

Eighth Grade Curriculum

Language Arts

READING

- Vocabulary and Concept Development
- use word meanings within the correct context and be able to verify those meanings by definition, restatement, comparison, and contrast
- use idioms, analogies, metaphors, and similes to determine the literal and figurative meaning of phrases

Comprehension and Analysis (Focus on Informational Materials)

- compare and contrast the features of consumer materials to gain meaning from documents such as warranties, contracts, or instruction manuals
- find similarities and differences between texts in the treatment, scope, or organization of ideas
- compare the original text to a summary to determine whether the summary accurately conveys the underlying meaning
- understand and explain the use of a complex mechanical device by following the technical directions
- evaluate the unity, coherence, logic, and structural patterns of text

Comprehension and Analysis (Focus on Literature)

- read and respond to historically or culturally significant works of world literature, particularly American and British literature
- determine and articulate the relationships between the purposes and characteristics of different forms of poetry
- identify significant literary devices to interpret literature (symbolism, dialect, irony)
- analyze the importance of the setting (time, place, customs) to the mood, tone, and meaning of the story
- identify and analyze recurring themes (good vs. evil) across traditional and contemporary works of literature
- evaluate the structural elements of the plot (subplots, parallel episodes, climax) and the way in which conflicts are (or are not) addressed and resolved
- analyze a work of literature, showing how it reflects the heritage, traditions, and beliefs of its author

Algebra Concepts (8th Grade Math)

- use properties of numbers to demonstrate true and false statements
- know rules of exponents
- understand operations such as opposite, reciprocal, raising to a power, and taking a root
- graph a linear equation and compute x and y intercepts

- verify that a point lies on a line of an equation
- understand the concept of parallel and perpendicular lines and how slopes are related
- add, subtract, multiply, and divide monomials and multiple step problems

General Algebra (Pre-Algebra)

- solve a system of two linear equations with two variables
- add, subtract, multiply, and divide polynomials
- factor 2nd and 3rd degree polynomials
- simplify fractions with polynomials
- apply algebraic techniques to problems involving rate
- determine the domain of independent variables and range of dependent variables
- determine a function from a graph, a set of ordered pairs, or a symbolic expression
- use and know simple aspects of logical argument

Algebra I (Integrated Algebra)

- add, subtract, multiply, and divide rational expressions and functions
- solve quadratic equations by factoring or completing the square understand the concepts of a relation and a function
- graph quadratic functions
- apply quadratic equations to physical problems
- use properties of the number system to judge the validity of results, justify procedure, and prove or disprove statements

Geometry and Measurement

- understand and use simple aspects of a logical argument
- understand congruency of figures, transformations, triangles, and quadrilaterals
- understand and use dimensional analysis

Statistics and Probability

- understand and use data representation
- understand and use central tendency

Science

History - Social Science

Focus on Physical Science

Motion

- The velocity of an object is the rate of change of its position.

Forces

- Unbalanced forces cause changes in velocity.

Structure of Matter

- Each of the more than 100 elements of matter has distinct properties and a distinct atomic structure. All forms of matter are composed of one or more of the elements.

Earth in the Solar System

- The structure and composition of the universe can be learned from studying stars and galaxies and their evolution.

Reactions

- Chemical reactions are processes in which atoms are rearranged into different combinations of molecules.

Chemistry of Living Systems

- Principles of chemistry underlie the functioning of biological systems.

Periodic Table

- The organization of the periodic table is based on the properties of the elements and reflects the structure of atoms.

Density and Buoyancy

- All objects experience a buoyant force when immersed in a fluid.

United States History and Geography: Growth and Conflict

Connecting with Past Learning: Our Colonial Heritage

Connecting with Past Learning: A New Nation

The Constitution of the United States

Launching the Ship of State

The Divergent Paths of the American People: 1800 – 1850

Toward a More Perfect Union: 1850 – 1879

The Rise of Industrial America: 1877 – 1914

Linking Past to Present