

# Kehoe-France Northshore

## 7<sup>th</sup> Grade Curriculum

### Language and Literature

*The grade seven language arts curriculum emphasizes systematic, explicit skills instruction in reading and writing. Students read and comprehend a wide variety of grade-level-appropriate literature. Students learn the writing process, writing strategies and writing applications with an emphasis on written and oral English language conventions and correct spelling. Some examples of specific concepts and skills which students are to master are provided in the topic areas listed below:*

#### Reading - Literature and Informational Text:

- Cite several pieces of textual evidence to support analysis.
- Draw inferences from text.
- Determine and analyze a theme or central idea of a text.
- Determine and analyze two or more central ideas in a text and analyze development.
- Provide objective summaries of the text.
- Analyze how particular elements of a story or drama interact.
- Determine the meaning of words and phrases as they are used in a text (including figurative and connotative meanings, alliteration, etc.) and technical meanings.
- Analyze text structure and organization.
- Determine and analyze an author's point of view or purpose in a text and how the author distinguishes this position, analyzing the effects of techniques unique to each medium.
- Compare and contrast a written story, drama, or poem to its audio, filmed, staged, or multimedia version.
- 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.
- (Read and comprehend literature, including stories, dramas, and poems, in the grades 6-8 proficiently, with scaffolding as needed at the high end range.
- Analyze the interactions between individuals, events, and ideas in a text.
- 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.
- Analyze 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.
- Read and comprehend literary nonfiction in the grades 6–8 texts proficiently, with scaffolding as needed at the high end range.

**Writing:**

- Write arguments to support claims with clear reasons and relevant evidence.
- Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
- Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.
- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- With guidance, develop and strengthen writing as needed by using the writing process or trying a different approach.
- Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as interact and collaborate with others.
- Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.
- Gather relevant information from multiple print and digital sources, using search terms effectively by quoting or paraphrasing.
- Assess the credibility and accuracy sources and quote or paraphrase the data and conclusions of others (avoid plagiarism).
- Draw evidence from literary or informational texts to support analysis, reflection, and research.
- Write routinely over extended time frames and shorter time frames for a range of discipline-specific tasks, purposes, and audiences.

**Speaking and Listening:**

- Engage effectively in a range of collaborative discussions with diverse partners.
- Analyze the main ideas and supporting details presented in diverse media and formats and explain how the ideas clarify a topic, text, or issue under study.
- Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
- 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.
- Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
- Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

**Language:**

- Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.
  - Explain the function of phrases and clauses in general and their function in specific sentences.
  - Choose among simple, compound, complex, and compound-complex sentences to signify differing relationships among ideas.
  - Place phrases and clauses within a sentence, recognizing and correcting misplaced modifiers.
- Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.
  - Use a comma to separate coordinate adjectives.
  - Spell correctly.
- Use knowledge of language and its conventions when writing, speaking, reading, or listening.

- Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.
- Determine or clarify the meaning of unknown and multiple-meaning words and phrases.
  - Use context as a clue to the meaning of a word or phrase.
  - Use common, grade appropriate Greek or Latin affixes and roots as clues to the meaning of a word.
  - Consult reference materials.
  - Verify preliminary determination of the meaning of a word or phrase.
- Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
  - Interpret figures of speech in context.
  - Use the relationship between particular words to better understand each of the words.
  - Distinguish among the connotations (associations) of words with similar denotations (definitions).
- Acquire and use accurately grade-appropriate general and domain-specific words and phrases.



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### Mathematics

*In Grade 7, the focus is on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples. Some examples of specific concepts and skills which students are to master are provided in the topic areas listed below:*

#### The Number System:

- Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.
  - Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
  - Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
  - Solve real-world and mathematical problems involving the four operations with rational numbers.
  - Use order of operations.
  - Scientific notation
  - Understand negative exponents.

#### Expressions and Equations:

- Use properties of operations to generate equivalent expressions.
  - Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
  - Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.
  - Linear functions, slope
- Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
  - Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form using tools strategically.

- Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
- Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
- Solve inequality equations.

### **Geometry:**

- Draw, construct and describe geometrical figures and describe the relationships between them.
  - Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
  - Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions.
  - Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.
- Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
  - Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
  - Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
  - Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

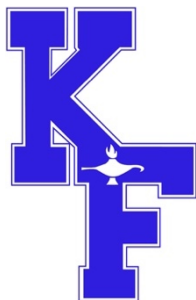
### **Statistics and Probability:**

- Use random sampling to draw inferences about a population.
  - Understand that statistics can be used to gain information about a population by examining a sample of the population.
  - Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.
- Draw informal comparative inferences about two populations.
  - Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.
  - Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.
- Investigate chance processes and develop, use, and evaluate probability models.
  - Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around  $1/2$  indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

- Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.
- Develop a probability model and use it to find probabilities of events.
- Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.
- Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.

**Ratios and Proportional Relationships:**

- Analyze proportional relationships and use them to solve real-world and mathematical problems.
  - Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.
  - Recognize and represent proportional relationships between quantities.
  - Use proportional relationships to solve multistep ratio and percent problems.



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## 7<sup>th</sup> Grade Curriculum

### Science

*In grade seven, the science curriculum emphasis is life science. The physical and earth science concepts are included within the context of life science. Students learn that all living things are composed of cells which contain genetic instructions that specify traits. Students participate in investigation and experiments and learn that living things grow, change, are diverse, interdependent and interact with the changing environment. Some examples of specific concepts and skills which students are to master are provided in the topic areas listed below:*

#### Science and Engineering Practices:

- Asking questions and defining problems.
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Constructing explanations and designing solutions.
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating evidence.

#### Physical Science:

- **Matter and its Interactions:**
  - Each pure substance has characteristic physical and chemical properties under normal conditions that can be used to identify it.
  - Substances react chemically in characteristic ways.
  - Gases and liquids are made of molecules or inert atoms that are moving about relative to each other.
  - In a liquid the molecules are constantly in motion and in contact with others; in a gas, they are widely spaced except when happen to collide. In a solid, atoms are closely spaced and may vibrate in position, but do not change relative locations.
  - The changes of state that occur with variations in temperature or pressure can be described and predicted using temperature and pressure models of matter.
  - The temperature of a system is proportional to the average internal kinetic energy and potential energy per atom or molecule.
  - The term “heat” as used in everyday language refers both to thermal energy and the transfer of that thermal energy from one object to another.
  - Matter is conserved because atoms are conserved in physical and chemical processes; thus the mass does not change.

## **Life Science:**

- Identify the elements most often found in living organisms.
- Compare the basic structures and functions of different types of cells.
- Illustrate and demonstrate osmosis and diffusion in cells.
- Compare functions of plant and animal cell structures.
- Compare complete and incomplete metamorphosis in insects.
- Compare the life cycles of a variety of organisms, including non-flowering and flowering plants, reptiles, birds, amphibians, and mammals.
- Construct a word equation that illustrates the processes of photosynthesis and respiration.
- Distinguish between aerobic respiration and anaerobic respiration.
- Relate structural features of organs to their functions in major systems.
- Describe the way major organ systems in the human body interact to sustain life.
- Describe the growth and development of humans from infancy to old age.
- Explain how external factors and genetics can influence the quality and length of human life.
- Identify and describe common communicable and non-communicable diseases and the methods by which they are transmitted, treated, and prevented.
- Differentiate between sexual and asexual reproduction.
- Contrast the processes of mitosis and meiosis in relation to growth, repair, reproduction, and heredity.
- Explain why chromosomes in body cells exist in pairs.
- Explain the relationship of genes to chromosomes and genotypes to phenotypes
- Recognize genetic errors caused by changes in chromosomes.
- Apply the basic laws of Mendelian genetics to solve simple monohybrid crosses, using a Punnett square.
- Explain the differences among the inheritance of dominant, recessive, and incomplete dominant traits.
- Use a Punnett square to demonstrate how sex-linked traits are inherited
- Give examples of the importance of selective breeding.
- Classify organisms based on structural characteristics, using a dichotomous key.
- Analyze food webs to determine energy transfer among organisms.
- Locate and describe the major biomes of the world.
- Describe and compare the levels of organization of living things within an ecosystem.
- Identify the various relationships among plants and animals (e.g., mutualistic, parasitic, producer/consumer).
- Differentiate between ecosystem components of habitat and niche.
- Predict the impact changes in a species' population have on an ecosystem.
- Differentiate between structural and behavioral adaptations in a variety of organisms.
- Describe and evaluate the impact of introducing non-native species into an ecosystem.
- Describe changes that can occur in various ecosystems and relate the changes to the ability of an organism to survive.
- Illustrate how variations in individual organisms within a population determine the success of the population.
- Explain how environmental factors impact survival of a population.

## **Science and the Environment:**

- Identify resources humans derive from ecosystems.
- Distinguish the essential roles played by biotic and abiotic components in various ecosystems 37. Identify and describe the effects of limiting factors on a given population.
- Evaluate the carrying capacity of an ecosystem.
- Describe how photosynthesis and respiration relate to the carbon cycle.
- Analyze the consequences of human activities on ecosystems.
- Identify and analyze the environmental impact of humans' use of technology.



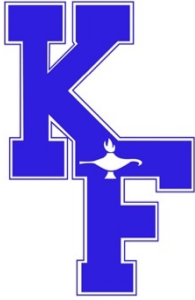
## Earth Science:

- **Earth's Systems:**

- Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation, and crystallization, and precipitation, as well as downhill flows on land.
- Global movements of water and its changes in form are propelled by sunlight and gravity.
- Replenishable resources such as groundwater and oxygen are purified by the movement through Earth's cycles.
- 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.
- Weather and climate are influenced by interactions involving sunlight, the ocean, the atmosphere, ice, landforms, and living things.
- 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.
- Variations in density due to variations in temperature and salinity drive a global pattern of interconnected ocean currents.

- **Earth and Human Activity:**

- 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.
- Addressing 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 human behavior and on applying that knowledge wisely in decisions and activities.



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## 7<sup>th</sup> Grade Curriculum

### Individuals and Societies

*In this survey course, students will cover American history from the arrival of early Americans to the present day. An end of the year lesson (survey style) will also present a look at the wars the United States participated in after the Civil War. Students will also cover the governmental and economic systems of the United States. The study of geography will also be reviewed during the school year. Research based projects will provide students with the opportunity to demonstrate their grasp of the historical concepts that have been covered. Some examples of specific concepts which students are to master are provided in the topic areas below:*

#### Geography:

- **Geography Skills**
  - Analyze the physical and political features of the United States.
  - Create maps, charts, and graphs of the United States from 1763-1877.
  - Analyze historical maps, charts, and graphs of the United States from 1763-1877.
- **Immigration and Cultural Diversity**
  - Analyze settlement patterns of racial and ethnic groups in the United States from 1763-1877.
  - Describe motivations of immigrants to the United States from 1763-1877 and the obstacles they faced.
  - Analyze patterns, motivations and the impact of rural and urban migration in the United States from 1763-1877.
  - Explain how differences in land use influenced cultural characteristics among regions in the United States from 1763-1877.
- **Environment**
  - Explain how Americans adapted and transformed various physical environments in the United States to expand its growth and influence.

#### Civics:

- **Government: Purposes, Foundation, and Structure**
  - Evaluate the major purposes of government according the Preamble to the Constitution of the United States.
  - Differentiate between various forms of government.

- Explain how key ideas expressed in historical documents influenced the formation of U.S. government.
  - Evaluate the principles of government embodied in the United States Constitution.
  - Describe the structure and powers of the three branches of the federal government.
  - Illustrate how a bill becomes a law at the federal level.
  - Describe the process used to amend the Constitution.
  - Examine how key legislation and court decisions influenced the course of United States history from 1763-1877.
  - Explain how federal officials are elected or appointed.
- **Global Awareness**
    - Compare and contrast political divisions of the world from 1763-1877.
    - Explain various ways nations interact and the impact of these interactions from 1763-1877.
    - Explain how United States foreign policy was developed and carried out from 1781-1877.
- **Civic Literacy**
    - Describe the influences on and the development and expansion of individual rights and freedoms.
    - Identify and describe ways in which citizens influence change in a democratic society.
    - Explain the duties and responsibilities of United States citizens.
    - Describe the qualifications or requirements for United States citizenship.
    - Describe the development and roles of political parties and special interest groups in the United States from 1787-1877.

## History:

- **Historical Thinking Skills**
  - Produce clear and coherent writing for a range of tasks, purposes, and audiences by:
    - Conducting historical research
    - Evaluating a broad variety of primary and secondary sources
    - Comparing and contrasting varied points of view
    - Determining the meaning of words and phrases from historical texts
    - Using technology to research, produce, or publish a written product
  - Explain patterns and recurring themes in United States history.
  - Analyze the causes and effects of key events and ideas in the development of the United States.
  - Interpret and construct timeliness of key events, people, and ideas.
  - Analyze primary and secondary sources to answer questions related to United States history.
- **Revolution and the New Nation**
  - Identify and describe the impact of key events, ideas, and people that led to the American Revolution.
  - Analyze important turning points and major developments of the American Revolution.
  - Evaluating the development of the United States government from the First Continental Congress through the ratification of the United States Constitution.
  - Describe the major political and economic events, and policies of the Washington and Adams presidencies.

- **The Expanding Nation**
  - Analyze political, social, and economic factors that led to westward expansion from 1800-1850.
  - Identify and explain foreign policy development between the United States and other nations from 1800-1850.
  - Examine the motivations and influence of major American reform movements during the 19<sup>th</sup> century.
  - Compare and contrast the political, social, and economic development of the different regions of the United States.
  - Explain reasons for the expansion of slavery in the South after 1800 and describe the life of enslaved African Americans, and their responses to slavery.
  
- **War and Reconstruction**
  - Identify and describe the roles to the election of Abraham Lincoln and other key events, ideas, and people, which led to the Civil War.
  - Analyze important turning points and major developments during the Civil War.
  - Describe long-term and short-term outcomes of Reconstruction.