Course Title:	**Pre-Algebra**
Department:	**Mathematics**
Grade Level:	**6th**
Time Per Day/Week:	**45 minutes per day/5 days per week**
Length of Course:	**One year**

Course Overview:

Pre-Algebra is a comprehensive introduction to Algebra which focuses not only on Algebraic concepts but also arithmetic as well. Along with the introduction to Algebra, consisting of a strong emphasis on variables, equations and inequalities, the Pre-Algebra class works extensively with different number systems, concepts in geometry (construction of figures, finding area, perimeter and volume), percentages, ratios and similarities, and data analysis. This Pre-Algebra course will take a more in-depth approach to the curriculum and students will be expected to be more independent in and out of class. Pre-Algebra students will study various topics on a rigorous level appropriate for each student.

Primary Resources:

Glencoe Math Accelerated, A Pre-Algebra Program - McGraw Hill, 2017

Secondary Resources (District Approved):

ALEKS, McGraw-Hill

Unit 1 Name:	Operations and Real World Problems Involving Integers and Expressions
Days in Unit:	20 - 25

Representative Learning Goals

- Solve real world and mathematical problems using integers and whole numbers
- Identify all types of integers and whole numbers on a number line and understand their value in relation to other integers
- Locate and graph points in all four quadrants on a coordinate plane

Unit 2 Name:	Operations and Real World Problems Involving Rational Numbers
Days in Unit:	10 -15

Representative Learning Goals

- Identify and describe the differences between rational, irrational, real, and non-real numbers
- Simplify expressions involving rational numbers by performing mathematical operations
- Solve real world and mathematical problems using rational numbers

Unit 3 Name:	Exponents and Square Roots
Days in Unit:	10 -15

Representative Learning Goals

- Simplify expressions involving exponents by performing mathematical operations
- Simplify expressions involving square roots by performing mathematical operations

Unit 4 Name:	Ratios, Rates, Proportions, and Similarity
Days in Unit:	15 - 20

Representative Learning Goals

- Identify and describe rates and ratios and use those values in proportional reasoning
- Graph proportional relationships, interpreting the unit rate as the slope (constant of proportionality) of the graph.
- Solve real world and mathematical problems involving scale models, drawings, and maps

Unit 5 Name:	Solving Equations and Inequalities
Days in Unit:	15 - 20

Representative Learning Goals

- Solve simple, two-step, and multi-step equations and inequalities involving both integers and rational numbers
- Solve real world problems using expressions, equations, and inequalities
- Write and translate algebraic phrases

Unit 6 Name:	Percents
Days in Unit:	10 - 15

Representative Learning Goals

- Convert between fractions, decimals, and percents
- Solve real world and mathematical problems involving percents, percent increase and decrease, sales tax, commission rate, and simple interest.

Unit 7 Name:	Probability
Days in Unit:	15 - 20

Representative Learning Goals

- Solve real world and mathematical problems involving the probability, permutation, or combination of an event.
- Identify, describe, and calculate independent and dependent probabilities
- Calculate the experimental and theoretical probability of an event

Unit 8 Name:	Geometry
Days in Unit:	20 - 25

Representative Learning Goals

- Classify and describe the differences that exist within triangles and polygons
- Solve real world and mathematical problems using geometric concepts and constructions, area, volume, and surface area
- Calculate the perimeter(circumference) and area of polygons and circles

Unit 9 Name:	Collecting, Analyzing, and Displaying Data
Days in Unit:	10 -15

Representative Learning Goals

- Use measures of central tendency to analyze a set of data and create comparisons between different sets of data
- Solve real world and mathematical problems by collecting, analyzing, and displaying data.
- Display a set of data by using charts and graphs

Assessments - Classroom-Based

Quizzes, Unit Tests, Individual & Collaborative Projects, Common Assessments, Formative Assessments through Homework Checks and Classwork, ALEKS, Midterm and Final Exams

Assessments - Standardized

Standards of Math Practice Rubric: STAR 360 Benchmark Testing, Classroom Diagnostic Tools (CDT); PSSA Mathematics

Standards

Pennsylvania Academic Standards for Mathematics Grade 7