> <p><b>Academic Expectation 2.34</b> Students perform physical movement skills effectively in a variety of settings.</p> <p><b>Academic Expectation 2.35</b> Students demonstrate knowledge and skills that promote involvement in physical activity throughout their lives.</p> <p><b>Academic Expectation 3.2</b> Students demonstrate the ability to maintain a healthy lifestyle.</p> <p><b>Related Academic Expectations</b> 2.29, 3.1, 3.3, 3.4, 3.5</p>	<ul style="list-style-type: none"> <li>• Body preparation               <ul style="list-style-type: none"> <li>• Warm-up</li> <li>• Cool-down</li> </ul> </li>   <li>• Flexibility</li>   <li>• Agility</li>   <li>• Muscular strength and endurance</li>   <li>• Cardio-respiratory endurance</li>   <li>• Lifelong fitness</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• engage in locomotor movements to elevate heart rate and respiration (e.g., jogging, jumping rope, and skipping)</li> <li>• engage in relaxation methods to decrease heart rate and respiration (e.g., yoga poses, deep breathing, and stretching)</li>   <li>• move joints through a full range of motions (e.g., basic stretching, yoga, and Pilates)</li> <li>• engage in activities that build flexibility</li>   <li>• change direction quickly and safely in response to a signal (e.g., shuttle run and tagging games)</li> <li>• engage in activities that build agility</li>   <li>• support body weight for an extended period of time (e.g., push-ups and pull-ups)</li> <li>• engage in activities that build muscular strength and endurance</li> <li>• engage in activities that develop core strength</li>   <li>• engage in physical activity without tiring easily</li> <li>• maintain heart rate within the target heart rate zone for a specified length of time</li> <li>• sustain activity for increasingly longer periods of time</li> <li>• engage in activities that build cardio-respiratory endurance</li>   <li>• work to monitor, improve, and achieve personal fitness goals</li> <li>• evaluate changes in the body during physical activity</li> <li>• recognize positive feelings associated with physical activity</li> <li>• participate in daily vigorous activity (minimum of 60 minutes)</li> </ul>



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<b>Healthy Lifestyle</b> Grades Three through Five		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Healthy choices promote overall health and fitness.</li>   <li>• Healthy relationships and a positive self-concept contribute to personal development.</li>   <li>• Healthy living requires knowledge of human structure and function.</li>   <li>• Safe practices protect individuals, families, and communities.</li> </ul>	<ul style="list-style-type: none"> <li>• Why are physical activities important to a healthy life?</li> <li>• How do food choices and eating practices impact health and fitness?</li>   <li>• What are strategies for building a positive self-concept?</li> <li>• What is the connection between stress and peer pressure?</li>   <li>• How do structures and functions affect different body systems?</li> <li>• How do individuals differ in the way they grow and develop?</li> <li>• How do health problems affect physical activity?</li>   <li>• How can various diseases be prevented?</li> <li>• What is the importance of having strategies in place for preventing and reporting emergencies?</li> <li>• What are basic first aid practices?</li> <li>• How are choices and behaviors related to health and safety?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.30</b> Students evaluate consumer products and services and make effective consumer decisions.</p> <p><b>Academic Expectation 2.31</b> Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.</p> <p><b>Academic Expectation 2.32</b> Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.</p> <p><b>Academic Expectation 2.34</b> Students perform physical movement skills effectively in a variety of settings.</p> <p><b>Academic Expectation 2.35</b> Students demonstrate knowledge and skills that promote involvement in physical activity throughout their lives.</p> <p><b>Academic Expectation 3.2</b> Students demonstrate the ability to maintain a healthy lifestyle.</p> <p><b>Related Academic Expectations</b> 2.29, 3.1, 3.3, 3.4, 3.5</p>	<ul style="list-style-type: none"> <li>• Health and wellness               <ul style="list-style-type: none"> <li>• Physical health</li>   <li>• Mental health</li>   <li>• Nutrition</li>   <li>• Body systems</li> <li>• Hygiene</li> <li>• Safety</li>   <li>• Substance use / abuse</li> </ul> </li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• choose and participate in daily physical activity and movement</li> <li>• demonstrate willingness to try new activities</li> <li>• engage in moderate to vigorous physical activity that provides enjoyment</li>   <li>• describe healthful benefits that result from regular and appropriate participation in physical activity</li> <li>• relieve stress through physical activity</li>   <li>• recognize the importance of water hydration</li> <li>• understand the value of good nutrition, including “My Pyramid”</li> <li>• identify the importance of healthy snacks</li>   <li>• explore body systems (e.g., respiratory, circulatory, skeletal, and muscular)</li>   <li>• utilize general health practices (e.g., personal hygiene)</li>   <li>• implement school safety practices (e.g., bus, tornado, fire, earthquake, and intruder safety)</li> <li>• demonstrate the awareness of safety practices (e.g., bike, pedestrian, and car safety)</li>   <li>• recognize safe usage of prescription and non-prescription medication</li> <li>• understand the impact of substance abuse (e.g., tobacco, alcohol, and drugs)</li> </ul>

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<b>Motor Skills and Movement Patterns</b> Grades Six through Eight		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Competence in movement skills enhances and encourages active lifestyles.</li> <li>• Motor skills and movement patterns can be combined to create complex movement sequences.</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• How does posture affect movement?</li> <li>• How does increased competency influence enjoyment and participation?</li> <li>• How are basic motor skills linked to perform more complex movement sequences?</li> <li>• How are movement patterns performed in creative ways?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.34</b> Students perform physical movement skills effectively in a variety of settings.</p> <p><b>Academic Expectation 2.35</b> Students demonstrate knowledge and skills that promote involvement in physical activity throughout their lives.</p> <p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p>	<ul style="list-style-type: none"> <li>• Motor skills</li> <li>• Manipulative skills               <ul style="list-style-type: none"> <li>• Eye-hand coordination and control</li> <li>• Eye-foot coordination and control</li> </ul> </li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• leap, balance, and transfer weight using mature muscle patterns</li> <li>• change speed and direction quickly and efficiently</li> <li>• combine skills in modified versions of team and individual sports</li> <li>• use practice and conditioning to detect, analyze, and correct errors</li> <li>• throw a variety of objects demonstrating both accuracy and distance</li> <li>• throw and catch a ball while being guarded by opponents</li> <li>• track and catch an object at different plane levels</li> <li>• dribble with either hand and maintain control so that the ball is not stolen by an opponent</li> <li>• strike a ball consistently using a variety of manipulatives (e.g., field hockey, volleyball, lacrosse, golf, tennis, and whiffle ball)</li> <li>• dribble with either foot and maintain control so that the ball is not stolen by an opponent</li> <li>• punt and kick using a smooth continuous approach</li> </ul>

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<p><b>Related Academic Expectations</b> 3.1, 3.3, 3.4, 3.5, 4.3, 5.4, 6.2, 6.3</p>	<ul style="list-style-type: none"> <li>• Body and spatial awareness</li>   <li>• Rhythmic movement and dance             <ul style="list-style-type: none"> <li>• Patterns and sequences</li> <li>• Types of dance</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• cross the midline of the body (e.g., juggling and cup stacking)</li> <li>• support, lift, and control body weight in a variety of physical activities</li> <li>• demonstrate good posture and body alignment while lifting and carrying an object</li> <li>• set defined boundaries in regard to individual and group space</li>   <li>• design and perform dance sequences that combine traveling, balancing, and weight transfer with intentional changes in direction, speed, and flow</li> <li>• perform a variety of folk, square, line, and creative dances</li> </ul>
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<b>Components of Movement</b> Grades Six through Eight		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Knowledge of the human body supports wellness.</li> <li>• Safe practices and responsible choices protect the individual.</li> <li>• Physical fitness improves well-being.</li> <li>• Practice increases competency over time.</li> </ul>	<ul style="list-style-type: none"> <li>• How are the various body systems stimulated during physical activity?</li> <li>• How do rules and responsible decisions decrease the risk of injury?</li> <li>• Why is it important to include the components of fitness in connection to physical activity?</li> <li>• How are the concepts of space, time, and energy used in movement?</li> <li>• Why is the practice of sport-related skills important?</li> <li>• How do knowledge and application of strategies enhance movement performance?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 1.15</b> Students make sense of and communicate ideas with movement.</p> <p><b>Academic Expectation 2.31</b> Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.</p> <p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p> <p><b>Related Academic Expectations</b> 3.1, 3.3, 3.4, 3.5</p>	<ul style="list-style-type: none"> <li>• Cognitive skills               <ul style="list-style-type: none"> <li>• Body awareness</li> </ul> </li> <li>• Safety</li> <li>• Fitness</li> <li>• Sport and dance</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• identify similarities and differences in body positions in relation to different sports (e.g., receiving a serve in volleyball and defending a player in soccer)</li> <li>• explain body systems (e.g., muscular, cardiovascular, respiratory, and skeletal)</li> <li>• develop an understanding of body mass index (BMI)</li> <li>• analyze possible risks / injury associated with physical activity</li> <li>• identify appropriate safety practices, rules, procedures, and etiquette in all physical activity settings</li> <li>• respond appropriately to verbal directions (listening skills)</li> <li>• demonstrate the way heart rate is used to monitor exercise intensity (e.g., maximum and target heart rates)</li> <li>• calculate maximum and target heart rate</li> <li>• identify the importance of appropriate warm-up and cool-down for physical activity</li> <li>• compare / contrast changes in the body during physical activity in regard to circulation and respiration</li> <li>• set personal goals regarding strength, flexibility, and endurance</li> <li>• describe basic principles of training and ways they improve fitness</li> <li>• apply FITT principle to fitness (frequency, intensity, time, and type)</li> <li>• use feedback to detect, analyze, and correct errors</li> <li>• analyze offense and defense strategies while playing a modified version of a sport</li> <li>• accurately recognize critical elements of a skill and provide feedback to a peer</li> <li>• describe approach, direction, and sequence of various sports skills</li> <li>• relate skills to complex lead-up games in a large group setting</li> <li>• identify critical elements to improve personal performance in fundamental and selected specialized motor skills</li> <li>• apply critical elements of mature movement patterns</li> </ul>

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<b>Physical Activity and Fitness</b> Grades Six through Eight		
<ul style="list-style-type: none"> <li>Physical fitness produces lifelong wellness.</li> <li>Healthy living requires knowledge of human structure and function.</li> </ul>	<ul style="list-style-type: none"> <li>How do specific activities utilize the various components of fitness?</li> <li>How are personal fitness and wellness goals set, measured, and evaluated?</li> <li>How are strength, endurance, and flexibility increased?</li> <li>How does exercise improve the structure and function of the human body?</li> <li>What are appropriate methods to achieve and maintain ideal body weight?</li> <li>How does self-concept affect choices related to health?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.31</b> Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.</p> <p><b>Academic Expectation 2.34</b> Students perform physical movement skills effectively in a variety of settings.</p> <p><b>Academic Expectation 2.35</b> Students demonstrate knowledge and skills that promote involvement in physical activity throughout their lives.</p> <p><b>Academic Expectation 3.2</b> Students demonstrate the ability to maintain a healthy lifestyle.</p> <p><b>Related Academic Expectations</b> 2.29, 3.1, 3.3, 3.4, 3.5</p>	<ul style="list-style-type: none"> <li>Body preparation               <ul style="list-style-type: none"> <li>Warm-up</li> <li>Cool-down</li> </ul> </li> <li>Flexibility</li> <li>Agility</li> <li>Muscular strength and endurance</li> <li>Cardio-respiratory endurance</li> <li>Body composition</li> <li>Lifelong- fitness</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>engage in movement to elevate heart rate and respiration (e.g., jogging and jumping rope)</li> <li>engage in relaxation methods to decrease heart rate and respiration (e.g., yoga poses, deep breathing, and stretching)</li> <li>move joints through a full range of motions (e.g., stretching, yoga, and Pilates)</li> <li>engage in activities that build flexibility</li> <li>change direction quickly and safely in response to a signal (e.g., shuttle run and tagging games)</li> <li>engage in activities that build agility</li> <li>support body weight for an extended period of time (e.g., push-ups and pull-ups)</li> <li>engage in activities that build muscular strength and endurance</li> <li>engage in activities that develop core strength</li> <li>engage in physical activity without tiring easily</li> <li>monitor heart rate before, during, and after physical activity and recover from vigorous physical activity in an appropriate length of time</li> <li>sustain activity for increasingly longer periods of time</li> <li>engage in activities that build cardio-respiratory endurance</li> <li>improve and maintain appropriate body composition (BMI)</li> <li>describe principles of training and conditioning for specific physical activities (e.g., FITT principle)</li> <li>work to monitor, improve, and achieve personal fitness goals</li> <li>evaluate changes in the body during physical activity</li> <li>recognize positive feelings associated with physical activity</li> <li>participate in daily vigorous activity (minimum of 60 minutes)</li> </ul>

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<b>Sportsmanship</b> Grades Six through Eight		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Healthy relationships and a positive self-concept contribute to personal development and positive group involvement.</li>   <li>• Self-management builds individual and group success.</li>   <li>• Safe practices protect individuals, equipment, and facilities.</li> </ul>	<ul style="list-style-type: none"> <li>• How does attitude affect cooperation, teamwork, and sportsmanship?</li> <li>• How does an individual build and maintain relationships?</li> <li>• What are the factors associated with positive self-esteem?</li>   <li>• Why are strategies and skills essential to successful group work?</li> <li>• How is understanding and respect for differences among people important to successful group interaction?</li>   <li>• Why are rules of safety important in a physical education class?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.31</b> Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.</p> <p><b>Academic Expectation 2.34</b> Students perform physical movement skills effectively in a variety of settings.</p> <p><b>Academic Expectation 2.9</b> Students understand space and dimensionality concepts and use them appropriately and accurately.</p> <p><b>Academic Expectation 4.2</b> Students use productive team-membership skills.</p> <p><b>Related Academic Expectations</b> 2.29, 2.59, 3.1, 3.3, 3.4, 3.5</p>	<ul style="list-style-type: none"> <li>• Social interaction               <ul style="list-style-type: none"> <li>• Cooperation</li> <li>• Relationships</li> <li>• Respect for individual differences</li> </ul> </li>   <li>• Safety               <ul style="list-style-type: none"> <li>• Directions and rules</li> <li>• Respect for self, others, facilities, and equipment</li> </ul> </li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• play and cooperate with others during sport activities, regardless of physical differences and skill ability</li> <li>• implement positive team-building and cooperation skills</li> <li>• participate fairly and honestly</li> <li>• utilize stress management skills</li> <li>• participate in games in a non-competitive atmosphere for the purpose of skill development, personal enjoyment, and fitness benefits</li> <li>• encourage others and refrain from put-downs</li> <li>• evaluate various choices when confronted with peer pressure</li> <li>• resolve interpersonal conflicts with a sensitivity to the rights and feelings of others</li> <li>• accept a decision regarding a rule infraction without displaying a negative reaction</li> <li>• recognize the role of game, sport, and dance in getting to know and understand others of like and different backgrounds</li>   <li>• apply established safety procedures and rules</li> <li>• respond appropriately to established signals</li> <li>• show respect for general and personal space</li> <li>• show respect toward others in regard to equipment and movement</li> </ul>

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<b>Healthy Lifestyle</b> Grades Six through Eight		
<b>Essential Understandings</b>	<b>Guided Questions</b>	
<ul style="list-style-type: none"> <li>• Healthy choices promote overall health and fitness.</li>   <li>• Healthy relationships and a positive self-concept contribute to personal development.</li>   <li>• Healthy living requires knowledge of human structure and function.</li>   <li>• Safe practices and responsible choices protect the individual, community, and the environment.</li> </ul>	<ul style="list-style-type: none"> <li>• How does a personal fitness plan promote an active lifestyle?</li> <li>• How can personal fitness levels be improved and maintained?</li> <li>• How can eating properly reduce health risks?</li> <li>• What are eating disorders?</li> <li>• How do personal priorities influence wellness choices?</li> <li>• What are the short-term and long-term effects of alcohol, tobacco, and unsafe drugs on body systems and physical development?</li>   <li>• How can physical activity provide opportunities for enjoyment, challenge, self-expression, and social interaction?</li> <li>• What are healthy ways to manage and deal with stress and emotions?</li> <li>• How do emotions affect thoughts and behaviors?</li>   <li>• How do structures and functions affect different body systems?</li> <li>• How do individuals differ in the way they grow and develop?</li> <li>• How do health problems affect physical activity?</li>   <li>• What are the responsibilities and rights involved in the prevention and treatment of disease?</li> <li>• What is the importance of having strategies in place for preventing and reporting emergencies?</li> <li>• How can positive health practices and appropriate health care reduce health risks?</li> <li>• How do individual choices impact the environment and the health of the community?</li> <li>• What are the rights and responsibilities of consumers in making healthy choices?</li> </ul>	
<b>Academic Expectations</b>	<b>Content Guidelines</b>	<b>Performance Standards</b>
<p><b>Academic Expectation 2.30</b> Students evaluate consumer products and services and make effective consumer decisions.</p> <p><b>Academic Expectation 2.31</b> Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.</p> <p><b>Academic Expectation 2.32</b> Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.</p> <p><b>Academic Expectation 2.34</b> Students perform physical movement skills effectively in a variety of settings.</p>	<ul style="list-style-type: none"> <li>• Health and wellness               <ul style="list-style-type: none"> <li>• Physical health</li> </ul> </li>   <li>• Health and safety               <ul style="list-style-type: none"> <li>▪ Hygiene</li> </ul> </li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• choose and participate in daily physical activity and movement</li> <li>• identify health benefits resulting from participation in physical activity</li> <li>• engage in moderate to vigorous physical activity that provides enjoyment</li> <li>• identify physical and psychological benefits that result from long-term participation in physical activity</li>   <li>• implement school safety practices (e.g., bus, tornado, fire, earthquake, and intruder safety)</li> <li>• utilize general health practices (e.g., personal hygiene)</li> <li>• demonstrate awareness of safety practices (e.g., bike, pedestrian, and car safety)</li> </ul>

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<p><b>Academic Expectation 2.35</b> Students demonstrate knowledge and skills that promote involvement in physical activity throughout their lives.</p> <p><b>Academic Expectation 3.2</b> Students demonstrate the ability to maintain a healthy lifestyle.</p> <p><b>Related Academic Expectations</b> 2.29, 3.1, 3.3, 3.4, 3.5</p>	<ul style="list-style-type: none"> <li>• Nutrition</li>   <li>• Body systems</li>   <li>• Mental health</li>   <li>• Substance use / abuse</li>   <li>• Consumerism</li> </ul>	<ul style="list-style-type: none"> <li>• recognize the importance of water hydration</li> <li>• understand the value of good nutrition, including “My Pyramid”</li> <li>• identify the importance of healthy snacks</li> <li>• analyze the role of exercise, nutrition, and other lifestyle choices in controlling body weight</li>   <li>• explore body systems (e.g., muscular, skeletal, circulatory, and respiratory)</li>   <li>• describe healthful benefits that result from regular and appropriate participation in physical activity</li> <li>• relieve stress through physical activity</li> <li>• understand the impact of eating disorders</li>   <li>• recognize safe usage of prescription and non-prescription medication</li> <li>• understand the impact of substance abuse (e.g., tobacco, illegal drugs, and alcohol)</li>   <li>• recognize that some celebrities, athletes, and performances may not be appropriate to imitate</li> </ul>
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**Examples of Assessment in the Physical Education Setting**

Kindergarten through Grade Eight

- |  |  |   |
|--|--|---|
| <ul style="list-style-type: none"><li>• Self-assessment</li><li>• Teacher observation</li><li>• Peer observation</li><li>• Tests</li></ul> | <ul style="list-style-type: none"><li>• Written / log</li><li>• Projects / rubrics</li><li>• Checklists</li><li>• Discussion</li></ul> | <ul style="list-style-type: none"><li>• Fitness tests</li><li>• Portfolios</li><li>• Role playing</li></ul> |
|--|--|---|

\*This list is not intended to be inclusive, but rather is a sampling of possible measures and methods for assessment.

**Examples of Technology in the Physical Education Setting**

Kindergarten through Grade Eight

- |  |  |  |
|--|--|--|
| <ul style="list-style-type: none"><li>• Web-Quests</li><li>• Video modeling of form</li><li>• PowerPoint</li><li>• Podcasts</li><li>• Wii – Fit, Sport</li></ul> | <ul style="list-style-type: none"><li>• Videos</li><li>• Simulations</li><li>• Websites</li><li>• Heart rate monitors</li><li>• Pedometers</li></ul> | <ul style="list-style-type: none"><li>• Dance - Dance Revolution</li><li>• Online information and instruction</li><li>• Physical fitness testing</li><li>• Grading</li><li>• Rubrics</li></ul> |
|--|--|--|

\*This list is not intended to be inclusive, but rather is a sampling of possible examples of technology.

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# **Library Media Curriculum Framework**

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## Standard 1: Inquire, think critically, and gain knowledge.

<b><i>Indicator 1.1.1: Follow an inquiry-based process in seeking knowledge in curricular subjects, and make the real-world connection for using this process.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>Forms simple questions, e.g., “Do bears eat?”</li> </ul>	<ul style="list-style-type: none"> <li>Forms simple open-ended questions, e.g., “What do bears eat?”</li> </ul>	<ul style="list-style-type: none"> <li>Forms simple open-ended questions and begins to explore ways to answer them, e.g., “Where can I find what bears eat?”</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>Generate questions and practice ways to locate sources that provide needed information.</li> </ul>	<ul style="list-style-type: none"> <li>Generate questions and practice ways to locate and begin to evaluate sources that provide needed information.</li> </ul>	<ul style="list-style-type: none"> <li>Generate questions and practice different ways to locate and evaluate sources that provide needed information.</li> </ul>
<b>Grades 6,7,8</b>		
<ul style="list-style-type: none"> <li>Use critical-thinking process that involves asking questions, investigating the answers, and developing new understandings for personal or academic independent-learning activities.</li> </ul>		
<b><i>Indicator 1.1.2: Use prior and background knowledge as context for new learning.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>Connect ideas to own interests.</li> </ul>	<ul style="list-style-type: none"> <li>Connect ideas to own interests.</li> <li>Shares what is known about a topic, problem, or question.</li> </ul>	<ul style="list-style-type: none"> <li>Connect ideas to own interests.</li> <li>Share what is known about a topic, problem, or question.</li> <li>Identify one or two keywords about a topic, problem, or question.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>Connect ideas or topics to their own interests.</li> <li>Articulate what is known about a topic, problem, or question, e.g., factual information.</li> <li>Generate a list of keywords for an inquiry-based project with guidance.</li> </ul>	<ul style="list-style-type: none"> <li>Connect ideas or topics to their own interests.</li> <li>Articulate what is known about a topic, problem, or question.</li> <li>Generate a list of keywords for an inquiry-based project with guidance.</li> <li>Identify and use appropriate sources to acquire background information.</li> </ul>	<ul style="list-style-type: none"> <li>Connect ideas or topics to their own interests.</li> <li>Articulate what is known about a topic, problem, or question.</li> <li>Generate a list of keywords for an inquiry-based project with guidance.</li> <li>Identify and use appropriate sources to acquire background information.</li> <li>Predict answers to inquiry questions based on background knowledge and beginning observations or experiences.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>State and support what is known about a topic, problem, or question and make connections to prior knowledge.</li> <li>Observe and analyze an experience, demonstration, or source that introduces a topic, problem, or question to gather background information.</li> <li>Review initial information needed to develop, clarify, revise, or refine the question.</li> <li>Compare new background information with prior knowledge to determine direction and focus of new learning.</li> </ul>		

## Standard 1: Inquire, think critically, and gain knowledge.

### *Indicator 1.1.3: Develop and refine a range of questions to frame the search for new understanding.*

Kindergarten	Grade 1	Grade 2
<ul style="list-style-type: none"> <li>Formulate simple questions related to listening activity. Ask “I wonder if…” questions about the topic, question, or problem.</li> </ul>	<ul style="list-style-type: none"> <li>Formulate simple open-ended questions related to listening activities. Ask “I wonder who/what …” questions about the topic, question, or problem.</li> </ul>	<ul style="list-style-type: none"> <li>Formulate open-ended questions related to listening activities.</li> <li>Ask “I wonder why/how…” questions about the topic, question, or problem.</li> </ul>
Grade 3	Grade 4	Grade 5
<ul style="list-style-type: none"> <li>Formulate questions about the topic, with guidance.</li> </ul>	<ul style="list-style-type: none"> <li>Formulate questions about the topic, with guidance.</li> <li>Assess questions to determine which can be answered by simple facts, which cannot be answered, and which would lead to an interesting inquiry.</li> <li>Revise the question or problem as needed to arrive at a manageable topic.</li> </ul>	<ul style="list-style-type: none"> <li>Formulate questions about the topic, with guidance.</li> <li>Assess questions to determine which can be answered by simple facts, which cannot be answered, and which would lead to an interesting inquiry.</li> <li>Revise the question or problem as needed to arrive at a manageable topic.</li> </ul>
Grade 6,7,8		
<ul style="list-style-type: none"> <li>Write questions independently based on key ideas or areas of focus.</li> <li>Determine what information is needed to support the investigation and answer the questions.</li> <li>Analyze what is already known, or what is observed or experienced to predict answers to inquiry questions. Refine questions depending on the type of information needed (for example, overview, big idea, specific detail, cause and effect, comparison).</li> </ul>		

### *Indicator 1.1.4: Find, evaluate, and select appropriate sources to answer questions.*

Kindergarten	Grade 1	Grade 2
<ul style="list-style-type: none"> <li>Understand the basic organizational structure of books including spine, spine label, title page, author, illustrator, and title.</li> <li>Distinguish between fiction and nonfiction books.</li> <li>Understand that the library has an organizational scheme.</li> <li>Understand fiction books are alphabetized by author’s last name.</li> </ul>	<ul style="list-style-type: none"> <li>Understand the basic organizational structure of books including spine, spine label, title page, author, illustrator, title, and publisher.</li> <li>Distinguish between fiction and nonfiction books.</li> <li>Understand that the library has an organizational scheme.</li> <li>Understand that call numbers tell where the book is placed on the shelf.</li> <li>Select and use appropriate sources, including picture dictionaries, maps, and globes.</li> </ul>	<ul style="list-style-type: none"> <li>Understand the basic organizational structure of books including spine, spine label, title page, author, illustrator, title, publisher, city of publication, copyright date, and dedication.</li> <li>Distinguish between fiction and nonfiction books.</li> <li>Understand that the library has an organizational scheme, e.g., fiction, nonfiction, reference, and other materials.</li> <li>Select and use appropriate sources, including picture dictionaries, beginning encyclopedias, magazines, maps, and globes, to answer questions.</li> <li>Identify guide words in dictionaries and encyclopedias and can locate words and topics.</li> </ul>

## Standard 1: Inquire, think critically, and gain knowledge.

### *Indicator 1.1.4: Find, evaluate, and select appropriate sources to answer questions. (continued)*

Grade 3	Grade 4	Grade 5
<ul style="list-style-type: none"> <li>• Understand the library’s organizational scheme and the Dewey decimal classification system.</li> <li>• Use the organizational structure of a book (e.g., table of contents, index, chapter headings, preface, appendix, glossary, bibliography) to locate information to answer questions.</li> <li>• Know that biographical books are shelved alphabetically using the subject’s last name.</li> <li>• Use dictionary, encyclopedia, thesaurus and atlas to locate information.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the library’s organizational scheme and the Dewey decimal classification system.</li> <li>• Use the organizational structure of a book (e.g., table of contents, index, chapter headings, preface, appendix, glossary, bibliography) to locate information to answer questions.</li> <li>• Select and use appropriate sources, including specialized reference sources and databases, to answer questions.</li> <li>• Use multiple resources, including print, electronic, and human, to locate information.</li> <li>• Use text features and illustrations to decide which resources are appropriate.</li> <li>• Know that biographical books are shelved alphabetically using the subject’s last name.</li> <li>• Use dictionary, thesaurus, atlas, encyclopedia, and almanac to locate information.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the library’s organizational scheme and the Dewey decimal classification system.</li> <li>• Use the organizational structure of a book (e.g., table of contents, index, chapter headings, preface, appendix, glossary, bibliography) to locate information to answer questions.</li> <li>• Select and use appropriate sources, including specialized reference sources and databases, to answer questions.</li> <li>• Use multiple resources, including print, electronic, and human, to locate information.</li> <li>• Use text features and illustrations to decide which resources are best to use and why.</li> <li>• Know that biographical books are shelved alphabetically using the subject’s last name.</li> <li>• Use dictionary, thesaurus, atlas, encyclopedia, almanac, and specialized dictionaries and encyclopedias to locate information.</li> </ul>
Grade 6,7,8		
<ul style="list-style-type: none"> <li>• Recognize the organization and use of special sections in the library (e.g., reference, reserve books, paperbacks).</li> <li>• Locate appropriate nonfiction resources by using the library’s classification scheme.</li> <li>• Evaluate sources based on criteria such as copyright date, authority of author or publisher, comprehensiveness, readability, and alignment with research needs.</li> <li>• Select a variety of credible sources in different formats relevant to research needs.</li> </ul>		

**Standard 1: Inquire, think critically, and gain knowledge.**

<b><i>Indicator 1.1.5: Evaluate information found in related sources on the basis of accuracy, validity, appropriateness for needs, importance, and social and cultural context.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>Recognize and use facts that answer specific questions.</li> <li>Interpret information represented in pictures, illustrations, and simple charts.</li> </ul>	<ul style="list-style-type: none"> <li>Recognize and use facts that answer specific questions.</li> <li>Interpret information represented in pictures, illustrations, and simple charts.</li> </ul>	<ul style="list-style-type: none"> <li>Recognize and use facts that answer specific questions.</li> <li>Interpret information represented in pictures, illustrations, and simple charts.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>Identify facts and details that support main ideas.</li> <li>Distinguish between fact and opinion.</li> <li>Interpret information taken from maps, graphs, charts, and other visuals.</li> <li>Select information to answer questions or solve a problem.</li> </ul>	<ul style="list-style-type: none"> <li>Identify facts and details that support main ideas.</li> <li>Distinguish between fact and opinion.</li> <li>Interpret information taken from maps, graphs, charts, and other visuals.</li> <li>Select information to answer questions or solve a problem.</li> <li>Skim/scan to locate information that is appropriate to age and ability level.</li> </ul>	<ul style="list-style-type: none"> <li>Skim/scan to locate information that is appropriate to age and ability level.</li> <li>Identify facts and details that support main ideas.</li> <li>Distinguish between fact and opinion.</li> <li>Interpret information taken from maps, graphs, charts, and other visuals.</li> <li>Select information to answer questions or solve a problem.</li> <li>Evaluate facts for accuracy.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>Recognize that information has a social or cultural context based in currency, accuracy, authority, and point of view.</li> <li>Evaluate and select information based on usefulness, currency, accuracy, authority, and point of view.</li> </ul>		

## Standard 1: Inquire, think critically, and gain knowledge.

<b><i>Indicator 1.1.6: Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Draw or verbalize main ideas.</li> </ul>	<ul style="list-style-type: none"> <li>• Use simple note-taking strategies as demonstrated by the School Library Media Specialist.</li> <li>• Write, draw or verbalize the main idea and supporting details.</li> </ul>	<ul style="list-style-type: none"> <li>• Use simple note-taking strategies as demonstrated by the School Library Media Specialist.</li> <li>• Write, draw or verbalize the main idea and supporting details.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Use various note-taking strategies (e.g., outlining, questioning the text, highlighting, graphic organizers).</li> <li>• Paraphrase or summarize information in various formats.</li> <li>• Draw conclusions based on facts and premises.</li> </ul>	<ul style="list-style-type: none"> <li>• Use various note-taking strategies (e.g., outlining, questioning the text, highlighting, graphic organizers).</li> <li>• Paraphrase or summarize information in various formats.</li> <li>• Draw conclusions based on facts and premises.</li> </ul>	<ul style="list-style-type: none"> <li>• Use various note-taking strategies (e.g., outlining, questioning the text, highlighting, graphic organizers).</li> <li>• Paraphrase or summarize information in various formats.</li> <li>• Draw conclusions based on facts and premises.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>• Evaluate, paraphrase, and summarize information in various formats.</li> <li>• Use both facts and opinions responsibly by identifying and verifying them.</li> </ul>		
<b><i>Indicator 1.1.7: Make sense of information gathered from diverse sources by identifying misconceptions, main and supporting ideas, conflicting information, and point of view or bias.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Retell key points with guidance.</li> </ul>	<ul style="list-style-type: none"> <li>• Summarize or retell key points with guidance.</li> </ul>	<ul style="list-style-type: none"> <li>• Summarize or retell key points.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Recognize when facts from two different sources conflict and seek additional sources to verify accuracy, with guidance.</li> </ul>	<ul style="list-style-type: none"> <li>• Recognize when facts from two different sources conflict and seek additional sources to verify accuracy.</li> </ul>	<ul style="list-style-type: none"> <li>• Recognize when facts from two different sources conflict and seek additional sources to verify accuracy.</li> <li>• Recognize their own misconceptions when new information conflicts with previously held opinions.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>• Seek more than one point of view by using diverse sources.</li> <li>• Explain the effect of different perspectives (points of view) on the information.</li> </ul>		

## Standard 1: Inquire, think critically, and gain knowledge.

<b><i>Indicator 1.1.8: Demonstrate mastery of technology tools for accessing information and pursuing inquiry.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
	<ul style="list-style-type: none"> <li>Recognize the purpose of the online catalog to locate materials.</li> </ul>	<ul style="list-style-type: none"> <li>Recognize the purpose of the online catalog to locate materials.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>Use online encyclopedias and magazine databases, with guidance.</li> <li>Search an online catalog to locate materials.</li> <li>Use software or online tools to record and organize information.</li> </ul>	<ul style="list-style-type: none"> <li>Use selected websites and periodical databases to find appropriate information.</li> <li>Search an online catalog to locate materials.</li> <li>Use software or online tools to record and organize information.</li> </ul>	<ul style="list-style-type: none"> <li>Use selected search engines to find appropriate information.</li> <li>Use selected websites and periodical databases to find appropriate information.</li> <li>Search an online catalog to locate materials.</li> <li>Use software or online tools to record and organize information.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>Use technology resources such as online encyclopedias, online databases, and web subject directories, to locate information.</li> <li>Implement keyword search strategies.</li> <li>Select and use grade-level-appropriate electronic reference materials and teacher-selected websites to answer questions.</li> <li>Use a variety of search engines to do advanced searching.</li> </ul>		
<b><i>Indicator 1.1.9: Collaborate with others to broaden and deepen understanding.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>Listen to others with respect.</li> <li>Share knowledge and ideas with others by discussion and listening.</li> </ul>	<ul style="list-style-type: none"> <li>Listen to others with respect.</li> <li>Share knowledge and ideas with others by discussion and listening.</li> </ul>	<ul style="list-style-type: none"> <li>Listen to others with respect.</li> <li>Share knowledge and ideas with others by discussion and listening.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>Work in teams to produce original works or solve problems.</li> <li>Respect others' opinions through active listening and questioning.</li> </ul>	<ul style="list-style-type: none"> <li>Work in teams to produce original works or solve problems.</li> <li>Respect others' opinions through active listening and questioning.</li> </ul>	<ul style="list-style-type: none"> <li>Work in teams to produce original works or solve problems.</li> <li>Respect others' opinions through active listening and questioning.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>Work in self-managed teams to understand concepts and to solve problems.</li> <li>Offer information and opinion at appropriate times in group discussions.</li> <li>Encourage team members to share ideas and opinions.</li> </ul>		

**Standard 2: Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.**

<i>Indicator 2.1.1: Continue an inquiry-based research process by applying critical-thinking skills (analysis, synthesis, evaluation, organization) to information and knowledge in order to construct new understandings, draw conclusions, and create new knowledge.</i>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Answer the question, “What is this mostly about?”</li> </ul>	<ul style="list-style-type: none"> <li>• Answer the question, “What is this mostly about?”</li> <li>• Identify supporting details.</li> </ul>	<ul style="list-style-type: none"> <li>• Answer the question, “What is this mostly about?”</li> <li>• Identify supporting details.</li> <li>• Find facts to answer questions in more than one source with guidance.</li> <li>• Note similarities and differences in information from different sources.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Use different clues (e.g., placement in text, signal words, focal point of illustration) to determine important ideas in illustrations and text.</li> <li>• Identify facts and details that support main ideas.</li> <li>• Find similar main ideas in more than one source.</li> </ul>	<ul style="list-style-type: none"> <li>• Use different clues (e.g., placement in text, signal words, focal point of illustration) to determine important ideas in illustrations and text.</li> <li>• Identify facts and details that support main ideas.</li> <li>• Restate with guidance and respond with detailed answers to factual questions.</li> <li>• Find similar main ideas in more than one source.</li> </ul>	<ul style="list-style-type: none"> <li>• Use different clues (e.g., placement in text, signal words, focal point of illustration) to determine important ideas in illustrations and text.</li> <li>• Identify facts and details that support main ideas.</li> <li>• Restate and respond with detailed answers to factual questions.</li> <li>• Find similar main ideas in more than one source.</li> <li>• Make inferences with guidance.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>• Assess the importance of ideas by comparing their treatment across texts.</li> <li>• Identify main ideas and find supporting examples, definitions, and details.</li> <li>• Analyze different points of view discovered in different sources.</li> <li>• Determine patterns and discrepancies by comparing and combining information available in different sources.</li> <li>• Interpret information and ideas by defining, classifying, and inferring from information in the text.</li> </ul>		

**Standard 2: Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.**

***Indicator 2.1.2: Organize knowledge so that it is useful.***

<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>Demonstrate simple organizational skills such as sorting and categorizing.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate simple organizational skills such as sorting and categorizing.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate simple organizational skills such as sorting and categorizing.</li> <li>Organize information into different forms (charts, drawings).</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>Organize notes and ideas to form responses to questions.</li> <li>Use common organizational patterns (chronological order, main idea with supporting ideas) to make sense of information, with guidance.</li> </ul>	<ul style="list-style-type: none"> <li>Organize notes and ideas to form responses to questions.</li> <li>Use common organizational patterns (chronological order, main idea with supporting ideas) to make sense of information, with guidance.</li> <li>Organize the information in a way that is appropriate for the assignment or question.</li> </ul>	<ul style="list-style-type: none"> <li>Organize notes and ideas to form responses to questions.</li> <li>Use common organizational patterns (chronological order, main idea with supporting ideas) to make sense of information.</li> <li>Organize the information in a way that is appropriate for the assignment or question.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>Combine and categorize information by using an outline or semantic web to show connections among ideas.</li> <li>Use common organizational patterns (chronological order, cause and effect, compare/contrast) to organize information and draw conclusions.</li> </ul>		

**Standard 2: Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.**

***Indicator 2.1.3: Use strategies to draw conclusions from information and apply knowledge to curricular areas, real-world situations, and further investigations.***

<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Complete a graphic organizer using concepts that were learned during the inquiry experience, as a class, with guidance.</li> <li>• Compare new ideas with what was known at the beginning of the inquiry, with guidance.</li> </ul>	<ul style="list-style-type: none"> <li>• Complete a graphic organizer using concepts that were learned during the inquiry experience, with guidance.</li> <li>• Compare new ideas with what was known at the beginning of the inquiry, with guidance.</li> </ul>	<ul style="list-style-type: none"> <li>• Complete a graphic organizer using concepts that were learned during the inquiry experience.</li> <li>• Compare new ideas with what was known at the beginning of the inquiry.</li> <li>• Make inferences regarding the topic at the conclusion of a theme or research project, with guidance.</li> <li>• Draw a conclusion about the main idea, with guidance.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Review ideas held at beginning of inquiry and reflections captured during note-taking.</li> <li>• Match information found with questions and predictions.</li> <li>• Draw a conclusion about the main idea.</li> <li>• Identify connections to the curriculum and the real world.</li> </ul>	<ul style="list-style-type: none"> <li>• Review ideas held at beginning of inquiry and reflections captured during note-taking.</li> <li>• Match information found with questions and predictions.</li> <li>• Draw a conclusion about the main idea.</li> <li>• Identify connections to the curriculum and the real world.</li> </ul>	<ul style="list-style-type: none"> <li>• Review ideas held at beginning of inquiry and reflections captured during note-taking.</li> <li>• Match information found with questions and predictions.</li> <li>• Draw a conclusion about the main idea.</li> <li>• Identify connections to the curriculum and the real world.</li> <li>• Make inferences about the topic with guidance at the conclusion of the research project.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>• Review prior knowledge and reflect on how ideas changed with more information.</li> <li>• Compare information found to tentative thesis or hypothesis; revisit or revise hypothesis as appropriate.</li> <li>• Draw conclusions based on explicit and implied information.</li> <li>• Form opinions and judgments backed up by supporting evidence.</li> </ul>		

**Standard 2: Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.**

<b><i>Indicator 2.1.4: Use technology and other information tools to analyze and organize information.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>Use word processing and drawing tools to create written product.</li> </ul>	<ul style="list-style-type: none"> <li>Use word processing and drawing tools to create written product.</li> </ul>	<ul style="list-style-type: none"> <li>Use word processing and drawing tools to create written product.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>Use word processing, drawing, presentation, graphing, and other productivity tools to illustrate concepts and convey ideas.</li> </ul>	<ul style="list-style-type: none"> <li>Use word processing, drawing, presentation, graphing, and other productivity tools to illustrate concepts and convey ideas.</li> </ul>	<ul style="list-style-type: none"> <li>Use word processing, drawing, presentation, graphing, and other productivity tools to illustrate concepts and convey ideas.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>Identify and apply common productivity tools and features such as menus and toolbars to plan, create, and edit word processing documents, spreadsheets, and presentations.</li> <li>Use interactive tools to participate as a group in analyzing and organizing information.</li> </ul>		
<b><i>Indicator 2.1.5: Collaborate with others to exchange ideas, develop new understandings, make decisions, and solve problems.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>Share information and ideas with others by discussion and listening.</li> <li>Work in groups to create and share simple information products (poster, diorama).</li> </ul>	<ul style="list-style-type: none"> <li>Share information and ideas with others by discussion and listening.</li> <li>Work in groups to create and share simple information products (poster, diorama).</li> </ul>	<ul style="list-style-type: none"> <li>Share information and ideas with others by discussion and listening.</li> <li>Work in groups to create, share and evaluate simple information products (poster, diorama).</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>Express their own ideas appropriately and effectively while working in groups to identify and resolve information problems.</li> <li>Work in groups to create and evaluate pictures, images, and charts for word processed reports and electronic presentations.</li> </ul>	<ul style="list-style-type: none"> <li>Express their own ideas appropriately and effectively while working in groups to identify and resolve information problems.</li> <li>Work in groups to create and evaluate pictures, images, and charts for word processed reports and electronic presentations.</li> </ul>	<ul style="list-style-type: none"> <li>Express their own ideas appropriately and effectively while working in groups to identify and resolve information problems.</li> <li>Work in groups to create and evaluate pictures, images, and charts for word processed reports and electronic presentations.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>Participate in problem-solving process with group.</li> <li>Work collaboratively in using technology to meet information needs.</li> <li>Paying attention to copyright provisions, work in groups to import and manipulate pictures, images, and charts in documents, spreadsheets, presentations, web pages, and other creative products and presentations that effectively communicate new knowledge.</li> <li>Work in groups to evaluate products and presentations.</li> </ul>		

**Standard 2: Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.**

<b><i>Indicator 2.1.6: Use the writing process, media and visual literacy, and technology skills to create products that express new understandings.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Incorporate writing and oral skills to develop a product or performance, with guidance.</li> <li>• Use pictures to communicate new information and ideas.</li> </ul>	<ul style="list-style-type: none"> <li>• Incorporate writing and oral skills to develop a product or performance.</li> <li>• Use pictures to communicate new information and ideas.</li> <li>• Create a product with a beginning, middle and end.</li> <li>• Use basic grammar conventions.</li> <li>• Revise work with peer or teacher guidance.</li> </ul>	<ul style="list-style-type: none"> <li>• Incorporate writing and oral skills to develop a product or performance.</li> <li>• Use pictures to communicate new information and ideas.</li> <li>• Create a product with a beginning, middle and end.</li> <li>• Use basic grammar conventions.</li> <li>• Revise work with peer or teacher guidance.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Follow steps of the writing/creation process: prewriting, drafting, revising, editing, and publishing.</li> <li>• Identify the audience and purpose before selecting a format for the product.</li> <li>• Experiment with text and visual media to create products.</li> <li>• Edit drafts based on feedback.</li> <li>• Check for correctness, completeness, and citation of sources.</li> </ul>	<ul style="list-style-type: none"> <li>• Follow steps of the writing/creation process: prewriting, drafting, revising, editing, and publishing.</li> <li>• Identify the audience and purpose before selecting a format for the product.</li> <li>• Experiment with text and visual media to create products.</li> <li>• Edit drafts based on feedback.</li> <li>• Check for correctness, completeness, and citation of sources.</li> </ul>	<ul style="list-style-type: none"> <li>• Follow steps of the writing/creation process: prewriting, drafting, revising, editing, and publishing.</li> <li>• Identify the audience and purpose before selecting a format for the product.</li> <li>• Experiment with text and visual media to create products.</li> <li>• Edit drafts based on feedback.</li> <li>• Check for correctness, completeness, and citation of sources.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>• Use prewriting to discover alternate ways to present conclusions.</li> <li>• Select presentation form based on audience and purpose.</li> <li>• Draft the presentation/product following an outline of ideas and add supporting details.</li> <li>• Create products that incorporate writing, visuals, and other forms of media to convey message and main points.</li> <li>• Assess and edit for grammar, visual impact, and appropriate use of media.</li> <li>• Cite all sources using correct bibliographic format.</li> </ul>		

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**Standard 3: Share knowledge and participate ethically and productively as members of our democratic society.**

<b><i>Indicator 3.1.1: Conclude an inquiry-based research process by sharing new understandings and reflecting on the learning.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Present facts and simple answers to questions.</li> </ul>	<ul style="list-style-type: none"> <li>• Present facts and simple answers to questions.</li> <li>• Use simple rubrics to assess work, with guidance.</li> </ul>	<ul style="list-style-type: none"> <li>• Present facts and simple answers to questions.</li> <li>• Use simple rubrics to assess work.</li> <li>• Reflect at the end on an inquiry experience about new ideas to wonder about and investigate.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Present information clearly so that main points are evident.</li> <li>• Use information appropriate to task and audience, with guidance.</li> <li>• Identify their own strengths and set goals for improvement.</li> <li>• Reflect at the end of an inquiry experience about what ideas would still be interesting to pursue.</li> </ul>	<ul style="list-style-type: none"> <li>• Present information clearly so that main points are evident.</li> <li>• Use information appropriate to task and audience, with guidance.</li> <li>• Identify their own strengths and set goals for improvement.</li> <li>• Reflect at the end of an inquiry experience about what ideas would still be interesting to pursue.</li> <li>• Identify and evaluate the important features for a good product, with guidance.</li> </ul>	<ul style="list-style-type: none"> <li>• Present information clearly so that main points are evident.</li> <li>• Use information appropriate to task and audience.</li> <li>• Identify their own strengths and set goals for improvement.</li> <li>• Reflect at the end of an inquiry experience about what ideas would still be interesting to pursue.</li> <li>• Identify and evaluate the important features for a good product.</li> </ul>
<b>Grade 6, 7, 8</b>		
<ul style="list-style-type: none"> <li>• Present conclusions and supporting facts in a variety of ways.</li> <li>• Present solutions to problems using modeled examples.</li> <li>• Identify skills that require practice and refinement, with guidance.</li> <li>• Follow plan of work but seek feedback for improving the process.</li> <li>• Reflect at the end of an inquiry process to identify additional areas of personal interest for pursuit in the future.</li> </ul>		

**Standard 3: Share knowledge and participate ethically and productively as members of our democratic society.**

<b><i>Indicator 3.1.2: Participate and collaborate as members of a social and intellectual network of learners.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Participate with class in dramatizations, recitations and discussions of stories, poems, and other forms of literature.</li> <li>• Show respect for the ideas of others.</li> <li>• Give positive feedback.</li> <li>• Respect rules and procedures as responsible library users.</li> <li>• Share favorite literature, both fiction and nonfiction.</li> <li>• Begin to create collaborative projects.</li> <li>• Share information and creative products with others, using diverse formats, both print and nonprint.</li> <li>• Demonstrate courtesy, good citizenship, and Christian caring in dealing with other people and materials.</li> </ul>	<ul style="list-style-type: none"> <li>• Participate with class in dramatizations, recitations and discussions of stories, poems, and other forms of literature.</li> <li>• Show respect for the ideas of others.</li> <li>• Give positive feedback.</li> <li>• Respect rules and procedures as responsible library users.</li> <li>• Share favorite literature, both fiction and nonfiction.</li> <li>• Begin to create collaborative projects.</li> <li>• Share information and creative products with others, using diverse formats, both print and nonprint.</li> <li>• Demonstrate courtesy, good citizenship, and Christian caring in dealing with other people and materials.</li> </ul>	<ul style="list-style-type: none"> <li>• Participate with class in dramatizations, recitations and discussions of stories, poems, and other forms of literature.</li> <li>• Show respect for the ideas of others.</li> <li>• Give positive feedback.</li> <li>• Respect rules and procedures as responsible library users.</li> <li>• Share favorite literature, both fiction and nonfiction.</li> <li>• Begin to create collaborative projects.</li> <li>• Share information and creative products with others, using diverse formats, both print and nonprint.</li> <li>• Demonstrate courtesy, good citizenship, and Christian caring in dealing with other people and materials.</li> </ul>

**Standard 3: Share knowledge and participate ethically and productively as members of our democratic society.**

***Indicator 3.1.2: Participate and collaborate as members of a social and intellectual network of learners.***  
***(continued)***

<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Show respect for and respond to ideas of others.</li> <li>• Accurately describe or restate ideas of others.</li> <li>• Acknowledge personal and group achievements.</li> <li>• Rely on feedback to improve product and process.</li> <li>• Respect the guidelines for responsible and ethical use of information resources.</li> <li>• Share favorite literature.</li> <li>• Participate in discussions on fiction and nonfiction related to curriculum.</li> <li>• Develop a product with peers and share with others.</li> <li>• Develop projects with peers that can be shared electronically and can challenge other students to answer questions or give opinions adding to the content (e.g., shared book reviews, shared slide presentations).</li> <li>• Demonstrate courtesy good citizenship, and Christian caring in dealing with other people and materials.</li> </ul>	<ul style="list-style-type: none"> <li>• Show respect for and respond to ideas of others.</li> <li>• Accurately describe or restate ideas of others.</li> <li>• Acknowledge personal and group achievements.</li> <li>• Rely on feedback to improve product and process.</li> <li>• Respect the guidelines for responsible and ethical use of information resources.</li> <li>• Share favorite literature.</li> <li>• Participate in discussions on fiction and nonfiction related to curriculum.</li> <li>• Develop a product with peers and share with others.</li> <li>• Develop projects with peers that can be shared electronically and can challenge other students to answer questions or give opinions adding to the content (e.g., shared book reviews, shared slide presentations).</li> <li>• Demonstrate courtesy good citizenship, and Christian caring in dealing with other people and materials.</li> </ul>	<ul style="list-style-type: none"> <li>• Show respect for and respond to ideas of others.</li> <li>• Accurately describe or restate ideas of others.</li> <li>• Acknowledge personal and group achievements.</li> <li>• Rely on feedback to improve product and process.</li> <li>• Respect the guidelines for responsible and ethical use of information resources.</li> <li>• Share favorite literature.</li> <li>• Participate in discussions on fiction and nonfiction related to curriculum.</li> <li>• Develop a product with peers and share with others.</li> <li>• Develop projects with peers that can be shared electronically and can challenge other students to answer questions or give opinions adding to the content (e.g., shared book reviews, shared slide presentations).</li> <li>• Demonstrate courtesy good citizenship, and Christian caring in dealing with other people and materials.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>• Offer information and opinions at appropriate times in group discussions.</li> <li>• Encourage team members to share ideas and opinions.</li> <li>• Ask questions of others in a group to elicit their information and opinions.</li> <li>• Accurately describe or summarize ideas of others.</li> <li>• Practice responsible and ethical use of information resources, both in their own library and in other institutions.</li> <li>• Share reading experiences and favorite literature to build a relationship with others.</li> <li>• Use interactive tools to exchange data collected, collaborate to design products or solve problems, and learn curriculum.</li> </ul>		

**Standard 3: Share knowledge and participate ethically and productively as members of our democratic society.**

<b><i>Indicator 3.1.3: Use writing and speaking skills to communicate new understandings effectively.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>Choose and maintain a focus in a short piece of writing.</li> <li>Use a variety of ways (through art, music, movement, and oral and written language) to present information and main ideas; use oral and written language in a variety of formats (e.g., narrative text, poetry, podcasts).</li> </ul>	<ul style="list-style-type: none"> <li>Choose and maintain a focus in a short piece of writing.</li> <li>Use a variety of ways (through art, music, movement, and oral and written language) to present information and main ideas; use oral and written language in a variety of formats (e.g., narrative text, poetry, podcasts).</li> </ul>	<ul style="list-style-type: none"> <li>Choose and maintain a focus in a short piece of writing.</li> <li>Use a variety of ways (through art, music, movement, and oral and written language) to present information and main ideas; use oral and written language in a variety of formats (e.g., narrative text, poetry, podcasts).</li> <li>Add details from personal experience and research to support ideas.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>Use significant details and relevant information to develop meaning.</li> <li>Present information coherently in oral, written, and visual sequence.</li> <li>Use clear and appropriate vocabulary to convey the intended message.</li> <li>Speak clearly to convey meaning.</li> </ul>	<ul style="list-style-type: none"> <li>Use significant details and relevant information to develop meaning.</li> <li>Present information coherently in oral, written, and visual sequence.</li> <li>Use clear and appropriate vocabulary to convey the intended message.</li> <li>Speak clearly to convey meaning.</li> </ul>	<ul style="list-style-type: none"> <li>Use significant details and relevant information to develop meaning.</li> <li>Present information coherently in oral, written, and visual sequence.</li> <li>Use clear and appropriate vocabulary to convey the intended message.</li> <li>Speak clearly to convey meaning.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>Present conclusions so that main ideas are clearly stated and supported by evidence.</li> <li>Use relevant ideas and details to show insight into people, events, new knowledge, and personal background.</li> <li>Use dramatic, audio, and video presentation as appropriate for subject and audience.</li> <li>Adjust pacing, volume, and intonation appropriate to content and purpose.</li> </ul>		

**Standard 3: Share knowledge and participate ethically and productively as members of our democratic society.**

<b><i>Indicator 3.1.4: Use technology and other information tools to organize and display knowledge and understanding in ways that others can view, use, and assess.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>Use word processing and drawing tools to organize and communicate ideas.</li> </ul>	<ul style="list-style-type: none"> <li>Use word processing and drawing tools to organize and communicate ideas.</li> </ul>	<ul style="list-style-type: none"> <li>Use word processing and drawing tools to organize and communicate ideas.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>Use various technology tools to retrieve and organize information with guidance.</li> <li>Use a variety of media and formats to create and edit products that communicate syntheses of information and ideas.</li> </ul>	<ul style="list-style-type: none"> <li>Use various technology tools to retrieve and organize information with guidance.</li> <li>Use a variety of media and formats to create and edit products that communicate syntheses of information and ideas.</li> </ul>	<ul style="list-style-type: none"> <li>Use various technology tools to retrieve and organize information with guidance.</li> <li>Use a variety of media and formats to create and edit products that communicate syntheses of information and ideas.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>Use appropriate media and formats to design and develop products that clearly and coherently display new understanding.</li> </ul>		
<b><i>Indicator 3.1.5: Connect learning to community issues.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>Express personal connections to the topic or question.</li> </ul>	<ul style="list-style-type: none"> <li>Express personal connections to the topic or question.</li> <li>Identify how the topic or question relates to a real-world need.</li> </ul>	<ul style="list-style-type: none"> <li>Express personal connections to the topic or question.</li> <li>Identify how the topic or question relates to a real-world need.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>Gather ideas and information from different points of view.</li> <li>Base opinions on information from multiple sources of authority.</li> <li>Examine the concept of freedom of speech and explain why it is important.</li> <li>Connect ideas and information to situations and people in the larger community.</li> </ul>	<ul style="list-style-type: none"> <li>Gather ideas and information from different points of view.</li> <li>Base opinions on information from multiple sources of authority.</li> <li>Examine the concept of freedom of speech and explain why it is important.</li> <li>Connect ideas and information to situations and people in the larger community.</li> </ul>	<ul style="list-style-type: none"> <li>Gather ideas and information from different points of view.</li> <li>Base opinions on information from multiple sources of authority.</li> <li>Examine the concept of freedom of speech and explain why it is important.</li> <li>Connect ideas and information to situations and people in the larger community.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>Identify and address community and global issues.</li> <li>Use real-world examples to establish authenticity.</li> <li>Seek information from different sources to get balanced points of view.</li> <li>Articulate the importance of intellectual freedom to a democratic society.</li> </ul>		

**Standard 3: Share knowledge and participate ethically and productively as members of our democratic society.**

<b><i>Indicator 3.1.6: Use information and technology ethically and responsibly.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Credit sources by citing author and title.</li> <li>• Distinguish between acceptable and unacceptable computer use.</li> <li>• Follow school guidelines related to the acceptable use of technology.</li> <li>• Use technology in appropriate ways outside school.</li> </ul>	<ul style="list-style-type: none"> <li>• Credit sources by citing author and title.</li> <li>• Distinguish between acceptable and unacceptable computer use.</li> <li>• Follow school guidelines related to the acceptable use of technology.</li> <li>• Use technology in appropriate ways outside school.</li> </ul>	<ul style="list-style-type: none"> <li>• Credit sources by citing author and title.</li> <li>• Distinguish between acceptable and unacceptable computer use.</li> <li>• Follow school guidelines related to the acceptable use of technology.</li> <li>• Use technology in appropriate ways outside school.</li> <li>• Rephrase rather than copy whole sentences with guidance.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Demonstrate understanding of plagiarism by paraphrasing information or noting direct quotes, with guidance.</li> <li>• Understand that authors and illustrators own their writings and art, and it is against the law to copy their work.</li> <li>• Credit all sources properly in simple citation.</li> <li>• Observe web safety procedures including safeguarding personal information.</li> <li>• Practice responsible use of technology and describe personal consequences of inappropriate use.</li> <li>• Respect privacy of others (e.g., e-mail, files, passwords, book checkout, etc.).</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate understanding of plagiarism by paraphrasing information or noting direct quotes, with guidance.</li> <li>• Understand that authors and illustrators own their writings and art, and it is against the law to copy their work.</li> <li>• Credit all sources properly in simple citation.</li> <li>• Observe web safety procedures including safeguarding personal information.</li> <li>• Practice responsible use of technology and describe personal consequences of inappropriate use.</li> <li>• Respect privacy of others (e.g., e-mail, files, passwords, book checkout, etc.).</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate understanding of plagiarism by paraphrasing information or noting direct quotes, with guidance.</li> <li>• Understand that authors and illustrators own their writings and art, and it is against the law to copy their work.</li> <li>• Credit all sources properly in simple citation.</li> <li>• Observe web safety procedures including safeguarding personal information.</li> <li>• Practice responsible use of technology and describe personal consequences of inappropriate use.</li> <li>• Respect privacy of others (e.g., e-mail, files, passwords, book checkout, etc.).</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>• Avoid plagiarism by rephrasing information in his/her own words.</li> <li>• Document quotations and cite sources using correct bibliographic format.</li> <li>• Abide by Acceptable Use Policy by accessing only appropriate information.</li> <li>• Use programs and websites responsibly and ethically.</li> </ul>		

## Standard 4: Pursue personal and aesthetic growth.

### *Indicator 4.1.1: Read, view, and listen for pleasure and personal growth.*

Kindergarten	Grade 1	Grade 2
<ul style="list-style-type: none"> <li>• Request and choose materials related to personal interests.</li> <li>• Read, view, and listen to a variety of fiction and nonfiction for enjoyment and information.</li> <li>• Visit the public library to attend programs, seek help as needed, and check out materials to read.</li> </ul>	<ul style="list-style-type: none"> <li>• Request and choose fiction and nonfiction materials related to personal interests.</li> <li>• Read, view, and listen to a variety of fiction and nonfiction for enjoyment and information.</li> <li>• Visit the public library to attend programs, seek help as needed, and check out materials to read.</li> <li>• Set reading goals.</li> </ul>	<ul style="list-style-type: none"> <li>• Request and choose fiction and nonfiction materials related to personal interests.</li> <li>• Read, view, and listen to a variety of fiction and nonfiction for enjoyment and information.</li> <li>• Visit the public library to attend programs, seek help as needed, and check out materials to read.</li> <li>• Set reading goals.</li> <li>• Begin to recognize that different genres require different reading, listening, or viewing strategies.</li> </ul>
Grade 3	Grade 4	Grade 5
<ul style="list-style-type: none"> <li>• Read, listen to, and view a range of resources for a variety of purposes: to live the experiences of a character, to answer questions, to find out about something new, to explore personal interests.</li> <li>• Visit the public library to attend programs, seek help as needed, and check out materials to read.</li> <li>• Set reading goals.</li> </ul>	<ul style="list-style-type: none"> <li>• Read, listen to, and view a range of resources for a variety of purposes: to live the experiences of a character, to answer questions, to find out about something new, to explore personal interests.</li> <li>• Visit the public library to attend programs, seek help as needed, and check out materials to read.</li> <li>• Set reading goals.</li> </ul>	<ul style="list-style-type: none"> <li>• Read, listen to, and view a range of resources for a variety of purposes: to live the experiences of a character, to answer questions, to find out about something new, to explore personal interests.</li> <li>• Visit the public library to attend programs, seek help as needed, and check out materials to read.</li> <li>• Set reading goals.</li> </ul>
Grade 6,7,8		
<ul style="list-style-type: none"> <li>• Read, listen to, and view an increasingly wide range of genres and formats for recreation and information.</li> <li>• Independently locate and select information for personal, hobby, or vocational interests.</li> <li>• Pursue creative expressions of information in the community (public library, arts centers, museums).</li> </ul>		

**Standard 4: Pursue personal and aesthetic growth.**

<b><i>Indicator 4.1.2: Read widely and fluently to make connections with self, the world, and previous reading.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Read widely from multicultural texts in various genres to find out about self and the surrounding world.</li> <li>• Predict what will happen next in a story.</li> <li>• Draw conclusions about main idea of a story.</li> <li>• Identify author’s purpose and connect illustrations to a story.</li> <li>• Compare and contrast characters in two different stories or plots in two stories by the same author.</li> <li>• Retell a story using his/her own words and pictures.</li> </ul>	<ul style="list-style-type: none"> <li>• Read widely from multicultural texts in various genres to find out about self and the surrounding world.</li> <li>• Predict what will happen next in a story.</li> <li>• Draw conclusions about main idea of a story.</li> <li>• Identify author’s purpose and connect illustrations to a story.</li> <li>• Compare and contrast characters in two different stories or plots in two stories by the same author.</li> <li>• Retell a story using his/her own words and pictures.</li> <li>• Identify nursery rhyme characters and situations.</li> </ul>	<ul style="list-style-type: none"> <li>• Read widely from multicultural texts in various genres to find out about self and the surrounding world.</li> <li>• Predict what will happen next in a story.</li> <li>• Draw conclusions about main idea of a story.</li> <li>• Identify author’s purpose and connect illustrations to a story.</li> <li>• Compare and contrast characters in two different stories or plots in two stories by the same author.</li> <li>• Retell a story using his/her own words and pictures.</li> <li>• Describe how an illustrator’s style and use of elements and media represent and extend the meaning of the story or the narrative text.</li> <li>• Understand that the Caldecott Medal is awarded for illustrations and is familiar with Caldecott medal books.</li> </ul>

## Standard 4: Pursue personal and aesthetic growth.

<b><i>Indicator 4.1.2: Read widely and fluently to make connections with self, the world, and previous reading. (cont.)</i></b>		
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Use evidence from the text to discuss the author’s purpose.</li> <li>• Read widely to explore new ideas.</li> <li>• Predict and infer about events and characters.</li> <li>• Identify problems and solutions in a story.</li> <li>• Describe how an illustrator’s style and use of elements and media represent and extend the meaning of the story or the narrative text.</li> <li>• Connect story to previous reading.</li> <li>• Recognize features of various genres and use different reading strategies for understanding.</li> <li>• Demonstrate knowledge of favorite authors and genres.</li> <li>• Identify characters, setting and plot in stories or folk lore.</li> </ul>	<ul style="list-style-type: none"> <li>• Use evidence from the text to discuss the author’s purpose.</li> <li>• Read widely to explore new ideas.</li> <li>• Predict and infer about events and characters.</li> <li>• Identify problems and solutions in a story.</li> <li>• Describe how an illustrator’s style and use of elements and media represent and extend the meaning of the story or the narrative text.</li> <li>• Connect story to previous reading.</li> <li>• Recognize features of various genres and use different reading strategies for understanding.</li> <li>• Demonstrate knowledge of favorite authors and genres.</li> <li>• Recognize a biography, autobiography, and collective biography.</li> </ul>	<ul style="list-style-type: none"> <li>• Use evidence from the text to discuss the author’s purpose.</li> <li>• Read widely to explore new ideas.</li> <li>• Predict and infer about events and characters.</li> <li>• Identify problems and solutions in a story.</li> <li>• Describe how an illustrator’s style and use of elements and media represent and extend the meaning of the story or the narrative text.</li> <li>• Connect story to previous reading.</li> <li>• Recognize features of various genres and use different reading strategies for understanding.</li> <li>• Demonstrate knowledge of favorite authors and genres.</li> <li>• Understand the Newbery Medal is awarded for writing and is familiar with Newbery Medal books.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>• Read books that connect their own experiences.</li> <li>• Read with purpose to investigate new ideas beyond the required curriculum.</li> <li>• Read books from various genres.</li> <li>• Compare and contrast story elements in two literary works.</li> <li>• Demonstrate understanding that texts, both narrative and expository, are written by authors expressing their own ideas.</li> <li>• Recognize the author’s point of view; consider alternative perspectives.</li> </ul>		

## Standard 4: Pursue personal and aesthetic growth.

<b><i>Indicator 4.1.3: Respond to literature and creative expressions of ideas in various formats and genres.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Express feelings about characters and events in a story.</li> <li>• Make connections between literature and their own experiences.</li> <li>• Write about or orally share reactions to imaginative stories and performances.</li> <li>• Retell stories using the correct sequence of events.</li> <li>• Identify plot, characters, times, and places in a story.</li> <li>• Discuss favorite books and authors.</li> <li>• Respond to the values presented in stories.</li> </ul>	<ul style="list-style-type: none"> <li>• Express feelings about characters and events in a story.</li> <li>• Make connections between literature and their own experiences.</li> <li>• Write about or orally share reactions to imaginative stories and performances.</li> <li>• Retell stories using the correct sequence of events.</li> <li>• Identify plot, characters, times, and places in a story.</li> <li>• Discuss favorite books and authors.</li> <li>• Respond to the values presented in stories.</li> </ul>	<ul style="list-style-type: none"> <li>• Express feelings about characters and events in a story.</li> <li>• Make connections between literature and their own experiences.</li> <li>• Write about or orally share reactions to imaginative stories and performances.</li> <li>• Retell stories using the correct sequence of events.</li> <li>• Identify plot, characters, times, and places in a story.</li> <li>• Discuss favorite books and authors.</li> <li>• Respond to the values presented in stories.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Connect his/her own feelings to emotions, characters, and events portrayed in a literary work.</li> <li>• Use personal experiences to stimulate responses to literature and art.</li> <li>• Restate and interpret ideas presented through creative formats.</li> <li>• Identify story elements in various fiction genres.</li> <li>• Use evidence from stories to discuss characters, setting, plot, time, and place.</li> <li>• Discuss theme of stories, using evidence to support opinions.</li> <li>• Participate in book talks and book discussion groups.</li> <li>• Respond to the values presented in stories.</li> </ul>	<ul style="list-style-type: none"> <li>• Connect his/her own feelings to emotions, characters, and events portrayed in a literary work.</li> <li>• Use personal experiences to stimulate responses to literature and art.</li> <li>• Restate and interpret ideas presented through creative formats.</li> <li>• Identify story elements in various fiction genres.</li> <li>• Use evidence from stories to discuss characters, setting, plot, time, and place.</li> <li>• Discuss theme of stories, using evidence to support opinions.</li> <li>• Participate in book talks and book discussion groups.</li> <li>• Respond to the values presented in stories.</li> </ul>	<ul style="list-style-type: none"> <li>• Connect his/her own feelings to emotions, characters, and events portrayed in a literary work.</li> <li>• Use personal experiences to stimulate responses to literature and art.</li> <li>• Restate and interpret ideas presented through creative formats.</li> <li>• Identify story elements in various fiction genres.</li> <li>• Use evidence from stories to discuss characters, setting, plot, time, and place.</li> <li>• Discuss theme of stories, using evidence to support opinions.</li> <li>• Participate in book talks and book discussion groups.</li> <li>• Respond to the values presented in stories.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>• Respond to the images and feelings evoked by a literary or artistic work.</li> <li>• Connect text to personal experiences.</li> <li>• Use illustrations, context, graphics, and layout to extract meaning from different formats.</li> <li>• Interpret literary elements (plot, setting, characters, time) from evidence presented in the text.</li> <li>• Draw conclusions about the theme from evidence in the text.</li> <li>• Recognize how characters change.</li> <li>• Share reading, listening, and viewing experiences in a variety of ways.</li> </ul>		

## Standard 4: Pursue personal and aesthetic growth.

### *Indicator 4.1.4: Seek information for personal learning in a variety of formats and genres.*

Kindergarten	Grade 1	Grade 2
<ul style="list-style-type: none"> <li>• Select picture, fiction, and information books; try some books in other genres (poetry, fairy tales) routinely.</li> <li>• Select information in various formats and genres based on suggestions from teacher or School Library Media Specialist and on personal interests.</li> <li>• Select some books at the appropriate reading level, other books to be read aloud, and other more challenging books of particular interest for browsing and enjoyment.</li> <li>• Explain personal criteria for selecting a particular resource.</li> </ul>	<ul style="list-style-type: none"> <li>• Select picture, fiction, and information books; try some books in other genres (poetry, fairy tales, drama) routinely.</li> <li>• Select information in various formats and genres based on suggestions from teacher or School Library Media Specialist and on personal interests.</li> <li>• Select some books at the appropriate reading level, other books to be read aloud, and other more challenging books of particular interest for browsing and enjoyment.</li> <li>• Explain personal criteria for selecting a particular resource.</li> </ul>	<ul style="list-style-type: none"> <li>• Select picture, fiction, and information books; try some books in other genres (poetry, fairy tales, biography) routinely.</li> <li>• Select information in various formats and genres based on suggestions from teacher or School Library Media Specialist and on personal interests.</li> <li>• Select some books at the appropriate reading level, other books to be read aloud, and other more challenging books of particular interest for browsing and enjoyment.</li> <li>• Explain personal criteria for selecting a particular resource.</li> </ul>
Grade 3	Grade 4	Grade 5
<ul style="list-style-type: none"> <li>• Select books from favorite authors and genres; try new genres when suggested.</li> <li>• Select information in various formats based on a theme, topic, and connection to classroom learning or personal interest.</li> <li>• Select both “just right” books and challenging books, routinely.</li> <li>• Read the multiple works of a single author.</li> <li>• Explain why some authors and genres have become favorites.</li> <li>• Select appropriate print, nonprint, and electronic materials on an individual level.</li> </ul>	<ul style="list-style-type: none"> <li>• Select books from favorite authors and genres; try new genres when suggested (e.g., folktales, historical fiction, realistic fiction, and tall tales).</li> <li>• Select information in various formats based on a theme, topic, and connection to classroom learning or personal interest.</li> <li>• Select both “just right” books and challenging books, routinely.</li> <li>• Read the multiple works of a single author.</li> <li>• Explain why some authors and genres have become favorites.</li> <li>• Select appropriate print, nonprint, and electronic materials on an individual level.</li> </ul>	<ul style="list-style-type: none"> <li>• Select books from favorite authors and genres; try new genres when suggested (e.g., legend, myth, and autobiography).</li> <li>• Select information in various formats based on a theme, topic, and connection to classroom learning or personal interest.</li> <li>• Select both “just right” books and challenging books, routinely.</li> <li>• Read the multiple works of a single author.</li> <li>• Explain why some authors and genres have become favorites.</li> <li>• Select appropriate print, nonprint, and electronic materials on an individual level.</li> </ul>
Grade 6,7,8		
<ul style="list-style-type: none"> <li>• Read a variety of genres, including short stories, novels, poems, plays, drama, myths, films, and electronic magazines and books.</li> <li>• Describe the characteristics of different genres.</li> <li>• Explore new genres that fulfill interests and reading level (graphic novels, magazines, online magazines, e-books).</li> <li>• Select resources for classroom learning and for personal exploration.</li> <li>• Select resources on topics of interest at both a comfortable reading level and at higher levels of comprehension.</li> <li>• Select print, nonprint, and electronic materials based on personal interests and knowledge of authors.</li> <li>• Maintain personal reading lists.</li> </ul>		

**Standard 4: Pursue personal and aesthetic growth.**

<b><i>Indicator 4.1.5: Connect ideas to own interests and previous knowledge and experience.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Prior to reading a book, gain background knowledge about the author or subject by discussing it with friend, teacher, or parent.</li> <li>• Demonstrate comprehension of stories read independently or shared aloud.</li> <li>• Develop criteria for deciding if a book matches interests and reading levels.</li> <li>• Find and read (or be read) books that match interests and comprehension levels.</li> </ul>	<ul style="list-style-type: none"> <li>• Prior to reading a book, gain background knowledge about the author or subject by discussing it with friend, teacher, or parent.</li> <li>• Demonstrate comprehension of stories read independently or shared aloud.</li> <li>• Develop criteria for deciding if a book matches interests and reading levels.</li> <li>• Find and read (or be read) books that match interests and comprehension levels.</li> </ul>	<ul style="list-style-type: none"> <li>• Prior to reading a book, gain background knowledge about the author or subject by discussing it with friend, teacher, or parent.</li> <li>• Demonstrate comprehension of stories read independently or shared aloud.</li> <li>• Develop criteria for deciding if a book matches interests and reading levels.</li> <li>• Find and read (or be read) books that match interests and comprehension levels.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Use prior knowledge to understand and compare literature.</li> <li>• Understand literal meaning and identify the main points reflected in a work.</li> <li>• Compare the ideas in various types of resources to experiences in real life.</li> </ul>	<ul style="list-style-type: none"> <li>• Use prior knowledge to understand and compare literature.</li> <li>• Understand literal meaning and identify the main points reflected in a work.</li> <li>• Compare the ideas in various types of resources to experiences in real life.</li> </ul>	<ul style="list-style-type: none"> <li>• Use prior knowledge to understand and compare literature.</li> <li>• Understand literal meaning and identify the main points reflected in a work.</li> <li>• Compare the ideas in various types of resources to experiences in real life.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>• Demonstrate understanding of literal and implied meanings by explaining how new meanings fit with what is already known.</li> <li>• Connect ideas reflected in various resources to life experiences at home, in school, and with peers.</li> <li>• Keep logs or records of new and up-to-date ideas by reading online information, magazines, and other current sources.</li> <li>• Check ideas for accuracy by analyzing the authority of the source and validating the information through multiple resources.</li> </ul>		

## Standard 4: Pursue personal and aesthetic growth.

<b><i>Indicator 4.1.6: Organize personal knowledge in a way that can be called upon easily.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Draw pictures of main ideas.</li> </ul>	<ul style="list-style-type: none"> <li>• Take notes using graphic organizer provided by teacher or School Library Media Specialist with guidance.</li> <li>• Draw pictures of the main ideas.</li> </ul>	<ul style="list-style-type: none"> <li>• Take notes using graphic organizer provided by teacher or School Library Media Specialist.</li> <li>• Draw pictures of the main ideas.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Use simple graphic organizers and technology tools to capture the main ideas and their relationships to each other.</li> <li>• Use two-column approach to note taking to capture personal connections to information.</li> </ul>	<ul style="list-style-type: none"> <li>• Use simple graphic organizers and technology tools to capture the main ideas and their relationships to each other.</li> <li>• Use two-column approach to note taking to capture personal connections to information.</li> </ul>	<ul style="list-style-type: none"> <li>• Use simple graphic organizers and technology tools to capture the main ideas and their relationships to each other.</li> <li>• Use two-column approach to note taking to capture personal connections to information.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>• Develop visual pictures of the main ideas and design concept maps, webs, or graphics to capture the ideas.</li> <li>• Identify their own learning styles and organize ideas accordingly (e.g., linear, graphic)</li> <li>• Use different forms of note-taking to capture personal connections to information.</li> </ul>		
<b><i>Indicator 4.1.7: Use social networks and information tools to gather and share information.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Locate information for personal interests and school assignments in print, nonprint, electronic sources with guidance from the School Library Media Specialist.</li> </ul>	<ul style="list-style-type: none"> <li>• Locate information for personal interests and school assignments in print, nonprint, electronic sources with guidance from the School Library Media Specialist.</li> <li>• Experiment with online catalog and Web resources to locate information.</li> </ul>	<ul style="list-style-type: none"> <li>• Locate information for personal interests and school assignments in print, nonprint, electronic sources with guidance from the School Library Media Specialist.</li> <li>• Experiment with online catalog and Web resources to locate information.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Use basic strategies (author, title, subject) to locate information using the library's online catalog.</li> </ul>	<ul style="list-style-type: none"> <li>• Use basic strategies (author, title, subject) to locate information using the library's online catalog.</li> </ul>	<ul style="list-style-type: none"> <li>• Use basic strategies (author, title, subject) to locate information using the library's online catalog.</li> <li>• Use social networking tools to create and share information.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>• Use advanced strategies (Boolean searches) to locate information about personal interest topics in the library's online catalog.</li> <li>• Use technology tools and resources to collect, organize, and evaluate information that addresses issues or interests.</li> <li>• Apply technology productivity tools to meet personal needs.</li> <li>• Use social networking tools to responsibly and safely share information and ideas and to collaborate with others.</li> </ul>		

## Standard 4: Pursue personal and aesthetic growth.

<b><i>Indicator 4.1.8: Use creative and artistic formats to express personal learning.</i></b>		
<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>
<ul style="list-style-type: none"> <li>• Express feelings about a story through pictures and words.</li> <li>• Use technology tools to create and present ideas.</li> <li>• Express their own ideas through simple products in different formats.</li> </ul>	<ul style="list-style-type: none"> <li>• Express feelings about a story through pictures and words.</li> <li>• Use technology tools to create and present ideas.</li> <li>• Express their own ideas through simple products in different formats.</li> </ul>	<ul style="list-style-type: none"> <li>• Express feelings about a story through pictures and words.</li> <li>• Use technology tools to create and present ideas.</li> <li>• Express their own ideas through simple products in different formats.</li> </ul>
<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>
<ul style="list-style-type: none"> <li>• Present creative products in a variety of formats.</li> <li>• Use technology applications to create documents and visualizations of new learning.</li> <li>• Use multimedia authoring tools for independent and collaborative publishing activities.</li> </ul>	<ul style="list-style-type: none"> <li>• Present creative products in a variety of formats.</li> <li>• Use technology applications to create documents and visualizations of new learning.</li> <li>• Use multimedia authoring tools for independent and collaborative publishing activities.</li> </ul>	<ul style="list-style-type: none"> <li>• Present creative products in a variety of formats.</li> <li>• Use technology applications to create documents and visualizations of new learning.</li> <li>• Use multimedia authoring tools for independent and collaborative publishing activities.</li> </ul>
<b>Grade 6,7,8</b>		
<ul style="list-style-type: none"> <li>• Create original products based on responses to literature and other creative works of art.</li> <li>• Experiment with various types of multimedia applications for artistic and personal expression.</li> </ul>		

# **Educational Technology Curriculum Framework**

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# *The ISTE*

## National Educational Technology Standards (NETS•S) and Performance Indicators for Students

### **1. Creativity and Innovation**

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. Students:

- a. apply existing knowledge to generate new ideas, products, or processes.
- b. create original works as a means of personal or group expression.
- c. use models and simulations to explore complex systems and issues.
- d. identify trends and forecast possibilities.

### **2. Communication and Collaboration**

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. Students:

- a. interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.
- b. communicate information and ideas effectively to multiple audiences using a variety of media and formats.
- b. develop cultural understanding and global awareness by engaging with learners of other cultures.
- d. contribute to project teams to produce original works or solve problems.

### **3. Research and Information Fluency**

Students apply digital tools to gather, evaluate, and use information. Students:

- a. plan strategies to guide inquiry.
- b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
- c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
- d. process data and report results.

### **4. Critical Thinking, Problem Solving, and Decision Making**

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources. Students:

- a. identify and define authentic problems and significant questions for investigation.
- b. plan and manage activities to develop a solution or complete a project.
- c. collect and analyze data to identify solutions and/or make informed decisions.
- c. use multiple processes and diverse perspectives to explore alternative solutions.

### **5. Digital Citizenship**

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. Students:

- a. advocate and practice safe, legal, and responsible use of information and technology.
- b. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
- c. demonstrate personal responsibility for lifelong learning.
- d. exhibit leadership for digital citizenship.

## **6. Technology Operations and Concepts**

Students demonstrate a sound understanding of technology concepts, systems, and operations.

Students:

- a. understand and use technology systems.
- b. select and use applications effectively and productively.
- c. troubleshoot systems and applications.
- d. transfer current knowledge to learning of new technologies.

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**Archdiocese of Louisville  
Technology Content Guidelines v2.1  
Spring 2010**

ISTE/ Archdiocese of Louisville (AL) Performance Indicators	Kindergarten	Grade One	Grade Two
Technology Operations and Concepts			
<p>Students:</p> <p>a. understand and use technology systems.</p> <p>b. select and use applications effectively and productively.</p> <p>c. troubleshoot systems and applications.</p> <p>d. transfer current knowledge to learning of new technologies.</p>	<p>01 Identify computer hardware: monitor, keyboard, mouse, disk drive, CD drive, printer.</p> <p>02 Distinguish between hardware and software.</p> <p>03 Log on, log off</p> <p>04 Use proper posture.</p> <p>05 Use spacebar, enter, backspace, caps lock and arrow keys.</p> <p>06 Use letter and number keys.</p> <p>07 Open, use and quit applications.</p> <p>08 Select an option from a menu.</p> <p>09 Navigate inside a graphical user interface (gui) e.g., Windows, MAC OS</p> <p>Productivity Tools</p> <p>A. Word Processing/Desktop Publishing Enter text. Use one space between words. Place cursor for editing purposes.</p> <p>B. Database</p> <p>C. Spreadsheet</p> <p>D. Use content appropriate software.</p> <p>01 Use content appropriate software.</p> <p>02 Use content appropriate Internet sites.</p>	<p>10 Use shift key.</p> <p>11 Use vertical and horizontal scroll bars.</p> <p>12 Use save, print and menu options.</p> <p>Productivity Tools</p> <p>E. Word Processing/Desktop Publishing</p> <p>04 Recognizes a word processing document.</p> <p>05 Distinguishes between upper and lower case letters.</p> <p>06 Use punctuation marks.</p> <p>07 Use one space after punctuation.</p> <p>08 Use capital letters correctly.</p> <p>09 Insert graphics and clip art.</p> <p>10 Insert graphics from a file.</p> <p>F. Database</p> <p>G. Spreadsheet</p> <p>H. Use content appropriate software.</p> <p>I. Use grade appropriate drawing tools.</p> <p>J. Use alternate technologies to reinforce content curriculum. (ie geoSafari, Leap Frog, Leapster)</p>	<p>13 Introduce home row keys .</p> <p>14 Use two hands while typing or adaptation for special needs students.</p> <p>15 Use maximize and minimize.</p> <p>Productivity Tools</p> <p>K. Word Processing/Desktop Publishing</p> <p>11 Use word wrap.</p> <p>12 Use editing skills.</p> <p>13 Use enter key.</p> <p>L. Database</p> <p>M. Spreadsheet</p> <p>01 Identify the purpose of a spreadsheet.</p> <p>02 Create a pie, bar, and line chart.</p> <p>N. Use content appropriate software.</p> <p>O. Use grade appropriate drawing tools.</p> <p>P. Use alternate technologies to reinforce content curriculum.</p>

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<b>Technology Operations and Concepts (cont.)</b>			
	<p>Q. Use grade appropriate drawing tools. 01 Use grade appropriate drawing tools.</p> <p>R. Use alternate technologies to reinforce content curriculum. 01 Use alternate technologies to reinforce content curriculum.</p>		
<b>Digital Citizenship</b>			
<p>Students:</p> <p>a. advocate and practice safe, legal, and responsible use of information and technology.</p> <p>b. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.</p> <p>c. demonstrate personal responsibility for lifelong learning.</p> <p>d. exhibit leadership for digital citizenship.</p>	<p>01 Recognize ownership of own work.</p> <p>02 Recognize ownership of other people's work.</p> <p>03 Sign and discuss the Acceptable Use Policy.</p> <p>04 Participate in an Internet Safety program (iSafe).</p>	<p>05 Recognize another person's right to privacy. *** Sign and discuss the Acceptable Use Policy. *** Participate in an Internet Safety program (iSafe).</p>	<p>06 Recognize that one must have permission to copy another person's work. *** Signs and discusses the Acceptable Use Policy. *** Participate in an Internet Safety program (iSafe).</p>

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<b>Performance Indicators</b>	<b>Kindergarten</b>	<b>Grade One</b>	<b>Grade Two</b>
<b>Creativity and Innovation</b>			
<p>Students:</p> <ul style="list-style-type: none"> <li>a. apply existing knowledge to generate new ideas, products, or processes.</li> <li>b. create original works as a means of personal or group expression.</li> <li>c. use models and simulations to explore complex systems and issues.</li> <li>d. identify trends and forecast possibilities.</li> </ul>			
<b>Communication and Collaboration</b>			
<p>Students:</p> <ul style="list-style-type: none"> <li>a. interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.</li> <li>b. communicate information and ideas effectively to multiple audiences using a variety of media and formats.</li> <li>c. develop cultural understanding and global awareness by engaging with learners of other cultures.</li> <li>d. contribute to project teams to produce original works or solve problems.</li> </ul>	<p>01 Illustrate ideas using software, e.g., counting books, picture books, alphabet books, etc.</p>	<p>02 Write and illustrate stories. 03 Slide show software to present ideas. (Templates may be used.)</p>	

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<b>Performance Indicators</b>	<b>Kindergarten</b>	<b>Grade One</b>	<b>Grade Two</b>
<b>Research and Information Fluency</b>			
<p>Students:</p> <p>A. Plan strategies to guide inquiry.</p> <p>B. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.</p> <p>C. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.</p> <p>D. Process data and report results.</p>		<p>A. Internet use/ information retrieval</p> <p>01 Recognize a web browser.</p> <p>02 Relate web pages to URL.</p> <p>03 Recognize the school home page.</p> <p>04 Open a web browser and use the Home, Back, Forward and Print features.</p> <p>05 Use links to go to a web page.</p> <p>06 Use web page to practice content skills.</p> <p>B. Research Skills</p> <p>01 Use the automated catalog to select library materials.</p>	<p>A. Internet use/ information retrieval</p> <p>07 Understand the function of a home page on the web.</p> <p>B. Research Skills</p>
<b>Critical Thinking, Problem Solving, and Decision Making</b>			
<p>Students:</p> <p>A. Identify and define authentic problems and significant questions for investigation.</p> <p>B. Plan and manage activities to develop a solution or complete a project.</p> <p>C. Collect and analyze data to identify solutions and/or make informed decisions.</p> <p>D. Use multiple processes and diverse perspectives to explore alternative solutions.</p>	<p>01 Use grade appropriate problem-solving software.</p> <p>02 Use grade appropriate videos for decision making.</p> <p>03 Use content appropriate electronic tools.</p> <p>04 Integrate productivity tools for problem-solving.</p>	<p>***Use grade appropriate problem-solving software.</p> <p>*** Use grade appropriate videos for decision making.</p> <p>*** Use content appropriate electronic tools.</p> <p>*** Integrate productivity tools for problem-solving.</p>	<p>***Use grade appropriate problem-solving software.</p> <p>*** Use grade appropriate videos for decision making.</p> <p>*** Use content appropriate electronic tools.</p> <p>***Integrate productivity tools for problem-solving.</p>

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**ISTE/ Archdiocese of Louisville (AL)  
Performance Indicators**

	<b>Grade Three</b>	<b>Grade Four</b>	<b>Grade Five</b>
<b>Technology Operations and Concepts</b>			
<p>A. Use keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively.</p> <p>B. Discuss common uses of technology in daily life and the advantages those uses provide.</p>	<p>16 Introduce proper finger/key placement.</p> <p>17 Keyboard with a speed of 10 words per minute with 75% accuracy.</p> <p>18 Use shift key to access symbol keys.</p> <p>Productivity Tools</p> <p>S. Word Processing/Desktop Publishing</p> <p>14 Adjust font, style, (bold, underline, italics), size of text, color.</p> <p>15 Justify text.</p> <p>16 Spell checks.</p> <p>17 Use tab key.</p> <p>18 Use quotation marks.</p> <p>19 Use print preview, zoom, etc.</p> <p>20 Print specific pages of a multi-page document.</p> <p>21 Copy and paste; cut and paste.</p> <p>22 Delete words in a document.</p> <p>23 Use paragraph formatting (spacing).</p> <p>T. Database</p> <p>01 Recognize a database document.</p>	<p>19 Keyboard with a speed of 12 words per minute with 75% accuracy.</p> <p>20 Identify appropriate mathematics operation symbols (+, -, *, /) on a keyboard.</p> <p>21 Identify computer hardware, hard drive, server, network.</p> <p>Productivity Tools</p> <p>Z. Word Processing/Desktop Publishing</p> <p>24 Use multicolumn layout.</p> <p>AA. Database</p> <p>11 Use find and sort to search for specific information.</p> <p>09 Use status panel to determine the number of selected records.</p> <p>10 Create a simple database.</p> <p>11 Define fields by typing a field name and selecting a field type (text only).</p> <p>12 Save and retrieve database documents.</p> <p>BB. Spreadsheet</p> <p>05 Recognize a spreadsheet</p>	<p>22 Keyboard with a speed of 15 words per minute with 75% accuracy.</p> <p>Productivity Tools</p> <p>FF. Word Processing/Desktop Publishing</p> <p>25 Use find/replace.</p> <p>26 Use thesaurus.</p> <p>27 Create a table.</p> <p>28 Use intermediate formatting: create borders, adjust margins, change page orientation, insert text boxes, word art, drawing tools.</p> <p>GG. Database</p> <p>16 Create a report.</p> <p>17 View data in multiple layouts.</p> <p>18 Print database documents.</p> <p>HH. Spreadsheet</p> <p>08 Use sort.</p> <p>09 Use functions: sum and average.</p> <p>10 Format cell attributes: (font, size, color, alignment, number, style, row height and column width, borders)</p>

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	<p>02 Use terms “field” and “record”.</p> <p>03 Enter data on a template.</p> <p>04 Identify the purpose of a database.</p> <p>05 Use layout menu to view sample data in different ways: browse mode, list mode.</p> <p>06 Use find mode to search for specific information.</p> <p>07 Use status panel to determine the number of found records.</p> <p>08 Show all records.</p> <p>09 Add a new record.</p> <p>10 Delete records.</p> <p>U. Spreadsheet</p> <p>03 Create an original spreadsheet.</p> <p>04 Save, print, and retrieve spreadsheet documents.</p> <p>V. Use content appropriate software.</p> <p>W. Use grade appropriate drawing tools.</p> <p>X. Use alternate technologies to reinforce content curriculum</p> <p>Y. Use graphic organizer software. (ie Kidspiration, Inspiration)</p>	<p>document, cell, row, column, cell address, active cell and entry.</p> <p>06 Enter/edit cell data on a template.</p> <p>07 Use formulas for addition, subtraction, multiplication, and division.</p> <p>CC. Use content appropriate software.</p> <p>DD. Use grade appropriate drawing tools.</p> <p>EE. Use alternate technologies to reinforce content curriculum.</p> <p>02 Use digital camera, scanner, video equipment.</p>	<p>II. Use content appropriate software.</p> <p>JJ. Use grade appropriate drawing tools.</p> <p>KK. Use alternate technologies to reinforce content curriculum.</p> <p>03 Use multimedia projector.</p>
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<b>Digital Citizenship</b>			
<p>A. Discuss common uses of technology in daily life and the advantages those uses provide.</p> <p>B. Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use.</p>	<p>07 Recognize the necessity of citing sources.</p> <p>08 Understand term: copyright. *** Sign and discuss the Acceptable Use Policy. *** Participate in an Internet Safety program (iSafe).</p>	<p>13 Understand and respect software laws.</p> <p>14 Recognize and respect basic copyright laws.</p> <p>15 Recognize copyright symbol. ***Sign and discuss the Acceptable Use Policy. ***Participate in an Internet Safety program (iSafe).</p>	<p>12 Understand terms: virus, virus protection, piracy and security. *** Sign and discuss the Acceptable Use Policy. *** Participate in an Internet Safety program (iSafe).</p>

<b>Performance Indicators</b>	<b>Grade Three</b>	<b>Grade Four</b>	<b>Grade Five</b>
<b>Creativity and Innovation</b>			
<p>A. Use general purpose productivity tools and peripherals to support personal productivity, remediate skill deficits, and facilitate learning throughout the curriculum.</p> <p>B. Use technology tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom.</p>			

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<b>Communication and Collaboration</b>			
<p>A. Use technology tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom.</p> <p>B. Use telecommunications efficiently and effectively to access remote information, communicate with others in support of direct and independent learning, and pursue personal interests.</p> <p>C. Use telecommunications and online resources (e.g., email, online discussions, Web environments) to participate in collaborative problem-solving activities for the purpose of developing solutions or products for audiences inside and outside the classroom.</p>	<p>04 Use basic digital photography.</p>	<p>05 Create basic multimedia presentations with text and graphics.</p> <p>06 Use video for internal broadcast.</p>	<p>07 Create a multimedia presentation with transitions, animation, and audio.</p> <p>08 Understand and use appropriate Internet etiquette (netiquette).</p>

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Performance Indicators	Grade Three	Grade Four	Grade Five
<b>Research and Information Fluency</b>			
<p>A. Use telecommunications and online resources (e.g., email, online discussions, Web environments) to participate in collaborative problem-solving activities for the purpose of developing solutions or products for audiences inside and outside the classroom.</p> <p>B. Use technology resources (e.g., calculators, data collection probes, videos, educational software) for problem solving, self-directed learning, and extended learning activities.</p> <p>C. Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems.</p>	<p>A. Internet use/information retrieval</p> <p>08 Enter a URL to find specific information.</p> <p>09 Use WebQuests to retrieve information.</p> <p>10 Use scavenger hunts to retrieve information.</p> <p>11 Recognize and use links to find specific information.</p> <p>12 Use online encyclopedia and dictionary with keyword search.)</p> <p>13 Search for images and download</p> <p>B. Reference Software</p>	<p>A. Internet use/ information retrieval</p> <p>14 Use age appropriate search engines to find specific information.</p> <p>15 Add/remove favorite/bookmark.</p> <p>16 Find, retrieve, and save graphics, pictures, audio clips, video clips.</p> <p>17 Identify parts of a URL.</p> <p>B. Research Skills</p> <p>02 Use grade appropriate reference software.</p>	<p>C. Internet use/information retrieval</p> <p>18 Use multiple search engines to research a variety of topics.</p> <p>D. Research Skills</p> <p>***Use grade appropriate reference software.</p>

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Performance Indicators	Grade Three	Grade Four	Grade Five
<b>Critical Thinking, Problem Solving, and Decision Making</b>			
<p>A. Use technology resources (e.g., calculators, data collection probes, videos, educational software) for problem solving, self-directed learning, and extended learning activities.</p> <p>B. Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems.</p> <p>C. Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources.</p>	<p>*** Use grade appropriate problem-solving software.</p> <p>*** Use grade appropriate videos for decision-making.</p> <p>*** Use content appropriate electronic tools.</p> <p>*** Use productivity tools for problem-solving.</p>	<p>05 Evaluate appropriateness of a web site based on a web search description.</p> <p>*** Use grade appropriate problem-solving software.</p> <p>*** Use grade appropriate videos for decision-making.</p> <p>*** Use content appropriate electronic tools.</p> <p>***Use productivity tools for problem-solving.</p>	<p>06 Evaluate accuracy of information on web sites.</p> <p>***Use grade appropriate problem-solving software.</p> <p>*** Use grade appropriate videos for decision-making.</p> <p>*** Use content appropriate electronic tools.</p> <p>***Use productivity tools for problem-solving.</p>

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ISTE/ Archdiocese of Louisville (AL) Performance Indicator	Grade Six	Grade Seven	Grade Eight
<b>Technology Operations and Concepts</b>			
<p>A. Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use.</p> <p>B. Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving.</p>	<p>23 Keyboard with a speed of 20 words per minute with 75% accuracy.</p> <p>24 Multitasking by using several active files.</p> <p>25 Apply strategies for troubleshooting hardware and software problems.</p> <p>Productivity Tools LL. Word Processing/Desktop Publishing</p> <p>29 Insert headers and footers.</p> <p>30 Use advanced formatting to edit menus, to insert date, time and page number.</p> <p>31 Insert/adjust columns, page and section breaks.</p> <p>32 Incorporate spreadsheet into word processing document.</p> <p>33 Save document in alternate format.</p> <p>34 Create a two-sided, three-column brochure.</p> <p>MM. Database 19 Use field types: date, number, calculation, summary, multimedia.</p>	<p>26 Keyboard with a speed of 25 words per minute with 75% accuracy.</p> <p>Productivity Tools RR. Word Processing/Desktop Publishing SS. Database TT. Spreadsheet</p> <p>13 Create header rows for multi-page reports.</p> <p>14 Use Print Preview for optimal orientation and paper size.</p> <p>UU. Use content appropriate software.</p> <p>VV. Use grade appropriate drawing tools.</p> <p>WW. Use alternate technologies to reinforce content curriculum.</p>	<p>27 Keyboard with a speed of 30 words per minute with 75% accuracy.</p> <p>Productivity Tools XX. Word Processing/Desktop Publishing YY. Database</p> <p>21 Generate multiple reports from the same database.</p> <p>ZZ. Spreadsheet AAA. Use content appropriate software. BBB. Use grade appropriate drawing tools. CCC. Use alternate technologies to reinforce content curriculum.</p>

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	<p>20 Add/edit fields to an existing database.          NN. Spreadsheet          11 Insert/delete cells, rows, columns.          12 Use functions (MIN, MAX, DATE, RAND, ROUND, COUNT.)          13 Use fill commands (down, right, special.)          OO. Use content appropriate software.          PP. Use grade appropriate drawing tools.          QQ. Use alternate technologies to reinforce content curriculum.</p>		
<b>Digital Citizenship</b>			
<p>A. Demonstrate knowledge of current changes in formation technologies and the effect those changes have on the workplace and society.          B. Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse.          C. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems.</p>	<p>***Sign and discuss the Acceptable Use Policy.          ***Participate in an Internet Safety program (iSafe).</p>	<p>15 Recognize the social and legal implications of propagating viruses, hacking, sending or posting offensive materials and vandalism.          ***Sign and discuss the Acceptable Use Policy.          ***Participate in an Internet Safety program (iSafe).</p>	<p>***Sign and discuss the Acceptable Use Policy.          ***Participate in an Internet Safety program (iSafe).</p>

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Performance Indicators	Grade Six	Grade Seven	Grade Eight
<b>Creativity and Innovation</b>			
<p>A. Use content-specific tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research.</p> <p>B. Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum.</p>			

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Performance Indicators	Grade Six	Grade Seven	Grade Eight
<b>Communication and Collaboration</b>			
<p>A. Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom.</p> <p>B. Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom.</p>	<p>09 Create web pages for publication on the intranet/Internet.</p>	<p>10 Participate in videoconferencing, web enabled software, online courseware, podcasting, and blogging (in a controlled environment.)</p>	<p>11 Create advanced multimedia presentations that involve video and audio editing.</p>

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Performance Indicators	Grade Six	Grade Seven	Grade Eight
<b>Research and Information Fluency</b>			
<p>A. Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom.</p> <p>B. Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom.</p> <p>C. Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems.</p> <p>D. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems.</p>	<p>A. Internet use/information retrieval</p> <p>B. Research Skills ***Use grade appropriate reference software.</p>	<p>E. Internet use/information retrieval</p> <p>F. Research Skills ***Use grade appropriate reference software.</p>	<p>G. Internet use/information retrieval</p> <p>H. Research Skills ***Use grade appropriate reference software.</p>

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Performance Indicators	Grade Six	Grade Seven	Grade Eight
<b>Technology Problem-Solving and Decision-Making</b>			
<p>A. Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems.</p> <p>B. Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving.</p> <p>C. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems.</p>	<p>***Use grade appropriate problem-solving software. *** Use grade appropriate videos for decision-making. *** Use content appropriate electronic tools. ***Use productivity tools for problem-solving.</p>	<p>***Use grade appropriate problem-solving software. *** Use grade appropriate videos for decision-making. *** Use content appropriate electronic tools. ***Use productivity tools for problem-solving.</p>	<p>***Use grade appropriate problem-solving software. *** Use grade appropriate videos for decision-making. *** Use content appropriate electronic tools. *** Use productivity tools for problem-solving.</p>

# Assessment

# PHILOSOPHY OF ASSESSMENT

Assessment provides the opportunity to demonstrate success in accomplishing the mission of the Archdiocese of Louisville to educate and form the whole person – mind, body, and spirit. Assessment is an integral part of the mission of Catholic education offered in the Archdiocese of Louisville as defined by the learning standards contained in the Archdiocese of Louisville Curriculum Guide. It is designed to be a comprehensive, multi-faceted analysis of each student's progress. Quality assessment is one part of a holistic system of learning and includes a varied and balanced combination of practices.

The purpose of assessment is to:

- guide instruction for the teaching process
- measure growth and development in learning for the individual student
- provide reliable and valid evidence of continuous student progress
- communicate meaningful information to students, parents, teachers, and other assessment users.

To fulfill our responsibility to our constituencies, catechetical and academic outcomes are assessed and this information is shared with various groups, including but not necessarily limited to:

- students and their parents/guardians
- the parish community
- the Archdiocese of Louisville
- the broader community.

As a leader in both catechesis and academics, it is the responsibility of the Archdiocese of Louisville to provide both a sound catechetical experience and an excellent educational program. This dual mission of faith formation and academic excellence requires an integrated system of standards; multiple forms of evaluation and assessment measures; and a clear and concise method of reporting to all those to whom we are accountable. It is through this process that we affirm that we are who we say we are and we do what we say we will do.

# FORMATIVE AND SUMMATIVE ASSESSMENT

Quality assessment includes a balance of both formative and summative assessment. In order to promote growth and learning, students should be assessed frequently and through multiple measures. When appropriate, students should be given the opportunity to demonstrate understanding in ways that take into account the individual readiness, learning styles, and interests.

**Formative assessment** is an evaluation of progress conducted throughout the teaching and learning process. Formative assessment is about improvement, **not** accountability.

Formative assessment is most effective when it is student-driven. It helps students understand their own strengths and weaknesses and enables them to determine their paths to success. Formative assessment provides students with timely feedback so that they can improve the quality of their work. It allows students to gauge progress toward personal and academic goals.

Formative assessment also provides teachers and parents with valuable information about student progress. It aids in the identification of student needs and informs instructional practices based on those needs, while enlisting parental support for student learning.

**Summative assessment** takes place after instruction to determine if the anticipated learning has occurred. It is evaluative in nature and is employed as an accountability measure.

Summative assessment encourages students to meet academic standards and validates their readiness to proceed. It enables teachers to evaluate the effectiveness of their instruction. It also provides information to appropriate individuals to determine levels of achievement for placement, evaluate student mastery, and support grading.

# HOLISTIC ASSESSMENT SYSTEM

In a responsive classroom, differentiation of instruction allows teachers to address the readiness, learning styles, and interests of the individual student. A holistic assessment system is based upon these needs of the learner and offers a variety of assessments. Assessments include, but are not limited to, the following:

## **Performance Assessments**

This type of assessment is often referred to as “authentic” assessment. It is a process or product that is assessed through observation and judgment – the teacher looks at the student’s work or performance and makes a judgment based on its quality. Rubrics with clearly defined learning criteria should accompany performance assessments when appropriate and should be shared with students prior to the actual learning. Students may participate in the creation of the rubric, thus having a clear understanding of expectations.

Examples of performance assessments would include projects, reports, narrative descriptions, anecdotal records, student journals, student portfolios, performance events, and performance tasks.

## **Teacher Checklists**

This type of assessment is based on clearly defined criteria and measured by achievement toward those elements. This type of assessment is based on observation, but with less subjectivity than in performance assessments.

Examples would include teacher checklists to accompany projects, observations of behaviors and skills, reports of progress toward learning standards, observations of cooperative skills, and evaluation of research skills.

## **Criterion-Referenced Tests**

Criterion-referenced tests are used to determine a student’s mastery of specific information and skills from a well-defined content area. It is used to ascertain what students know and understand as a result of instruction. Progress is measured against clearly defined criteria or learning goals.

Examples of criterion-referenced tests would include subject-area inventories, achievement tests, commercial readiness tests, pre- and post-tests, end-of-chapter tests, end-of-unit tests, end-of-book tests, and year-end achievement tests.

## **Norm-Referenced Tests**

Norm-referenced tests compare a student’s mastery of specific information to that of a norming group - a large group of students who took the test under similar conditions in the past. Norm-referenced tests provide information about the extent to which the student’s performance was above or below that of the norming group. A nationally recognized assessment is used for comparison with national norms.

Examples of norm-referenced or standardized tests would include the Terra Nova Test and the High School Placement Test.

# GRADING

Assessment of a student's work should provide a rich array of information related to his or her progress and achievement. Quality assessment must provide an appropriate balance of assessments **for** student learning that informs and directs instructional practices (formative assessment) and assessments **of** student learning that are required for grading (summative assessment). Students must clearly understand the learning standards, the components that will be considered in the determination of the grade, and the criteria by which those components will be evaluated. In short, students must be able to identify and clearly articulate what it is they must know and do; the criteria that will be used to prove what they know and are able to do; and the measure of success.

When grading is based on clearly defined learning criteria, it provides teachers with the opportunity to communicate this high quality information in a form that can be clearly understood and effectively used by interested persons. It has direct implications and relevance to all.

Learning standards typically reflect a combination of progress, product, and process criteria.

- Progress criteria are incremental measures used to determine student movement toward an established goal. Because not all students are at the same point at the same time, progress criteria can be highly individualized. Examples of progress criteria might include pre-/post-assessments, student portfolios, and classroom observations.
- Product criteria measure what students know and are able to do at a specific point in time. Product criteria generally take place after instruction and demonstrate mastery of knowledge, skills, and concepts. Examples of product criteria might include reports or projects, exhibits of student work, major exams or compositions, classroom observations, and oral presentations.
- Process criteria reflect not only the final results of the learning but the steps the student took to get there. This information is reported separately from achievement and performance. Process criteria might include effort or work habits, quizzes, homework, class participation, and attendance.

Effective grading procedures are based on a combination of progress, product, and process criteria. By clearly articulating the indicators of each, teachers are able to evaluate and then report each criterion separately. Rubrics with clearly defined learning criteria should accompany assessment when appropriate and should be provided to the student prior to the actual learning. To maximize student learning, a variety of assessment methods and/or grading procedures must be used.

In addition, descriptive feedback is an essential component of the information provided to students. Effective feedback must provide students with a clear understanding of what they are doing well and the steps necessary for improvement and progress. Descriptive feedback is a powerful learning tool. It emphasizes achievement and movement toward mastery, rather than deficiencies. When teachers replace judgmental feedback with specific, descriptive, and immediate feedback, students benefit. To be effective, feedback must be meaningful and provided in a timely manner.

When feedback contains vague or general comments, students are left without a clear understanding of what they did to earn the comment. When accompanied by percentages and letter grades, the comments are often disregarded by both students and parents. This type of feedback does little to increase learning and in fact has a negative impact on student motivation to learn.

To be effective, feedback should be specific, descriptive, and objective in nature, offering the student insight into the work itself and a clear picture of next steps toward success. Students should be given the opportunity to use the feedback from the teacher as they continue to work on a task until they succeed. Students must have the opportunity to make adjustments to the work based on the teacher comments and then resubmit it for further feedback. When students are allowed to use this process, they understand their movement toward mastery and they begin to develop their skills of self-assessment. They are able to articulate what it is they have learned and the steps they must take to make further progress. They become meta-cognitive learners, able to reflect upon and make adjustments to their own learning.

In a differentiated classroom, the progress and achievement of the individual student must be taken into account. Students do not learn at the same rate and in the same way. Therefore, they should not be expected to demonstrate the learning at the same time and in the same way. By differentiating instruction and the methods and procedures for assessment, all students are afforded the opportunity for success. When students are provided with the scaffolding needed to meet the benchmarks and master the content, it is appropriate that the grading and reporting reflect that achievement.

# REPORTING

The Archdiocese of Louisville recognizes that parents are the primary educators of their children. Parents work together with teachers as partners in the educational process, exchanging information regarding the individual student's strengths and needs. This communication between home and school is essential to ensure the student's continued progress and success. In order to promote a deeper understanding of the individual student, and to be better prepared to work as partners in the teaching and learning process, teachers must use multiple tools, each with its own specific and well-defined purpose. The tools should provide reliable and valid evidence of student progress in a timely and user-friendly manner.

A comprehensive reporting system might include report cards, planned phone calls to parents, interim progress reports, Parent-Teacher-Student conferences, individual notes, evaluated projects and assignments, portfolios or exhibits of students' work, checklists, and rubrics. When selecting the specific tools to include, the following should be kept in mind:

- What information needs to be communicated?
- What method is most effective for communicating this information?
- To whom is the information directed? Who is the primary audience?
- How will this information be used?

When reporting on the student's understanding of subject matter and demonstration of skills, it is important to separate academic and non-academic (or work habit) components. For instance, the content area grade should include only information related to the academic learning or the movement toward mastery of the learning targets. Process skills (effort, behavior, work habits) are best reported separately, so as not to distort the intended information.

# RESOURCES

Fisher, D. and Frey, N. (2007). *Checking for Understanding*. Association for Supervision and Curriculum Design, 1703 N. Beauregard Street, Alexandria, VA 22311.

Fogarty, Robin. (1998). *Balancing Assessment*. SkyLight Professional Development, 2626 S. Clearbrook Drive, Arlington Heights, IL 60005.

Guskey, Thomas R. and Bailey, Jane M. (2001). *Developing Grading and Reporting Systems for Student Learning*. Corwin Press, Inc., 2455 Teller Road, Thousand Oaks, CA 91320.

Marzano, Robert J. (2006). *Classroom Assessment and Grading that Work*. Association for Supervision and Curriculum Design, 1703 N. Beauregard Street, Alexandria, VA 22311.

Marzano, Robert J. (2000). *Transforming Classroom Grading*. Association for Supervision and Curriculum Design, 1703 N. Beauregard Street, Alexandria, VA 22311.

McMillan, James H. (2001). *Essential Assessment Concepts for Teachers and Administrators*. Corwin Press, Inc., 2455 Teller Road, Thousand Oaks, CA 91320.

O'Connor, Ken. (2002). *How to Grade for Learning*. Corwin Press, Inc., 2455 Teller Road, Thousand Oaks, CA 91320.

Oliver, Bruce. (October, 2005). Monthly E-newsletter, *Just for the ASKing!*, "Growth-Producing Feedback". Attitudes, Skills, and Knowledge (ASK) Inc. [www.askeducation.com](http://www.askeducation.com).

Stiggins, Richard J., Arter, Judith A., Chappuis, Jan, and Chappuis, Stephen. (2004). *Classroom Assessment for Student Learning*. Assessment Training Institute, 317 SW Alder Street, Suite 1200, Portland, OR 97204.

Tileston, Donna Walker. (2004). *What Every Teacher Should Know about Student Assessment*. Corwin Press, Inc., 2455 Teller Road, Thousand Oaks, CA 91320.

Wormeli, Richard. (2006). *Fair Isn't Always Equal: Assessing and Grading in the Differentiated Classroom*. Stenhouse Publishers, Portland, ME and National Middle School Association, Westerville, OH.

# **Differentiated Instruction**

# DIFFERENTIATED INSTRUCTION

To achieve the goals that advance our vision, the Archdiocese of Louisville created the Archdiocese of Louisville Curriculum Framework which establishes high-quality standards for each grade level based on local, state, and national standards. To determine student progress toward these standards, many measures are utilized. These include, but are not limited to, nationally norm-referenced tests and criterion-referenced tests. However, because our Catholic theology calls us to educate the whole person – mind, body and spirit – individual student growth over time is also valued, measured, and reported.

It is effective differentiated instruction that connects both the standards-based curriculum and assessment with the knowledgeable instructional decisions based on individual need and growth over time.

We value:

- Catholic beliefs, traditions, and values
- the individuality and the potential of all learners
- best practices in all teaching/learning processes
- multiple approaches/differentiation in curriculum practices, programs, norms, and initiatives

In order to advance our vision, our goals include:

- making curriculum decisions based on Catholic beliefs, traditions, and values
- implementing multiple and effective curriculum practices, programs, norms, and initiatives to invite and engage all learners
- assisting schools with curriculum development and assessment plans that focus on student learning as the ultimate goal

Historically, the Archdiocese of Louisville has supported differentiated instruction through implementation of several on-going initiatives including the creation of the Archdiocese of Louisville Curriculum Framework, the implementation of the Intervention Protocol and the participation in the LoTi studies. Initiatives that support differentiated instruction include implementation of the strategies and concepts included in the K-12 Literacy Institutes for teachers and administrators, the use of School Improvement Plans, Instructional Improvement Plans, and the emphasis on differentiated instruction throughout the professional learning opportunities offered to our school staffs.

# Guiding Principles of Differentiated Instruction

Differentiated instruction is characterized by:

- high quality curriculum based on local, state, and national standards
- informed instructional decision-making through ongoing assessment of student differences in readiness, interests, and learning profiles
- differentiated learning experiences in response to the needs of individual learners emphasizing exploration and critical thinking
- a variety of flexible instructional configurations (individual, small group, whole group)
- positive classroom climate focused on equity of opportunity, love of learning, cooperation, and respect for others

Elements of curriculum that can be differentiated:

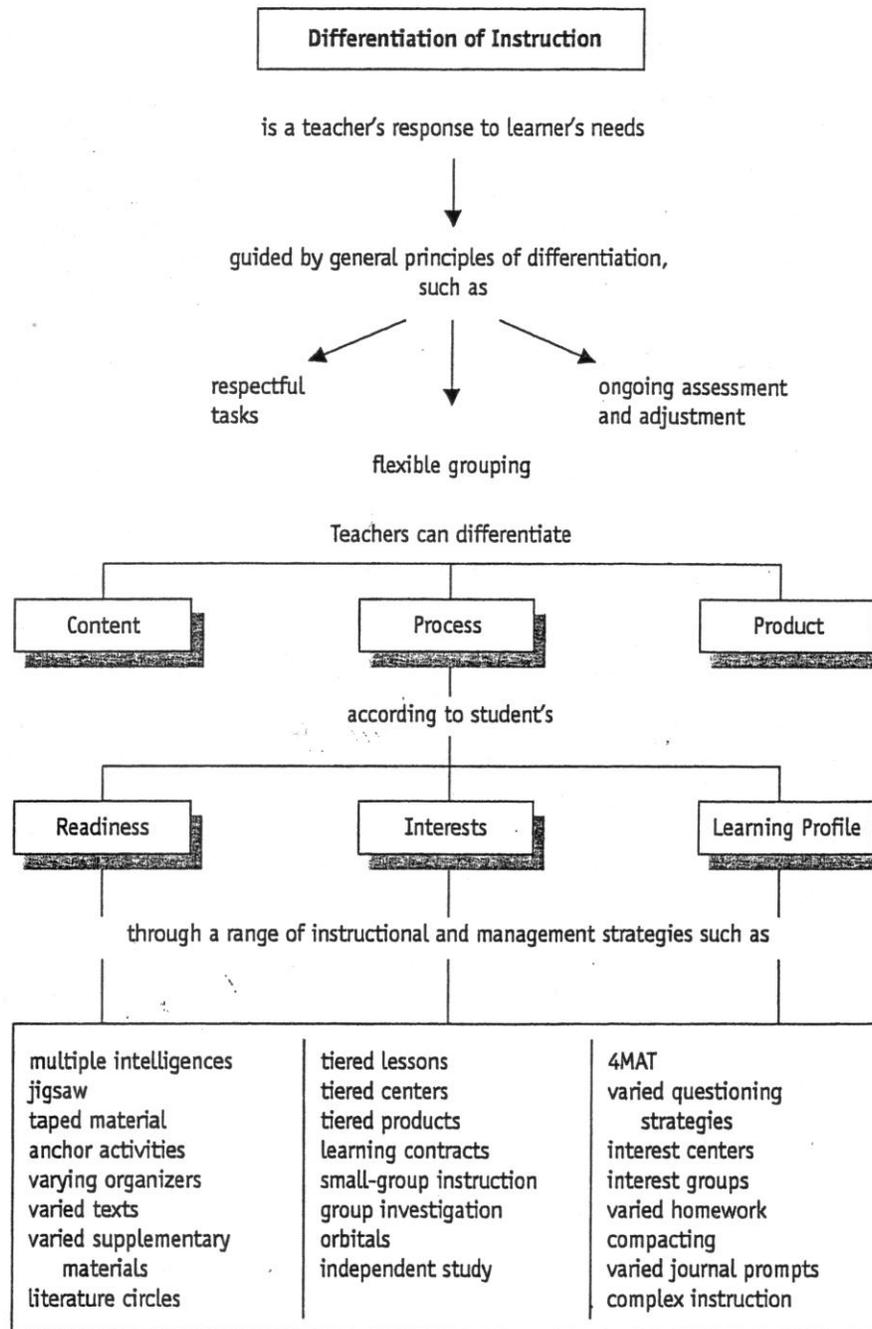
- Content — What students learn
- Process — How students learn content
- Products — How students show they have learned the content

Student characteristics for which teachers can differentiate:

- Readiness — Provide learning choices at different levels of difficulty
- Interest — Align key skills/material with topics/pursuits that intrigue students
- Learning Profile — Address learning styles, student talent, or intelligence profiles

The following flow chart includes the major concepts involved in differentiated instruction and illustrates the process for its implementation.

**Figure 1.1**  
**A Concept Map for Differentiating Instruction**



Source: From *Leadership for Differentiating Schools & Classrooms* (p3), by Carol Ann Tomlinson & Susan Demirsky Allan. – Alexandria, VA: ASCD. ©2000 by ASCD. Used with permission. Learn more about ASCD at [www.ascd.org](http://www.ascd.org)

# **Early Childhood Education**

## **Pre-Kindergarten (4)**

## **Early Childhood Education in the Archdiocese of Louisville**

Early childhood programs in the Archdiocese of Louisville are designed to provide a lively, imaginative, and stimulating learning environment. Children have the opportunity to learn through hands-on experiences that promote Catholic attitudes, traditions, and values, creativity, exploration, and problem-solving in an age-appropriate manner. Children establish a positive self-image and self-confidence. They learn to be a good friend and an eager participant. Children are welcomed into a community of faith where they experience God's love for them and foster their love for others.

The vast array of learning experiences focus on the spiritual, cognitive, social, emotional, language, and physical domains. These domains are connected and enhance the development of the whole child.

Early childhood programs throughout the archdiocese recognize that there is variability in the rate of learning from child to child and even from one domain to another in an individual child. Each child is a unique individual created by God. Focus is placed on the uniqueness and potential of each child. By getting to know the children, teachers are able to set realistic goals for each child that are challenging yet achievable.

Early childhood programs in The Archdiocese of Louisville recognize that children learn best when they are active and engaged and when the activity is meaningful and socially interactive. This is accomplished through a balance of child-guided and teacher-guided experiences. Children have the opportunity to select activities and also to participate in teacher-led small and large group experiences.

Play is a young child's natural way of learning. Early childhood programs provide opportunities for teachers to actively engage with and support children in their play. Intentional learning focused on particular concepts and skills is embedded in play experiences.

Kindergarten readiness means that the child enters kindergarten ready for success at that level. The child has the tools necessary to engage in learning experiences. The intentional gathering of multiple sources of evidence over time provides the kindergarten teacher with an understanding of the rising kindergarten child's strengths and needs. Examples of well-rounded assessment strategies include formal, developmentally appropriate readiness assessment (commercial or school-generated), as well as observation of the child in realistic Pre-K(4) settings and situations, family interviews, and student work samples. Analysis of the information guides decisions about teaching and learning.

## Approaches to Play and Learning – Pre-Kindergarten

### Essential Understandings

- Learning through play builds engagement and socialization.
- An active imagination leads to exploration and discovery.
- Developing attentiveness enhances learning experiences.
- Active engagement builds comfort and joy in learning.

#### Content Guidelines

#### Performance Standards

Discovery

Students will:

- show interest in discovery and learning
- demonstrate a sense of wonder
- engage in tactile experiences

Adaptability

- choose a variety of familiar activities
- show willingness to try new and challenging experiences
- demonstrate initiative
- accept changes in routines and adjust to new situations
- transition from one activity to another
- consider a variety of strategies when solving problems

Imagination and Exploration

- engage in pretend roles with real and make-believe objects
- approach tasks and experiences with creativity and imagination
- use new or inventive strategies to explore objects
- engage in increasingly complex play

Attentiveness and Persistence

- maintain attention and focus
- work at a task despite distractions
- persist at challenging activities
- demonstrate ability to complete a task
- maintain engagement during an experience

Response and Application

- recall past experiences and apply this information to new situations

## Social and Emotional Development – Pre-Kindergarten

Essential Understandings	Guided Questions
<ul style="list-style-type: none"> <li>• Being able to form positive relationships with adults and peers leads to self-confidence.</li> <li>• Mindfulness of the feelings of others enhances interactions within the classroom community.</li> </ul>	<ul style="list-style-type: none"> <li>• Why is it important to treat others the way you would like to be treated?</li> <li>• How do your actions and words make others feel?</li> </ul>
Content Guidelines	Performance Standards
<p>Sense of Self</p> <p>Collaboration</p> <p>Feelings and Emotions</p> <p>Classroom Community</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate a positive sense of self-identity and self-awareness</li> <li>• express positive feelings about themselves and confidence in what they can do</li> <li>• display self-control</li> <li>• form relationships and interact positively with familiar adults</li> <li>• form relationships and interact positively with other children</li> <li>• demonstrate the social and emotional skills needed to successfully participate in groups</li> <li>• use politeness, sharing, and other positive social interaction skills</li> <li>• gain teacher’s attention in appropriate ways</li> <li>• wait patiently for a turn to do an activity</li> <li>• identify, manage, and express feelings</li> <li>• recognize and respond to the needs and feelings of others</li> <li>• accept correction in a positive manner</li> <li>• respect and care for classroom environment and materials</li> </ul>

## Motor Development – Pre-Kindergarten

### Essential Understandings

- Strong motor skills enhance brain development and learning.

#### Content Guidelines

#### Performance Standards

Gross Motor Development

Students will:

- develop large muscle control and coordination
- develop strength, balance, flexibility, and stamina
- develop ability to move in space with coordination
- throw and catch a ball or other object
- kick a ball (stationary and rolling)
- stand on one foot for 5-10 seconds
- hop on one foot
- ascend and descend stairs using alternating feet

Fine Motor Development

- develop small muscle control and coordination
- develop and use eye-hand coordination when performing assorted tasks
- explore and use a variety of tools (e.g., pencil, spoon, crayon, paintbrush, scissors)
- hold pencil, crayon, and paintbrush properly when using them on a variety of surfaces
- hold scissors correctly and use scissors effectively to cut paper (lines and curves)
- trace accurately with a pencil
- draw recognizable shapes, objects, and people



## Language and Literacy Development – Pre-Kindergarten

Essential Understandings	Guided Questions
<ul style="list-style-type: none"><li>• Listening is important to understanding of the message.</li><li>• To communicate effectively, it is essential that the speaker is able to express ideas clearly.</li><li>• Phonological and phonemic awareness are essential foundational skills for early reading.</li><li>• The development of active listening skills and memory aid in comprehension.</li><li>• The use of emergent writing skills is a means of communication.</li><li>• Increased vocabulary promotes the ability to understand and communicate.</li></ul>	<ul style="list-style-type: none"><li>• What must we do to be good listeners?</li><li>• How can we clearly communicate our ideas and knowledge to others?</li><li>• Why is it important to speak clearly and audibly?</li><li>• How can discriminating between sounds support pre-reading skills?</li><li>• How can careful listening help us understand what we hear?</li><li>• How can we convey information through the pictures that we draw?</li><li>• How can we figure out what an unfamiliar word means?</li></ul>

Content Guidelines	Performance Standards
<p>Listening Skills</p> <p>Communication Skills</p> <p>Phonological and Phonemic Awareness</p> <p>Alphabet Knowledge</p> <p>Comprehension</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• recognize the intent of non-verbal and verbal cues</li> <li>• listen to stories, directions, and conversations</li> <li>• follow directions that involve a two- or three-step sequence of actions</li> <li>• listen to and recognize similar and different sounds in words and rhymes</li> </ul> <ul style="list-style-type: none"> <li>• communicate needs, wants, or thoughts through non-verbal gestures and actions, facial expressions, and/or words</li> <li>• speak clearly enough to be understood</li> <li>• speak audibly and express thoughts, feelings, and ideas clearly</li> <li>• speak in appropriate tone</li> <li>• speak in five- to six-word sentences</li> <li>• use increasingly complex and varied vocabulary, language, and sentence structure</li> <li>• initiate, ask questions, and respond appropriately in conversation with peers and adults in one-on-one, small group, and large group interactions</li> <li>• ask and answer questions in order to seek help, get information, or clarify something</li> <li>• describe familiar people, places, things, and events</li> <li>• use most grammatical constructions well</li> <li>• use appropriate pronouns</li> <li>• recite simple finger plays and nursery rhymes</li> </ul> <ul style="list-style-type: none"> <li>• recognize words that rhyme in games, songs, and stories</li> <li>• match or produce words that rhyme</li> <li>• adds or substitutes individual sounds in simple, one-syllable words to make new words</li> <li>• identify initial sound that corresponds to a picture or object</li> </ul> <ul style="list-style-type: none"> <li>• demonstrate the ability to recite the alphabet by rote memory</li> <li>• recognize and name most uppercase and lowercase letters, especially those in own name</li> <li>• identify sounds typically associated with letters that are frequently used</li> <li>• understand the connection between letters and sounds</li> <li>• begin to associate sounds with letters</li> </ul> <ul style="list-style-type: none"> <li>• demonstrate understanding of stories and conversations</li> <li>• predict what will happen next in a story using pictures as a guide</li> <li>• recall information from a story</li> <li>• retell a simple story in sequence</li> <li>• identify characters and the role they play in a story</li> </ul>

Word Recognition Skills	<ul style="list-style-type: none"> <li>• recognize written first name</li> <li>• demonstrate awareness and beginning knowledge of environmental print (e.g., stop, on, restaurant or store logo)</li> </ul>
Reading Readiness	<ul style="list-style-type: none"> <li>• initiate stories and respond to stories told or read aloud</li> <li>• represent stories told or read aloud through during play</li> <li>• show beginning understanding of concepts about print</li> <li>• engage in “reading” (e.g., look at pictures in a book; pretend to read)</li> <li>• “ reread” a book that has been read by another</li> </ul>
Emergent Writing	<ul style="list-style-type: none"> <li>• understand that writing is a means of communication</li> <li>• use scribbles, shapes, pictures, letter-like symbols, or dictation to represent thoughts or ideas</li> <li>• begin to copy or write own name using an uppercase letter for only the first letter</li> </ul>
Background Knowledge and Vocabulary Skills	<ul style="list-style-type: none"> <li>• identify meaning of words in read-alouds, conversations, and descriptions of everyday items in the world around them</li> <li>• make use of new vocabulary in an appropriate manner</li> <li>• use strategies to figure out word meanings (e.g., look at pictures, ask someone, use context clues)</li> <li>• use previous experiences and acquired vocabulary to demonstrate a bigger understanding of the world around them and the world beyond them</li> </ul>
Book Knowledge and Appreciation	<ul style="list-style-type: none"> <li>• demonstrate interest in a range of texts</li> <li>• identify the function and location of a book’s front, back, top, bottom, and spine</li> <li>• demonstrate how to turn the pages of a book properly</li> <li>• know that books are read from front to back</li> <li>• point to where to begin reading</li> <li>• recognize that text flows from left to right and top to bottom</li> <li>• recognize that there are spaces between words</li> </ul>

## Mathematics and Logical Thinking – Pre-Kindergarten

Essential Understandings	Guided Questions
<ul style="list-style-type: none"> <li>• Application of knowledge of numbers and quantities during play and activities reflects understanding.</li> <li>• Mathematical reasoning is used in everyday tasks.</li> <li>• Building upon the understanding of quantities leads to a stronger foundation for future mathematical learning.</li> </ul>	<ul style="list-style-type: none"> <li>• How can numbers be incorporated into this play activity?</li> <li>• How can we use mathematical concepts to help us solve problems?</li> <li>• How can we use numbers to simplify our lives?</li> </ul>
Content Guidelines	Performance Standards
<p>Number Concepts and Operations</p> <p>Patterns and Relationships</p> <p>Spatial Relationships/Geometry</p> <p>Measurement</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• demonstrate increasing interest in numbers and counting</li> <li>• show understanding of numbers and quantities during play and other activities</li> <li>• count by rote to 20</li> <li>• demonstrate understanding of one-to-one correspondence between objects and numbers</li> <li>• state the number that follows a number from 1-9</li> <li>• recognize numerals 0-10</li> <li>• understand concepts of more, less, and same</li> <li>• demonstrate beginning ability to add and subtract numbers with manipulatives</li> <li>• recognize, duplicate, and continue simple patterns using sounds, objects, and attributes of objects</li> <li>• sort objects into groups by one or more characteristics</li> <li>• order or sequence several objects on the basis of one characteristic (e.g., height, weight)</li> <li>• identify and name common shapes</li> <li>• identify and use common shapes and position words during play</li> <li>• understand and use words for the order of objects (e.g., first, second)</li> <li>• understand and use position words (e.g., above, below, in front of)</li> <li>• demonstrate understanding of directional movement (e.g., left, right, up, down)</li> <li>• measure by height, length, and weight using nonstandard and/or standard units</li> <li>• make comparisons between at least two objects (e.g., longest, shorter, thickest)</li> </ul>

## Scientific Thinking and Problem-Solving – Pre-Kindergarten

Essential Understandings	Guided Questions
<ul style="list-style-type: none"> <li>• Using the five senses helps us to develop awareness of the world around us.</li> <li>• Learning the body parts and their functions helps to develop personal health habits.</li> <li>• The development of foundational scientific concepts helps develop critical thinking skills.</li> <li>• Self-help skills promote independence and lead to a safe environment.</li> </ul>	<ul style="list-style-type: none"> <li>• How do the five senses help us to learn more about our world?</li> <li>• How can practicing personal health habits keep us safe and healthy?</li> <li>• How can understanding specific scientific concepts help us understand the world around us?</li> <li>• Why is it important to care for ourselves?</li> </ul>
Content Guidelines	Performance Standards
<p>Observation</p> <p>Investigation</p> <p>Scientific Concepts</p> <p>Personal Health and Wellness</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• use the five senses to observe and explore</li> <li>• name the five senses and their functions</li> <li>• explore the natural world by observing and making predictions</li> <li>• use the senses to investigate and describe properties of material objects (color, size, shape, texture, flexibility)</li> <li>• recognize and use a variety of tools for investigation of the environment</li> <li>• recognize and name body parts and their functions</li> <li>• understand weather and seasons</li> <li>• recognize and name the basic colors</li> <li>• participate in a variety of physical activities that enhance personal health and fitness</li> <li>• engage in active physical play indoors and outdoors</li> <li>• identify and practice personal health habits (e.g., washing hands, caring for teeth and eyes, covering coughs and sneezes, blowing nose) which affect self and others</li> <li>• demonstrate healthy eating habits by eating a variety of nutritious foods</li> </ul>

Self-Help Skills

- exhibit ability to be separated from parent for an extended period
- develop awareness of own needs and the ability to communicate those needs
- develop inter-dependence in caring for self and the environment
- demonstrate increasing independence with basic self-care skills
- care for self in the restroom
- use fork or spoon as appropriate for eating
- clean up after work/play period
- keep track of personal belongings
- fasten and unfasten own clothing without assistance (zipper, shoes, jacket)



## Creativity and the Arts – Pre-K

Essential Understandings	Guided Questions
<ul style="list-style-type: none"> <li>• Art fosters creativity and is an avenue for personal expression.</li> <li>• Creativity and the arts promote the development of the whole child.</li> </ul>	<ul style="list-style-type: none"> <li>• How does this creation/experience make you feel?</li> <li>• What did you gain from this experience?</li> <li>• How does being exposed to the different art forms expand your awareness of the world around you?</li> </ul>
Content Guidelines	Performance Standards
<p>Creativity</p> <p>Appreciation</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• use a variety of media, materials, and tools for creative expression</li> <li>• demonstrate self-expression and creativity in a variety of forms and contexts, including play, visual arts, music, drama, and dance</li> <li>• show and talk about what they have made or done</li> <li>• show interest and respect for the creative work of self and others</li> <li>• demonstrate appreciation for different forms of artistic expression</li> <li>• share opinions and thoughts about art and creative expression in a respectful manner</li> </ul>