



Math

Whole Numbers and Operations

- Whole numbers, place value, standard form, expanded form, rounding, comparing
- All operations for whole numbers
- Powers, perfect squares and exponents
- Order of operations
- Prime and composite/prime factorization, GCF, LCM

Integers Operations

- Intro to Integers
- All operations with integers
- Order of operation with integers
- Coordinate plane and graphing

Rational Numbers

- Mixed vs. improper forms, compare and order and simplifying fractions
- All operations with fractions
- Decimals place value
- All decimal operations
- Rational numbers: fractions and decimals
- Negative rational numbers

Algebraic Expressions and Properties

- Evaluating expressions
- Translate and evaluate and applications
- Simplifying expressions (distribute and combine)
- Equivalent expressions, factoring expressions

Equations and Inequalities

- One step equations – all operations
- Translating expressions
- Writing and graphing inequalities – all operations

Proportional Relationships

- Writing and simplifying ratios
- Equivalent ratios
- Rates, proportional relationships and unit rates
- Percent, decimal and fraction conversions
- Percent of a number

Measurement and Geometry

- Congruent segments, angles and polygons
- Perimeter of plane figures
- Area of polygons and composite figures
- Circles, area and circumference
- 3-Dimensional figures and nets
- Surface area of rectangular, triangular prisms, square and triangular pyramids
- Volume of rectangular prisms

Data and Statistics

- Mean, median, mode, mean absolute deviation and range
- Choosing the best center, outliers and effects on data
- Dot plots; stem and leaf plots, box and whisker, frequency tables, histograms, circle graphs
- Comparing and interpreting multiple data displays

English and Language Arts

Students in this course level will be mastering the Texas Essential Knowledge and Skills Standards for grade six and will be given opportunities to extend their practice and demonstration of skills into standards beyond the expected grade six standards. Grammar instruction is augmented by *No Red Ink*, a self-paced and adaptive software program that provides practice and documents mastery in an individualized setting. Grammar skills are then applied in student compositions in a variety of formats including personal narrative, informative, persuasive, explanatory, and compare/contrast. All English and reading assignments are completed using Microsoft Office tools. Vocabulary development is based on SAT College Entrance Vocabulary Lists. Classic literature works in all genres are used for reading, and these works are selected for a Lexile rating recommended for Grades 6 – 8 college preparatory students. Students begin applying publishing standards to their compositions as they create electronic and print-based literary magazines, newspapers, and interactive, hyperlinked multimedia E-books and presentations.

Earth Science

What is Earth Science

- Introduction

The Dynamic Earth

- Earth's Surface: Weathering, erosion, deposition, soil formation
- Earth's History: Fossils, geologic time scale, Earth's eras
- Minerals and Rocks: Formation, classification, rock groups
- The Restless Earth: Plate tectonics, volcanoes, Earthquakes, etc.

Earth's Water & Atmosphere

- Earth's water: Fresh water sources
- Oceanography: Ocean layers, waves and tides, currents
- Earth's atmosphere: Layers, energy transfer, air quality and wind
- Weather & climate: Weather forecasts, climate cycles and changes

Space Science

- The Solar System: Planets, stars & galaxies, sun and moon
- Earth – Moon – Sun system – day/night; seasons; lunar cycles
- Space Exploration: Research unit and Rocket Day