

7th Grade Math

1st Quarter

The students may study the following topics:

- Estimate using rounding, front-end-estimation, and compatible numbers
- Use properties of addition and multiplication to do mental math
- Add, subtract, multiply and divide decimals(*all year*)
- Use and convert metric units of measure
- Compare and order integers
- Find absolute value
- Add, subtract, multiply and divide integers(*all year*)
- Use order of operations and Distributive Property (*all year*)
- Describe data using mean, median, mode and range
- Write and simplify expressions with exponents
- Find multiples and factors and use prime factorization
- Write equivalent fractions and simplify fractions
- Compare and order fractions
- Write mixed numbers as improper fractions and vice versa
- Convert between fractions and decimals
- Write numbers in scientific notation and standard form

2nd Quarter

The students may study the following topics:

- Estimate sums, differences, products and quotients of fractions
- Add, subtract, multiply and divide fractions and mixed numbers
- Change units of length, capacity, and weight in the customary system
- Find and compare the precision of measurement
- Write and evaluate algebraic expressions
- Solve one-step equations using substitution, mental math and estimation
- Solve equations by adding, subtracting, multiplying and dividing
- Write and evaluate expressions with two operations
- Solve two-step equations

3rd Quarter

The students may study the following topics:

- Graph and write algebraic inequalities
- Solve inequalities by adding, subtracting, multiplying or dividing
- Write ratios and use them to compare quantities
- Find unit rates and unit costs
- Test whether ratios form a proportion by using equivalent ratios and cross products
- Solve proportions
- Use proportions to find missing lengths in similar figures
- Use proportions to solve problems involving scale
- Model percents and write percents using equivalent ratios

- Convert between fractions, decimals and percents
- Find and estimate the percent of a number
- Use proportions and equations to solve problems involving percent
- Identify segments, rays and lines
- Classify angles and work with pairs of angles
- Classify triangles and find the angle measures of triangles
- Classify polygons and special quadrilaterals

4th Quarter

The students may study the following topics:

- Identify congruent figures and use them to find missing measures
- Identify parts of a circle
- analyze and construct circle graphs, congruent segments and perpendicular bisectors
- Estimate length, perimeter and area
- Find perimeter and area of parallelogram, triangle, trapezoid and irregular figures
- Find circumference and area of a circle
- Find and estimate square roots
- Classify numbers as rational or irrational
- Use Pythagorean theorem to solve real world problems
- Classify and draw three-dimensional figures
- Find surface area of prisms and cylinders using nets
- Find the volumes of prisms and cylinders
- **Name and graph points on a coordinate plane**
- Find solutions of linear equations and graph linear equations
- Find the slope of a line and use it to solve problems
- Graph nonlinear relationships
- Graph and write rules for translations
- Identify lines of symmetry and graph reflections
- Identify rotational symmetry and rotate a figure about a point
- Graph data and use graphs to make predictions
- Describe patterns in arithmetic and geometric sequences and use patterns to find terms
- Use tables to represent and describe patterns
- Write and evaluate functions
- Find solutions to application problems using table, rules and graphs
- Describe and sketch graphs that represent real-world situations
- Solve for a variable

As time permits

- Find and estimate solutions to application problems involving percent (6-7)
- Find percents of increase and decrease (6-8)
- Find simple interest and compound interest (9-7)