

McKinley's CJA Eighth 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.

8th Grade Curriculum at a Glance

Communication Arts

Readings:

Fahrenheit 451 by Ray Bradbury

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

Textbook: SpringBoard Grade 8

Reading Strategies-

Literary Text

- Draw conclusions, infer and analyze by citing textual evidence.
- Determine the meaning of words and phrases as used in the text including figurative and connotative meanings using context, affixes, or reference materials.
- Interpret visual elements of a text.
- Determine the theme of a text and analyze and its development.
- Provide an objective summary.
- Analyze author's choice concerning a text's overall structure, diction and sentence structures contribute to meaning.
- Analyze how literary devices develop setting, reveal character, advance the plot and contribute to meaning.
- Analyze how filmed or live productions of a story stay true to the original text.
- Explain how contemporary texts make use of archetypal characters or universal themes.

Informational Text

- Draw conclusions, infer, and analyze by citing the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
- Determine the meaning of words and phrases as used in the text including figurative and connotative meanings using context, affixes, or reference materials.

- Interpret visual elements of a text including those from different media.
- Explain the central idea and analyze its development over the course of the text.
- Provide an objective summary.
- Analyze how an author’s choice concerning the organization of the text contributes to meaning.
- Analyze how the author acknowledges and responds to different points of view.
- Analyze how word choice and sentence structure contribute to meaning and tone.
- Evaluate an author’s argument.
- Compare and contrast different mediums.
- Analyze two or more texts that provide conflicting information and identify if the difference is in fact or interpretation.

Writing and Research Skills

Text Types and Purposes

- 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.

Production and Distribution of Writing

- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- 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.
- Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.
- Conduct short research projects to answer a question, drawing on several sources and generating additional related, focus questions that allow for multiple avenues of exploration.
- 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 to others while avoiding plagiarism and following a standard format for citation.
- Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

- 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

Listening and Speaking Skills

- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others’ ideas and expressing their own clearly.

Presentation of Knowledge and Ideas

- 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.

- Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
- Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

Communication Arts Enrichment Activities

Conventions of Standard English

- Demonstrate command of conventions of standard English grammar and usage when writing or speaking.
- Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling, when writing

Knowledge of Language

- Use knowledge of language and its conventions when writing, speaking, reading, or listening.
- Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.
- Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
- 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.

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

8th Grade/Course 3

Textbook: Eighth Grade Mathematics uses the Springboard Mathematics, Course 3 Curriculum designed by CollegeBoard, 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 break-down 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.

Algebra 150

This for-credit high school course is a study of the language, concepts, and techniques of Algebra that will help students acquire an understanding of numbers and increased proficiency in mathematical operations and algebraic notations, and will encourage original critical thinking and problem solving. Skills taught in the course lay groundwork for upper level math and science courses and have practical uses.

Following is a break-down of content covered per learning strand:

Number and Quantity

- The Real Number System
- Quantities

Algebra

- Seeing Structure in Expressions
- Arithmetic with Polynomials and Rational Expressions
- Creating Equations
- Reasoning with Equations and Inequalities

Functions

- Interpreting Functions
- Building Functions
- Linear, Quadratic, and Exponential Models

Statistics and Probability

The curriculum is designed to cover the objectives tested by the State of Missouri's EOC (End of Course) Test for High School Algebra. Middle School Students taking the Algebra EOC will not take the regular grade level Math MAP assessment. Graphing Calculators will be used to integrate technology and apply mathematical concepts and it is recommended that students come to class with a calculator.

Geometry 250

This for-credit, high school course will help students acquire an understanding of geometric and spatial relationships. Students will study real numbers, operations, and patterns. They will investigate angles, parallel and perpendicular lines, circles, two- and three-dimensional objects, surface area, volume, Cartesian coordinates, sample space, probability distribution, constructions, transformations, and symmetries. The course will also introduce students to inductive and deductive reasoning, which they will use to establish the validity of conjectures, prove theorems, and critique the arguments of others.

The curriculum is designed to cover the objectives tested by the State of Missouri’s EOC (End of Course) Test for High School Geometry. Middle School Students taking the Geometry EOC will not take the regular grade level Math MAP assessment. Graphing Calculators will be used to integrate technology and apply mathematical concepts.

Science

- Main Topics Covered: Weather – Chemistry – Microbiology – Rock and minerals – Tectonic Plates.
- Few of Next Generation Science Standards covered in the 8th grade integrated science:
 - MS-ESS2—Earth Materials and Systems
 - MS-PS1—Structure and Properties of Matter
 - MS-LS1—From Molecules to Organisms: Structures and Processes
 - MS-ESS3—Human Impacts on Earth Systems
- Students in the 8th grade take the state MAP assessment in the spring. Students spend time reviewing content from 5th-8th grade and practicing experimental design performance tasks to prepare for the assessment.

Educational Resources:

Biology/ Prentice Hall

Earth Science / Glencoe Science

Biology Interactive Reader / Holt McDougal

Science Enrichment Activities: SEPUP (Science Education for Public Understanding) Kits / Lab-Aids; ExploreLearning Gizmos

Social Studies

The Element of Culture: An American View is the second part of a three-course American History series here at McKinley CLA. This part of the course is designed to focus on the review of America’s beginnings (as covered in the 7th grade) while preparing students to focus on America in the 20th and 21st century (as will be covered in the 9th grade). Students will review the establishment of the 13 colonies, identify how change can impact the new nation’s lifestyle, get a better understanding of one’s perspective of becoming/being a world power, and think about how much-and how fast-life changed then. They will then get a preview of America in the twentieth and twenty-first centuries in order to prepare for the experience of sweeping changes in everyday life, develop a deeper knowledge of how the rate of change has increased after 1945, how it changes and impacts our lives now, and how it may change in the future.

Educational Resources:

America, Pathways to the Present: America in the Twentieth Century – Prentice Hall, 1998

The Americans, Reconstruction to the 21st Century – Holt McDougal, 2012

Creating America, A History of the United States: Beginnings Through World War I
McDougal Littell, 2007

Creating America, A History of the United States: Beginnings Through Reconstruction
McDougal Littell, 2007

This class will be taught using a variety of teaching and learning styles. Classes may include reading and discussion, cooperative learning groups, independent research, group research, guests, and other instructional strategies to challenge and meet the needs of the gifted learner. Student activities and assignments will consist of reading, taking notes, small/large group discussions, projects, writing, research activities, presentations and self/peer-evaluation.

Social Studies Enrichment Activities

- Guest speakers, research projects, presentations, review games, “trivia”, hands-on activities, writing prompts, video clips, debates, real-world problem solving activities, field trips, power point presentations and movies.

Additional Enrichment Activities for Eighth Graders:

- Kids Voting, Geography Bee, Spelling Bee, Math Club, Debate Club, Science Olympiad, Chess Club, Lego Robotics, Musical,
- Field trip to the Zoo, field trip to the history museum, field trip to Junior Achievement, possible field trip to Jefferson City/Central Dairy/State Penitentiary and culminating activities before 8th grade promotional activities.

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.

The Eighth Grade Core Teachers:

Amy Hemmer, English Language Arts

Robert Gutzler, Social Studies

Emily Scott and Gerald Glenn, Mathematics

Omayma Deeba, Science