ARCHDIOCESE of MILWAUKEE

CURRICULUM *Guide* FOR PARENTS

GRADE 7

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Before you get started…

What is a Curriculum Guide?

Academic excellence is a hallmark of Catholic schools in the Archdiocese of Milwaukee. To assist schools in maintaining academic excellence, the archdiocese's Office for Schools has developed curriculum guides for grades 4K-8th that identify what we want our students to know and be able to do at the end of each grade based on national, state, and local standards. With these guides as a template, each individual school develops a plan to clearly articulate what is taught, how it is taught, and how student achievement is assessed for each grade. This process of "fine tuning" results in a school specific standards-based curriculum that guides teaching and learning.

Characteristics of a 7th Grader

- Experiences great variation in physical, emotional, social, and spiritual development
- Is impacted greatly by his/her changing body and newly acquired ability to think abstractly
- Struggles to express autonomy and may have difficulty distinguishing nuances of truth
- Thrives when allowed opportunities to experience the positive aspects of the new gifts of his/her mind and body
- Is challenged by being encouraged to think and engage in experiences which elicit deep compassion
- Benefits from journaling and meditation as positive sources for his/her introspective tendencies
- Develops most fully when provided experiences that will accommodate the wide variations in maturation
- Demonstrates a need for fairness and justice
- Experiences affirming and positive relationships with persons of both genders
- Continues to develop autonomy within the context of family

Religion

CREED

- Describes relationship with God associated with a life of faith in Jesus Christ
- Knows that God revealed himself gradually in words and actions
- Knows the Church's description of the Trinity as God in three divine persons
- Knows that the Old Testament covenants find their culmination in Christ
- Narrates and discusses key passages from the Gospels that reveal Jesus' ministry
- Knows the role of Mary, the apostles, Saints, and holy people in our faith traditions
- Identifies the basic differences between dogma and doctrine with examples
- Identifies and discusses the role of Christ in salvation in the Bible and Creeds
- Describes the person and ministry of Jesus Christ as fulfillments of Old Testament prophecies

LITURGY AND SACRAMENTS

- Knows that liturgy is the work of Christ through his Church
- Recognizes Sacraments as effective signs of grace given by Christ and entrusted to the Church

MORAL LIFE

- Describes experiences of conscience as signaling an awareness of right and wrong guiding one toward the Kingdom of God
- Identifies specific situations in the social, economic, and political world that call for a Christian moral response
- Articulates the nature of justice and its relationship to peace
- Recognizes that the values of our Catholic faith are contrary to some messages in contemporary culture and can analyze specific instances calling for a response

CHRISTIAN PRAYER

- Understands prayer's capacity for praising God and can construct prayers of praise
- Constructs prayers of petition
- Reviews and practices all prayers previously learned/memorized; e.g., Doxology; the Lord's Prayer, Hail Mary, Apostles Creed, Act of Contrition, the Rosary, traditional meal prayer(s), etc.
- Knows that the Lord's Prayer summarizes the Gospel
- Articulates the 'holistic' interconnection of body-mind-spirit; knows that there is more to being human than is empirically obvious

Family Life

FAMILY

- Understands how the family mirrors the love of the Trinity, and that we are called to build strong families

FRIENDSHIPS AND RELATIONSHIPS

- Understands the difference between friendship and abusive or manipulative relationships
- Understands that some friendships change over time
- Cooperates freely in God's plan
- Understands that harassment is a type of relational bullying

HUMAN SEXUALITY

- Analyzes human sexuality, understanding the human body is the temple of the Holy Spirit
- Knows there are many sinful uses of sexuality outside of marriage in our society
- Can articulate more fully what chastity is and why it's important and helpful
- Analyzes how chastity includes self-mastery. Understands that we are created in God's image and likeness

MARRIAGE

- Understands married love is self-giving and life-giving
- Understands that in sacramental marriage, a man and a woman become one and form a family
- Understands marriage as the intimate union of marriage is physical, emotional, psychological, and spiritual

MORAL DECISION MAKING

- Examines free will in own life, and how the gift of free will allows us to say yes to God
- Understands that spiritual maturity is becoming like Jesus
- Knows that growing in one's relationship with God, through prayer, helps one to know God's will and make right decisions
- Understands that some sins are collective and social

RESPECT FOR LIFE

- Knows that we are called to respect life from conception to death
- Understands that sin and moral evil are at the root of many threats to human life
- Evaluates life situations in the context of a consistent ethic of life

VIRTUES

- Is introduced to and begins to practice Chastity, Modesty, and Reverence
- Understands Prudence, Temperance, Justice, and Fortitude
- Practices Respect and Responsibility

English Language Arts

READING: LITERATURE

- Cites several pieces of textual evidence to support analysis of what the text says explicitly, as well as inferences drawn from the text
- Determines a theme or central idea of a text and analyzes its development over the course of the text; provides an objective summary of the text
- Analyzes how particular elements of a story or drama interact
- Determines the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyzes the impact of rhymes and other repetitions of sounds on a specific verse or stanza of a poem or section of a story or drama
- Compares and contrasts 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

READING: INFORMATIONAL TEXT

- Cites several pieces of textual evidence to support analysis of what the text says explicitly, as well as inferences drawn from the text
- Determines two or more central ideas in a text and analyzes their development over the course of the text; provides an objective summary of the text
- Analyzes the interactions between individuals, events, and ideas in a text
- Determines 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
- Traces and evaluates 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
- Analyzes how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts

WRITING

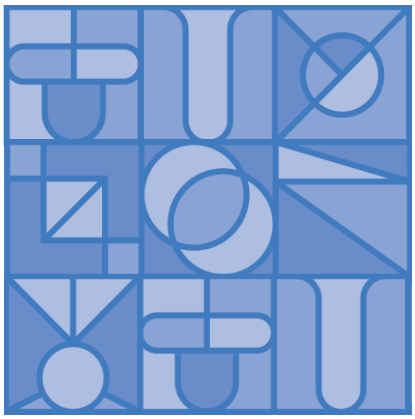
- Writes arguments to support claims with clear reasons and relevant evidence
- Writes informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content
- Writes narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences
- Gathers relevant information from multiple print and digital sources, using search terms effectively; assesses the credibility and accuracy of each source; quotes or paraphrases; following a standard format for citation and avoiding plagiarism
- Draws evidence from literary or informational texts to support analysis, reflection, and research

SPEAKING AND LISTENING

- Engages effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led), building on others' ideas and expressing their own clearly
- Analyzes the main ideas and supporting details presented in diverse media and formats and explains how the ideas clarify a topic, text, or issue under study
- Delineates a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence
- Presents claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; uses appropriate eye contact, adequate volume, and clear pronunciation

LANGUAGE

- Demonstrates command of the conventions of standard English grammar and usage when writing or speaking
- Demonstrates command of the conventions of standard English capitalization, punctuation, and spelling when writing
- Uses knowledge of language and its conventions when writing, speaking, reading, or listening
- Determines or clarifies the meaning of unknown and multiple-meaning words and phrases
- Demonstrates understanding of figurative language, word relationships, and nuances in word meanings



Math

In 7th grade, your child will grow in skill and understanding as he or she continues the previous grade's work in proportional relationships, equations, and positive and negative numbers. These topics will remain a major emphasis throughout the middle school years and into high school. A good command of rates and proportional relationships, including percentages, is also an important life skill.

HELP YOUR CHILD LEARN AT HOME

Look for "word problems" in real life. Some 7th grade examples might include:

- Figuring the amount of a 15% tip or determining what percentage of weekly income goes to pay taxes.
- Using a scale diagram in a manual or a newspaper article to determine lengths, areas, distances, or other measures.
- For a long-term project, help your child choose a stock and follow its value on the stock market using the newspaper or the Internet. Have your child calculate the stock's percent increase or decrease each month.

RATIOS AND PROPORTIONAL RELATIONSHIPS

- Solves multi-step ratio and percent problems

THE NUMBER SYSTEM

- Adds and subtracts rational numbers
- Multiplies and divides rational numbers
- Solves problems with rational numbers

EXPRESSIONS AND EQUATIONS

- Adds, subtracts, factors, and expands linear expressions
- Solves multi-step problems posed with positive and negative rational numbers
- Constructs equations and inequalities to solve problems

GEOMETRY

- Solves problems involving scale drawings of geometric figures
- Solves problems involving circumference and area of circles
- Writes and solves equations to find unknown angles
- Solves problems involving area, volume, and surface area of two-dimensional and three-dimensional objects

STATISTICS AND PROBABILITY

- Uses statistics to draw conclusions
- Finds probabilities of compound events

- Examines how our background and environment affect how we think, feel, and act.
- Investigates and interprets interactions between individuals and groups.
- Assesses the role that human behavior and cultures play in the development of social endeavors.
- Uses economic reasoning to understand issues.
- Analyzes how decisions are made and interactions occur among individuals, households, and firms/businesses.
- Analyzes how an economy functions as a whole.
- Uses geographic tools and ways of thinking to analyze the world.
- Analyzes human movement and population patterns.
- Examines the impacts of global interconnections and relationships.
- Uses historical evidence for determining cause and effect.
- Analyzes, recognizes, and evaluates patterns of continuity and change over time in the context of historical events.
- Connects past events, people, and ideas to the present; uses different perspectives to draw conclusions; and suggests current implications.
- Evaluates a variety of primary and secondary sources to interpret the historical context, intended audience, purpose, and/or author's point of view.
- Identifies and analyzes democratic principles and ideals.
- Analyzes and evaluates the powers and processes of political and civic institutions.

CATHOLIC SOCIAL TEACHINGS

Solidarity - "We are one human family whatever our national, racial, ethnic, economic, and ideological differences."

Call to Family, Community, and Participation - "The person is not only sacred but also social."

Option for the Poor and Vulnerable - "A basic moral test is how our most vulnerable members are faring."

Care for God's Creation - We show our respect for the Creator by our stewardship of creation."

The Dignity of Work and the Rights of Workers - "The economy must serve people, not the other way around."

Science

Dear Parents:

A strong foundation in science, technology, engineering, and mathematics is essential for preparing our students to be well informed citizens as well as prepared for college and the work force. Our traditional science programs have focused on content, facts, and vocabulary, but have lacked the ability for students to engage in the actual application of scientific concepts. The Next Generation Science Standards (NGSS) have refocused K-12 science education to focus on the big ideas through an emphasis on firsthand experiences such as investigation, design, and modeling, to help make more meaningful connections to the concepts that will stay with our children for a lifetime.

The NGSS promote a new way of teaching and learning that allows students to experience science in a meaningful way. This is accomplished by integrating three dimensions of learning as well as technology and engineering principles:

- **Core Disciplinary Concepts:** This is the content that is being covered (ex. Biology).
- **Science and Engineering Practices:** This focuses on the process of how science is conducted in the real world, such as through planning and carrying out investigations.
- **Cross Cutting Concepts:** These are science ideas, like *cause and effect*, that permeate all the sciences.

Your child/children will experience instruction in the classroom that emphasizes scientific exploration and experimentation. Children will be engaged in questioning, exploring and discussing possible solutions, investigating science concepts, using argumentation, and being fully active in the learning process. This approach mirrors real-world science practices and engages students in a more meaningful way. Not only will our students be immersed in investigative experiences, but they will also be developing important critical-thinking skills that will cultivate the great thinkers and innovators of tomorrow.

PHYSICAL SCIENCE

- Develop the historical perspective of the atomic and molecular theory
- Describe organization of the Periodic Table including how each element is represented
- Differentiate how all matter is composed of atoms, consisting of protons, neutrons, and electrons
- Model how molecules form based on the patterns in the periodic table
- Compare and contrast covalent and ionic bonds
- Summarize the accomplishments of a contributing scientist in physical science
- Observe, describe, and identify changes in properties based on chemical reactions
- Trace the life cycle of a product made of synthetic materials beginning with the natural resources
- Evaluate the sustainability of a product through its life cycle
- Compare and contrast the characteristics of particles in a solid, liquid, and a gas

- Distinguish between the common use and application of the term heat
- Demonstrate how particle behavior changes as thermal energy is added or removed
- Recognize how a gain or loss of thermal energy causes a physical change in state
- Investigate fluid pressure in terms of speed and temperature
- Illustrate that atoms are conserved in physical and chemical processes
- Compare and contrast basic chemical reactions
- Conduct an experiment and collect data to support the law of conservation of thermal energy
- Articulate Newton's First, Second, and Third Law of Motion and provide examples of each
- Design a solution to a problem to demonstrate the varying responses of two colliding objects
- Investigate the motion of objects and collect and analyze to explain changes in motion in terms of unbalanced forces
- Describe how magnetic field strength changes with distance
- Develop a testable question and design an experiment to determine factors that can influence the strength of electromagnetic forces
- Collect data related to strength of interactions, distance from the sun, or orbital periods of objects in the solar system
- Construct and defend argument on gravitational forces using data collected
- Design an experiment using a magnet or a compass to demonstrate magnetic fields
- Apply an understanding of magnetic fields in an experiment to magnetic fields in outer space
- Conduct an experiment and display collected data to show the relationship between mass, energy, and speed
- Describe the different types of potential energy
- Develop a model to explain the relationship between
    - Distance and gravitational potential energy, for example a roller coaster at varying position on a hill or objects at varying heights on shelves
    - Distance and magnetic potential energy, for example changing the direction/orientation of a magnet
    - Distance and electrical potential energy, for example a balloon with static electric charge brought closer to a classmate's hair
- Design and test a device that supports a prediction of the insulating properties of materials
- Plan an investigation that compares initial and final temperatures of an isolated variable:
    - Same mass of different materials
    - Different masses of the same material
    - Same mass of same material in different environments
- Recognize that energy is not lost, but changes forms
- Develop an explanation of how kinetic energy is transferred based on an experiment in which objects move
- Trace the changes in forms and types of energy in a closed system, for example a swinging pendulum, spring, rubber band, or bow and arrow
- Explain that waves have wavelength, frequency, and amplitude
- Differentiate between three types of waves

- Observe and demonstrate that sound is affected by the matter through which it travels
- Describe how sound travels in waves
- Demonstrate how the ear is a receptor for sound
- Identify visible light as one component of the electromagnetic spectrum
- Model how light interacts with matter by transmission, absorption or reflection
- Investigate the reflection of light with mirrors and refraction of light with lenses
- Identify the differences between analog and digital signals
- Provide evidence to explain why a digital device is more reliable than an analog device

LIFE SCIENCE

- Distinguish differences between single-celled and multicellular organisms
- Provide evidence that living things are made of cells
- Summarize the accomplishments of a contributing scientist in Life Science
- Describe the structure and function of different parts of a cell
- Demonstrate how parts of the cell work together to provide energy for life processes
- Compare and contrast a variety of body structures/systems within organisms and their role for survival
- Show the relationship between the levels of organization in living things: cells, tissues, organs, systems
- Describe the interdependence of a human's interactive systems
- Recognize an organism's behaviors/physical adaptations
- Compare and contrast different behaviors and adaptations between species in different environments
- Analyze the impact of changing one environmental condition on population growth
- Analyze the impact of one genetic factor on survival
- Represent the chemical process of photosynthesis
- Represent the relationship between photosynthesis and respiration
- Demonstrate how different types of neurons work together to transmit information to and from the brain/spinal cord
- Recognize interactions between living and nonliving things in an environment
- Recognize the competition of limited resources among organisms in an environment and analyze the effects on growth and reproduction
- Identify and classify symbiotic relationships
- Describe the eight biomes in terms of their distinct biotic and abiotic characteristics
- Compare and contrast the pattern of interactions between organisms in varying environments
- Describe how plants are producers
- Discover that plants influence other life processes
- Create a model to demonstrate food web interactions in a particular ecosystem
- Demonstrate energy transfer within a food web utilizing the energy pyramid
- Trace the cycling of atoms between living and nonliving parts of an ecosystem

- Understand that through the process of succession, communities change over time
- Infer changes in populations based on physical or biological components
- Utilize a graph to analyze population change data
- Analyze water purification, nutrient recycling, soil erosion to maintain biodiversity and the health of a natural system
- Compare the benefits and deficits of design solutions for maintaining biodiversity
- Identify the parts of a chromosome within the nucleus of a cell
- Identify the chemical and structural properties of DNA and its role in specifying the characteristics of an organism within an organism
- Describe how chromosomes are contained in both egg and sperm and carry instruction for the new individual
- Demonstrate how genes can be affected by mutations
- Create a pedigree chart
- Describe how DNA makes proteins
- Understand that sexual and asexual reproduction are necessary for the continuation to the species
- Describe the stages of the cell cycle
- Describe the stages of meiosis
- Model and compute how an inherited trait is determined by one or more genes using a Punnett Square
- Research types of genetic diseases and create a pedigree to explain the pattern of inheritance
- Describe the process of genetic engineering and its effects on our society, remembering that God is the Author of all life and has a grand design for creation
- Diagram sedimentary layers to indicate relative age of fossils
- Calculate absolute age of a fossil using radioactive half-life formula/chart
- Compare species within a range on the geological timeline
- Compare and contrast skeletal systems of modern species, as well as compare/contrast modern to ancient
- Construct a model to demonstrate relatedness
- Describe the stages of development of a growing embryo and fetus
- Identify patterns of similar characteristics
- Simulate or create a visual to demonstrate the process of natural selection
- Create data table and/or graph to convey data of predator/prey within an environment
- Project how current trends in human resource use and population growth will influence the natural environment, and show how current policies affect those trends
- Recognize how organisms evolve, remembering that God is the Author of all life
- Know the history of the Theory of Evolution
- Explain how some of the changes on the earth are contributing to changes in the balance of life and affecting the survival or population growth of certain species

EARTH SCIENCE

- Explain the orbital motion of objects in the solar system
- Describe how the tilt of the earth determines seasons and length of day
- Draw a diagram or make a model to explain solar and lunar eclipses
- Summarize the accomplishments of a contributing scientist in Earth Science
- Understand how humans use technology to explore space
- Know that billions of galaxies exist in the universe
- Understand how the force of gravity keeps the planets and other bodies in orbit
- Describe Newton's Law of Gravitation
- Develop a scale model to represent space distances
- Explain how telescopes are used to make observations and collect data about the solar system and the universe
- Analyze data collected from various types of telescopes and spacecraft
- Compare and contrast characteristics of each planet
- Evaluate the ability of a space object to support life
- Construct a model to show Earth is comprised of layers including a core, mantle, lithosphere, hydrosphere and atmosphere
- Demonstrate the movement of energy throughout the system of Earth's layers
- Describe the formation of soil including texture, fertility and resistance to erosion
- Compare and contrast the interrelationships involved in the process of the rock cycle
- Explain how successive layers of sedimentary rock are affected by folding, breaking and uplifting layers
- Identify and evaluate the impact of local geologic processes
- Identify and evaluate the impact of major geologic events
- Compare and contrast how water, wind, and ice cause weathering and erosion on Earth's surface
- Construct an argument to show that the fossils contained in the successive layers of rock can be used to confirm the age, history and changing life forms of the earth
- Distinguish between landforms that are created through constructive and destructive forces
- Design a model to demonstrate that Earth's crust is divided into plates that move in response to mantle movement
- Demonstrate via model/diagram that the sun's energy drives the water cycle and that the water cycle is a continuous process of recycling
- Create an illustration to show the composition and structure of the Earth's atmosphere
- Explain how heat, moisture and air movement determine weather
- Utilize data from weather instrumentation
- Demonstrate wind flow from high pressure areas to low pressure areas; global atmospheric movement influences local weather
- Diagram how local lakes affect local weather
- Analyze how temperature, pressure and the Coriolis Effect cause wind and water currents
- Examine how geographic features affect climate

- Use maps to explain regional climates
- Use historical temperature data to investigate factors that influence climate and weather patterns and seasonal changes
- Identify warm and cold currents on a continental/world map
- Create essential research questions related to the distribution of natural resources
- Develop an argument based on evidence to show how human activity is impacting the quality and quantity of natural resources
- Explain standards and safety procedures used regarding natural disasters
- Describe technologies used to predict, monitor and minimize the effects of natural hazards
- Compare and contrast the effects of environmental changes on living things
- Evaluate the impact of global development/expansion on earth structures
- Develop/Design a solution to a local environmental issue
- Identify one natural resource that is impacted by an increase in human population
- Outline the arguments using evidence to illustrate the human impact on natural resources
- Analyze tables, graphs, or maps of global regional temperatures and atmospheric levels of gases to generate questions and possible solutions to reduce the impact of global climate change

SCIENCE AND ENGINEERING PRACTICES

- Ask questions and define problems
- Develop and use models (examples can be physical, conceptual, or graphical)
- Plan and carry out investigations
- Analyze and interpret data
- Use mathematics and computational thinking
- Construct explanations (for science) and design solutions (for engineering)
- Engage in an argument based on evidence
- Obtain, evaluate, and communicate information

CATHOLIC SOCIAL TEACHINGS

- Work collaboratively and respect the ideas, roles, and abilities of others
- Students will be able to demonstrate stewardship inspired by Catholic values in the care of local and global environments
- Identify the relationships between the roles of science, technology, and Catholic ethics in the global community
- Understand and appreciate that many different people of varied cultures have made contributions that benefit both science and society
- Relate heredity and reproduction to Catholic teachings
- Discuss the theory of evolution in the context of Catholic teaching about the origin of life
- Compare/describe life from the fossil record with modern life forms and discuss Biblical implications

Art

- CREATING: Demonstrates persistence in developing skills with various materials, methods, and approaches in creating works of art or design
- CREATING: Applies visual organizational strategies to design and produce a work of art, design, or media that clearly communicates information or ideas
- CREATING: Reflects on and explains important information about personal artwork in an artistic statement or another format
- RESPONDING: Based on criteria, analyzes and evaluates methods for preparing and presenting art
- CONNECTING: Analyzes multiple ways that images influence specific audiences
- CONNECTING: Analyzes how responses to art are influenced by understanding the time and place in which it was created, the available resources, and cultural uses

Physical Education

- Demonstrates competency in a variety of skills and movement patterns
- Applies knowledge of strategies, principles, tactics, and concepts related to movement and performance
- Demonstrates the skills and knowledge to achieve and maintain a health-enhancing level of physical activity and fitness

World Language

- INTERPERSONAL COMMUNICATION: Learners interact and negotiate meaning in spoken, signed, or written conversations to share information, reactions, feelings, and opinions
- INTERPRETIVE COMMUNICATION: Learners understand, interpret, and analyze what is heard, read, or viewed on a variety of topics
- RELATING CULTURAL PRACTICES TO PERSPECTIVES: Learners use the language to investigate, explain, and reflect on the relationship between the practices and perspectives of the cultures studied
- RELATING CULTURAL PRODUCTS TO PERSPECTIVES: Learners use the language to investigate, explain, and reflect on the relationship between the products and perspectives of the cultures

- CREATING: Evaluate their own work, applying selected criteria such as appropriate application of elements of music including style, form, and use of sound sources
- PERFORMING: Perform the music with technical accuracy and stylistic expression to convey the creator's intent
- RESPONDING: Select from teacher-provided criteria to evaluate musical works or performances
- CONNECTING: Demonstrate understanding of the relationship between music and the other arts or subject areas, including musical and extra-musical considerations
- CONNECTING: Exhibit understanding of the two-way relationship between music and people of various cultures, ethnicities, locales, and eras through an exploration of musical and extra-musical components