

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 Kids' Hearts* and the Six Pillars of Character to build community amongst students, staff, and families.

8th Grade Curriculum at a Glance

Communication Arts

Course Description: 8th grade ELA curriculum is designed to provide college and career readiness skills for all learners. The course uses Springboard curriculum materials developed by the College Board. Springboard is utilized to prepare students to be successful in Advanced Placement programs in high school, as well as in college and beyond. However, for content to be meaningful, it must be taught in the context of the students' experiences. I plan for instruction based on my knowledge of student needs, instruct using current pedagogically sound practices for our gifted population, assess students' mastery on key skills and concepts, and reflect on my teaching to adapt for future units and future students.

Supplemental Resource Textbook: Springboard Grade 8

Priority learning needs in Reading identified for 8th grade students by MO DESE:

- Draw conclusions, infer and analyze by citing the textual evidence- both in literature (8.RL.1.A) and in non-fiction (8.RI.1.A)
- Determine the theme(s) of a text and analyze its development - in literature (8.RL.1.D)
- Explain the central/main idea(s) of a text and analyze its development - in non-fiction (8.RI.1.D)
Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings- both in literature (8.RL.1.B) and in non-fiction (8.RI.1.B)
- Analyze how an author's choice concerning a text's form or overall structure contributes to meaning- both in literature (8.RL.2.A) and in non-fiction (8.RI.2.A)
- Analyze how differences in the points of view of the characters and the audience or reader create dramatic irony- in literature (8.RL.2.B)
- Analyze how the author acknowledges and responds to conflicting evidence or points of view in a text- in non-fiction (8.RI.2.B)

Priority learning needs in Writing identified for 8th grade students by MO DESE:

- Research- using relevant sources, citing evidence, and using a standard citation system to avoid plagiarism (8.W.1.A)
- Writing process to produce Argumentative, Informative, and Narrative pieces (8.W.2.A)
- Revising/Editing- using organization, specific word choice, standard English conventions, and appropriate transitions (8.W.3.A)

Priority learning needs in Speaking/Listening identified for 8th grade students by MO DESE:

- Identify and outline a speaker's argument and claims, judging reasoning, relevance, and sufficiency of evidence to connect ideas from several speakers and respond with relevant evidence, observations, and ideas. (8.SL.1.B)

Course Sequence at a Glance:

Term	Unit	Focused standards	Summative assessment	Extension activities
Term 1- Part 1	Hero's Journey	Text structure/organization Point of view Narrative writing	Fictional narrative writing using structure of hero's journey	Prepare for publication and submission in Stone Soup magazine https://stonesoup.com/how-to-submit-writing-and-art-to-stone-soup/
Term 1- Part 2	Personal Journey	Text structure/organization Theme development Narrative writing	Non-fiction narrative writing- personal narrative	Prepare to submit for the NY times learning contest Personal narrative contest https://www.nytimes.com/2021/01/20/learning/the-winners-of-our-personal-narrative-contest.html
Term 2- Part 1	Defining Ideals	Citing Evidence Central idea development Argumentative writing	Argumentative writing- Definition essay students define an ideal based on their point of view: safety, equality, justice, or heroism	Prepare a 15 second video defining a term- submit to vocabulary video contest https://www.nytimes.com/2020/10/27/learning/our-8th-annual-15-second-vocabulary-video-challenge.html
Term 2- Part 2	Dystopian society	Theme development Text structure/organization Expository writing	Expository writing- Compare-contrast society in dystopian novel with modern society	Submit to Skipping stones- multicultural magazine that publishes essays written by students on social issues http://www.skippingstones.org/wp/youth/
Term 3- Part 1	Review writing	Cite evidence Point of view Argumentative writing	Critical review writing- students select a form of cultural expression to evaluate	Submit to NY times Learning Network student review contest https://www.nytimes.com/2020/11/09/learning/our-6th-annual-student-review-contest.html
Term 3- Part 2	“We shall overcome”	Theme development Word/Phrase meaning Literary analysis	Literary analysis- students select a poem connected to the theme “We Shall Overcome” and cite its development over the poem	Students edit and publish collected works of creative writing for 8th grade class
Term 4- Part 1	Take action- Debate	Research Cite evidence Identify speaker’s claims, evaluate evidence	Argumentative speech- Students research and present 2 minute long speech supporting a policy action to address a problem in the world	Students participate in the editorial writing contest https://www.nytimes.com/2021/02/01/learning/our-eighth-annual-student-editorial-contest.html
Term 4- Part 2	Satire and Shakespeare	Cite evidence Word/Phrase meaning Creative writing	Satirical writing- Students compose a satire article using knowledge of current events and humor to express disapproval of a topic	Students edit and publish collected works of satire for 8th grade class
Supplemental - Voices of the Holocaust				
Supplemental - Multimedia Campaign				

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

Supplementary Resource Textbook: Springboard Mathematics, Course 2

Eighth 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. 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 I. Middle School Students taking the Algebra I 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:

Geometry 250 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.

By the end of the year, students will be able to....

- Experiment with transformations in the plane.
- Understand congruence in terms of rigid motions.
- Prove geometric theorems.
- Make geometric constructions.
- Understand similarity in terms of similarity transformations.
- Prove theorems involving similarity.
- Define trigonometric ratios, and solve problems involving right triangles.
- Understand and apply theorems about circles.
- Find arc lengths and areas of sectors of circles.
- Translate between the geometric description and the equation for a conic section.
- Use coordinates to prove geometric theorems algebraically.
- Explain volume formulas and use them to solve problems.
- Visualize relationships between two-dimensional and three-dimensional objects.
- Apply geometric concepts in modeling situations.
- Understand independence and conditional probability and use them to interpret data.

Chapters:

- Foundations of Geometry
- Parallel and Perpendicular Lines
- Transformations

- Triangle Congruence
- Relationships in Triangles
- Quadrilaterals
- Similarity
- Right Triangles and Trigonometry
- Coordinate Geometry
- Circles
- Two and Three Dimensional Models
- Probability

Advanced Algebra 350 (Algebra 2):

Algebra 350 (Algebra II) will help students acquire an understanding of real world applications of mathematical procedures as they prepare for higher- level mathematic courses. Students will study real numbers, operations, and patterns as they extend their understanding of algebraic concepts. They will work with matrices, complex numbers, logarithms, polynomial functions and their inverse, systems of equations and inequalities, transformations, mathematical models, scatter-plots, and statistics.

By the end of the year, students will be able to....

- Extend and use the relationship between rational exponents and radicals
- Use complex numbers.
- Define and use logarithms.
- Solve equations and inequalities.
- Solve general systems of equations and inequalities.
- Perform operations on polynomials and rational expressions.
- Use and interpret functions.
- Create new functions from existing functions.
- Use functions to model real-world problems
- Make inferences and justify conclusions.

Chapters:

- Linear Functions and Systems
- Quadratic Functions and Equations
- Polynomial Functions
- Rational Functions
- Rational Exponents and Radical Functions
- Exponential and Logarithmic Functions
- Trigonometric Functions
- Trigonometric Equations and Identities
- Conic Sections
- Matrices
- Data Analysis
- Probability

Science

- Main Topics Covered: Waves, Energy Transfer; Evolution; Earth & Space
- Few of Next Generation Science Standards covered in the 8th grade integrated science:
 - MS-PS4 - Wave structure and properties
 - MS-PS3 - Energy transfer
 - MS-LS4 - Ancestry & Natural Selection
 - MS-ESS2 - Earth Materials and 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:

- *Science Dimensions*: Modules L, M, & H / Houghton Mifflin Harcourt

Social Studies

“In Order to Create A More Perfect Union...the United States of America” is a two-year course brought to you by the dynamic teachers of McKinley CJA. In the 8th Grade, students will build on prior knowledge from 7th grade by examining the cultural landscape of the U.S in the Post-Civil War Era. Students will also analyze the factors that led to the U.S. becoming a world power, as well as make connections between events in the 19th and/or 20th century American History and the modern world. Students will apply concepts and events of American History to examine, how it changes and impacts our lives currently, and make evidence-based predictions regarding the future of these United States of America.

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

Creating America, A History of the United States: 1877 to the 21st Century
McDougal Littell, 2007

[State Required U.S. Citizenship Test Study Resources](#)

[Library of Congress Online Database](#)

[Khan Academy U.S.History](#)

This class will be taught using a variety of teaching and learning styles. Classes may include reading and discussion, cooperative learning groups, non-fiction/historical fiction audio and video projects, independent research, group research, 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. Students are challenged to use a variety of frameworks to promote civil discourse including, but not limited to, the Socratic Method, debates. Students are encouraged to speak for understanding, exploration of topics, and extension of prior knowledge. All coursework is aligned to the National NAGC (National Association for Gifted Children) Standards and Missouri Social Studies Standards.

Social Studies Enrichment Activities

- These activities include, but are not limited to, research projects, presentations, guest speakers, review games, “trivia”, hands-on activities, writing prompts, video clips, debates, real-world problem-solving activities, field trips, power point presentations, non-fiction and historical fiction audio and video projects, and Nearpod activities.

Additional Enrichment Activities for Eighth Graders: (****COVID-19 & public health-permitting*)

- Kids Voting, Geography Bee, Spelling Bee, Math Club, Debate Club, Science Olympiad, Chess Club, Lego Robotics, Musical, and other school sponsored extracurricular activities.
- Field trip to the Zoo, Field trip to the history museum, 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 Teachers