

McKinley's CJA Sixth Grade Curriculum



McKinley's curriculum framework builds on the strong foundation of gifted education in the SLPS elementary gifted programs and emphasizes a conceptually challenging, in-depth, and complex content within cognitive, affective, aesthetic, social, and leadership domains as recommended by National Association of Gifted Children (NAGC) *2010 Pre-K-Grade 12 Gifted Programming Standards*. Differentiation, content-based acceleration, and enrichment are interventions implemented for our high-ability learners. In addition to providing project/problem based learning experiences, McKinley uses concepts from Capturing Kid's Hearts, the FISH Philosophy and the Six Pillars of Character to build community amongst students, staff, and families.

6th Grade Curriculum at a Glance

Communication Arts

Readings: *Walk Two Moons* by Sharon Creech

*And other texts selected by students and teacher for literature circles and class discussions

Supplementary Resource Textbook: *Springboard Grade 6 Communication Arts*

Reading: Literary Texts

- **Comprehend and Interpret Texts (Approaching Texts as a Reader)**
 - Evidence and Inference- Draw conclusions, infer and analyze by citing textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
 - Word Meanings- Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings using context, affixes, or reference materials.
 - Text Features- Interpret visual elements of a text and draw conclusions from them (when applicable).
 - Summarize/Theme- Using appropriate text, determine the theme(s) of a text and cite evidence of its development; summarize the text.
- **Analyze Craft and Structure (Approaching Texts as a Writer)**
 - Structure- Analyze how a particular sentence, chapter, scene, stanza, or image contributes to meaning.
 - Point of View- Explain how an author develops the point of view of the narrator or speaker in a text.

- Craft and Meaning- Analyze how word choice, including the use of figurative language and/or the repetition of words or word sounds contributes to meaning.
- Interaction and Meaning- Describe how a particular text's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.
- **Synthesize Ideas from Multiple Texts (Approaching Texts as a Researcher)**
 - Text in Forms- Compare and contrast the experience of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of the same text, noting how a performance impacts personal interpretation.
 - Relationships in Texts- Compare and contrast texts in different genres that address similar themes or topics.
 - Historical Context- Explain how plot and conflict reflect historical and/or cultural contexts.
 - Comprehension- Read and comprehend literature, including stories, dramas and poems, independently and proficiently.

Reading: Informational Texts

- **Comprehend and Interpret Texts (Approaching Texts as a Reader)**
 - Evidence and Inference- Draw conclusions, infer and analyze by citing textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
 - Word meanings- Determine the meaning of words and phrases as they are used in the text, including figurative, connotative, and content-specific meanings using context, affixes, or reference materials.
 - Text Features- Interpret visual elements of a text including those from different media and draw conclusions from them (when applicable).
 - Summarize/Claim- Explain the central/main idea(s) of a text and cite evidence of its development; summarize the text.
- **Analyze Craft and Structure (Approaching Texts as a Writer)**
 - Structure- Analyze how a particular sentence, paragraph, section, or image contributes to meaning.
 - Point of View- Explain how an author's point of view or purpose is conveyed in a text.
 - Craft and Meaning- Analyze how word choice, including the use of figurative language, connotations and/or repetition, contributes to meaning.
 - Argument /Evidence- Identify an author's argument in a text and distinguish claims that are supported by reasons and evidence from claims that are not.
- **Synthesize Ideas from Multiple Texts (Approaching Texts as a Researcher)**
 - Texts/Forms- Compare and contrast the experience of reading a text to listening to or viewing an audio or video version of the same text, noting how a performance impacts personal interpretation.
 - Relationships/Texts- Compare and contrast one author's presentation of events with that of another.
 - Historical Contexts- Explain how the text reflects historical and/or cultural contexts.
 - Comprehension- Read and comprehend informational text independently and proficiently.

Writing

- **Approaching the Task as a Researcher**
 - Research- Conduct research to answer a question, drawing on several sources; integrate information using a standard citation system. Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.
- **Approaching the Task as a Writer**

- Development- Follow a writing process to produce clear and coherent writing in which the development, organization, style, and voice are appropriate to the task, purpose and audience; develop writing with narrative, expository, and argumentative techniques.
 1. Narrative: Develop narratives including poems about real or imagined experiences, with clearly identified characters, well-structured event sequences, narrative techniques and relevant, descriptive details.
 2. Expository: Develop informative/explanatory writing to examine a topic with relevant facts, examples, and details.
 3. Argumentative: Develop argumentative writing by introducing and supporting a claim with clear reasons and relevant evidence.
- **Approaching the Task as a Reader**
 - Revise and Edit- Review, revise, and edit writing with consideration for the task, purpose, and audience.
 1. Organization and Content: Introduce the topic, maintain a clear focus throughout the text, and provide a conclusion that follows from the text.
 2. Word choice, syntax, and style: Choose precise language and establish and maintain an appropriate and consistent style; sentences are complete.
 3. Conventions of standard English and usage: Demonstrate a command of the conventions of standard English grammar and usage, including spelling and punctuation.
 4. Use transitions to clarify relationships and connect ideas, claims and signal time shifts.
 5. Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others.

Speaking and Listening

- **Collaborating**
 - Conversations- Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.
 - Questioning- Delineate a speaker's argument and claims in order to pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion.
 - Viewpoints of others- Review the key ideas expressed by a speaker including those presented in diverse media and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
- **Presenting**
 - Verbal delivery- Speak clearly, audibly, and to the point, using conventions of language as appropriate to task, purpose and audience when presenting including appropriate volume.
 - Nonverbal- Position body to face the audience when speaking and make eye contact with listeners at various intervals using gestures to communicate a clear viewpoint.
 - Multimedia- Plan and deliver appropriate presentations based on the task, audience and purpose including multimedia components in presentations to clarify claims findings and ideas.

Communication Arts Enrichment Activities: Short Story Writing, Literary Analysis, Essay Writing, Researching and Debating, Argumentative Letter, Performing Shakespeare

Mathematics (Note: Many students are accelerated based on a track record of math ability and placement tests. Sixth grade students may be placed in any of the following courses.)

6th Grade Course 1

Supplementary Resource Textbook: Springboard Mathematics, Course 1

Sixth Grade Mathematics uses Saint Louis Public Schools and Springboard Mathematics curriculum materials. Springboard Mathematics Course 1 Curriculum is designed by the College Board, authors of the SAT test and the Advanced Placement (AP) Program, and is based on the Common Core State Standards for Mathematics.

This curriculum is a highly engaging and rigorous instructional program that applies mathematical thinking to solving real-world problems and develops a greater depth of understanding through an emphasis on mathematical modeling and reasoning.

Following is a breakdown of content covered per learning strand:

- **Number Sense-** Whole Numbers and Decimals, Prime Factorization and Exponents, Greatest Common Factor and Least Common Multiple, Fractions and Mixed Numbers, Multiplying Fractions and Mixed Numbers, Dividing Fractions and Mixed Numbers, Adding and Subtracting Integers, Multiplying and Dividing Integers, Percents, Decimals, Fractions, Using Financial Services
- **Algebraic Reasoning-** Order of Operations, Representing Situations with Equations, Solving Addition and Subtraction Equations, Solving Multiplication and Division Equations, Solving One Step Inequalities, Identifying Dependent and Independent Variables, Solving Problems Using Ratios and Proportional Relationships
- **Geometric and Spatial Relations-** Integers in the Coordinate Plane, Distance and Reflections in the Coordinate Plane, Angles and Triangles, Area and Perimeter of Polygons, Polygons on the Coordinate Plane, Nets and Surface Area, Volume
- **Measurement-** Converting Between Measurements, Understanding Rates and Unit Rates
- **Data and Probability-** Summarizing Data Graphically, Measures of Center, Measures of Variability, Summarizing Numerical Data Graphically

The curriculum includes investigative activities that correlate to the learning targets; for example, Determining the fencing needed to create a yard to Represent Situations with Equations, Determining the Amount of Trash Generated by one person in a Week to Solve Multiplication and Division Equations, and Creating Three Dimensional Solids to Investigate Nets and Surface Area.

The curriculum also includes multiple Embedded Assessments per unit which are constructed response-type assessments that have the unit content embedded within. These assessments give students an opportunity to apply their knowledge to real life problems and their work is scored by rubrics which are communicated to students prior to beginning the assessment so their expectations are clear.

Seventh Grade Course 2

Supplementary Resource Textbook: Springboard Mathematics, Course 2

Seventh Grade Mathematics uses Saint Louis Public Schools and Springboard Mathematics curriculum materials. Springboard Mathematics, Course 2 Curriculum is designed by the College Board, authors of the SAT test and the Advanced Placement (AP) Program, and is based on the Common Core State Standards for Mathematics.

This curriculum is a highly engaging and rigorous instructional program that applies mathematical thinking to solving real-world problems and develops a greater depth of understanding through an emphasis on mathematical modeling and reasoning.

Following is a breakdown of content covered per learning strand:

- **Number Sense**- Operations on Positive Rational Numbers, Addition and Subtraction of Integers, Multiplication and Division of Integers, Operations on Rational Numbers, Budgeting and Money Management
- **Algebraic Reasoning**- Properties of Operations, Writing and Solving Equations, Solving and Graphing Inequalities, Ratios and Proportions, Proportional Reasoning, Proportional Relationships and Scale, Percent Problems
- **Geometric and Spatial Relations**- Angle Pairs, Triangle Measurements, Similar Figures, Circles: Circumference and Area, Composite Area, Sketching Solids, Volume: Prisms and Pyramids
- **Measurement**- Indirect Measurement Using Ratios
- **Data and Probability**- Making Predictions, Investigating Chance, Estimating Probability, Making Decisions, Likelihood of Outcomes, Theoretical Probability, Games of Probability, Estimating Probabilities using Simulation, Data Samples, Sampling Variability, Predictions and Conclusions

The curriculum includes investigative activities that correlate to the learning targets, for example, the time it takes to make paperclip chains to practice estimating and determining the reasonability of a solution, determining proportional relationship between the number of pennies in a stack and their heights in millimeters, and constructing three dimensional solids to explore its properties.

The curriculum also includes multiple Embedded Assessments per unit which are constructed response-type assessments that have the unit content embedded within. These assessments give students an opportunity to apply their knowledge to real life problems and their work is scored by rubrics which are communicated to students prior to beginning the assessment so their expectations are clear.

Eighth Grade Course 3

Supplementary Resource Textbook: Springboard Mathematics, Course 3

Eighth Grade Mathematics uses Saint Louis Public Schools and Springboard Mathematics curriculum materials. The Springboard Mathematics Curriculum is designed by the College Board, authors of the SAT test and the Advanced Placement (AP) Program, and is based on the Common Core State Standards for Mathematics. This curriculum is a highly engaging and rigorous instructional program that applies mathematical thinking to solving real-world problems and develops a greater depth of understanding through an emphasis on mathematical modeling and reasoning.

Following is a breakdown of content covered per learning strand:

- **Number Sense**- Investigate patterns and sequences; perform operations with fractions; calculate powers and roots; compare rational number representations; estimate irrational numbers and compare to rational numbers; perform operations with exponents including scientific notation; calculate cost of borrowing and interest.
- **Algebraic Reasoning**- Use patterns to write and evaluate expressions; solve linear equations algebraically and with models; investigate linear equations and slope using multiple methods; compare slope of different lines using tables, graphs and equations; investigate proportional

relationships; graph and solve systems of linear equations; identify, map, represent and analyze functions; determine rate of change.

- **Geometric and Spatial Relations-** Apply concepts of powers and roots to volume and area of cubes; investigate angle pair relationships including complementary and supplementary angles and angles formed by parallel lines; apply properties of interior and exterior angles to triangles and quadrilaterals; perform transformations and compositions of transformations; investigate similar triangles, applying the Pythagorean Theorem and its converse, calculating surface area and volume.
- **Measurement-** use a protractor to measure and draw angles
- **Data and Probability-** determine appropriate ways to collect data; analyze data using multiple methods including scatter plots, trend lines, median-median lines, and two-way tables; determine association of variables

The curriculum includes investigative activities that correlate to the learning targets, for example, measuring the water dripped from a punctured bottle to identify slope using tables and graphs, using a mirror to measure reflections and explore similarity, and measuring the beans required to fill a three dimensional solid to investigate linear and non-linear functions.

The curriculum also includes multiple Embedded Assessments per unit which are constructed response-type assessments that have the unit content embedded within. These assessments give students an opportunity to apply their knowledge to real life problems and their work is scored by rubrics which are communicated to students prior to beginning the assessment so their expectations are clear.

Science:

Ecology - This unit focuses on investigating the patterns of interactions among organisms within an ecosystem. Students will investigate the interdependence of all living things in ecosystems and explore how matter cycles and energy flows through ecosystems. Throughout the unit, students will design methods for monitoring and minimizing human impact on the environment, specifically solutions for maintaining biodiversity and ecosystem services.

Here are the standards addressed:

Priority Standards:

- **6-8.LS2.B.1 (MS-LS2-3):** Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
- **6-8.LS2.C.1 (MS-LS2-4):** Construct an argument supported by empirical evidence that explains how changes to physical or biological components of an ecosystem affect populations.

Secondary Standards:

- **6-8.LS1.B2 (MS-LS1-5):** Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.
- **6-8.LS.1.C (modified MS-LS1-6/1-7):** Construct a scientific explanation based on evidence for the role of photosynthesis and cellular respiration in the cycling of matter and flow of energy into and out of organisms
- **6-8.LS2.A.1 (MS-LS2-1):** Analyze and interpret data to provide evidence for the effects of resource availability on individual organisms and populations of organisms in an ecosystem.
- **6-8.LS2.A.2 (MS-LS2-2):** Construct an explanation that predicts the patterns of interactions among and between the biotic and abiotic factors in a given ecosystem.

Supporting Standards:

- **6-8.LS2.C.2 (MS-LS2-5):** Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

Forces, Energy and Motion - During this unit, students will investigate the strength of electric and magnetic forces and plan investigations 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.

Priority Standard:

- **6-8.PS2.A.2 (MS-PS2-2):** Plan and conduct 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.

Secondary Standards:

- **6-8.PS2.B.1 (MS-PS2-3):** Analyze diagrams and collect data to determine the factors that affect the strength of electric and magnetic forces.
- **6-8.PS2.B.2 (MS-PS2-4):** Create and analyze a graph to use as evidence to support the claim that gravitational interactions depend on the mass of interacting objects.
- **6-8.PS3.A.1 (MS-PS3-1):** Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and the speed of an object.
- **6-8.PS3.A.2 (MS-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.

Supporting Standards:

- **6-8.PS2.A.1 (MS-PS2-1):** Apply physics principles to design a solution that minimizes the force of an object during a collision and develop an evaluation of the solution.
- **6-8.PS2.B.3 (MS-PS2-5):** Conduct an investigation and evaluate the experimental design to provide evidence that electric and magnetic fields exist between objects exerting forces on each other even though the objects are not in contact.

Weather - This unit focuses on the components of weather, and how weather is affected by the interaction of the atmosphere, hydrosphere, geosphere, and biosphere. Students will describe the cycling of water through Earth's systems, collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions, and evaluate lines of evidence that support the idea of climate change.

Priority Standards:

- **6-8.ESS3.C.1 (MS-ESS3-4):** Analyze data to define the relationship for how increases in human population and per-capita consumption of natural resources impact Earth's systems.
- **6-8.ESS2.C.3 (MS-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.

Secondary Standards:

- **6-8.ESS2.C.1 (MS-ESS2-4):** Design and develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.
- **6-8.ESS2.C.2 (MS-ESS2-5):** Research, collect, and analyze data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.
- **6-8.ESS2.C.3 (MS-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.
- **6-8.ESS3.B (MS-ESS3-2):** Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.
- **6-8.ESS3.C.2 (MS-ESS3-3):** Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.
- **6-8.ESS3.D (MS-ESS3-5):** Analyze evidence of the factors that have caused the change in global temperatures over the past century.

Supporting Standards:

- **6-8.ETS1.A.1 (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.
- **6-8.ETS1.B.1 (MS-ETS1-2):** Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
- **6-8.ETS1.B.2 (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.

Educational Resources:

- Disposable Texts – HMH Science Dimensions:
- Book C – Ecology and The Environment
- Book K - Forces, Motion and Fields
- Book E – Earth’s Water and Atmosphere
- NGSS – Ecosystem Disruptions

Enrichment Activities:

- Science Fair Project
- Dissections – Shark and/or Frog
- Roller Coaster Design and Creation
- Research and Design of storm shelters
- Analyzation of Carbon Foot Print

Social Studies

Textbook: *World Cultures and Geography* McDougal Littell, 2007

UNIT 1- Thinking Like a Social Scientist (an overview of the practices and modalities that social scientists use to understand our world) This includes an overview of Geography, Political Science, Anthropology, Archeology, and History.

UNIT 2- Ideology Throughout History – Trace the influence of the 5 major religions from their origins to their modern practice. Examine the relationship between belief systems to governments, political movements, social movements, and migrations of people around the globe.

UNIT 3- Africa with a focus on Ancient Egypt

UNIT 4- Ancient Greece

UNIT 5- The Roman Empire

UNIT 6- Ancient China – to – Modern China

UNIT 7- Ancient Europe – to – Post Colonization

UNIT 8- Making Sense of Our Modern World Through Social Studies (Using the past to analyze the present, and speculate on the future, while examining the cyclical nature of human conflict around the globe)

Educational Resources: Document Based Questions, Problem Based Questions., PBS crash-course videos, a cornucopia of internet information, Documentaries, and Discussions.

Projects/Enrichment: Problem Based Learning Fridays (each Friday a problem is presented, and students work in small teams to create a hands-on project solving a social issue) Educational Gamification focusing in Social Studies (Plickers, Kahoot, Minecraft, Geo-Mon GO, Settlers of Catan), Reciprocal

Teaching (each student teaches a lesson to the class on a topic of their choosing), Field Trips, Guest Speakers, Building Utopian/Dystopian Civilizations, Reaching out to the world (students use Skype, or digital pen pals to communicate with other classrooms around the globe).

Additional Enrichment Activities for Sixth Graders:

- Kids Voting, Geography Bee, Spelling Bee, Math Club, Debate Club, Science Olympiad, Chess Club, Lego Robotics, Musical
- Science Field Trips
- Model UN

We hope you are able to get an understanding of our values and academics at McKinley CJA. Should you have additional questions later, please visit our website (<http://www.slps.org/mckinleycja>) where you can find answers to many frequently asked questions.