Middle School Math

Grade 6

Objectives	BSS Difference
- Extend the operations with whole numbers, decimals, and fractions to estimating, comparing and ordering. - Extend fraction concepts and uses of basic number theory - Extend the study of Algebra to solving one-step equations and evaluating expressions. - Introduce ratios and percents - Introduce Integers and Rational Numbers - Extend the understanding of polygons to finding their area. - Develop an appreciation of math as it applies to real world situations	1:1 iPad with etext - Use of various apps to connect math concepts - Use of a Promethean Board to provide enhancement for various lessons - Learn various strategies to assist with standardized testing - Integrate various math concepts into the STREAM program - Scholastic Math magazine as a supplement to connect math to current issues. - Various games to reinforce certain math concepts - Opportunity to be placed in an accelerated class

Operations and Algebraic Thinking	The Real and Complex Number Systems
- Estimate, order and compare decimals and fractions - Add, subtract, multiply and divide decimals and fractions - Use order of operations to simplify numerical expressions - Use algebraic expressions to describe relationships - Add, subtract, multiply and divide one-step equations involving whole numbers, decimals and fractions.	- Use Integers, Rational Numbers, Opposites and Absolute Value to represent real world situations - Use a number line to compare and order integers and rational numbers - Introduce basic computations with integers - Introduce square roots and perfect squares.

- Write and solve equations to solve problems - Use divisibility rules, prime numbers, multiples and factors to solve problems - Equivalent fractions and decimals and expressing decimals as terminating or repeating - Write and simplify expressions using exponents - Use properties of arithmetic to simplify expressions - Solve problems involving ratios and rates - Finding equivalent ratios, and rates to solve proportions - Determining sensible units of customary and metric units of measure. - Use ratios to convert customary and metric units of measure. - Understanding the relationship between fractions, decimals and percents - Use percents to understand everyday situations	
Statistics and Probability	**Geometry**
- Use ratios to determine the probability of an event - Determine the mean, median, mode and range in a set of data. - Collect, organize, display and interpret data using different types of graphs.	- Identify points and parts of line and pairs of lines - Measure and classify angles - Identify and classify polygons - Identify parts of a circle - Use proportions to determine congruency and similarity - Identifying lines of symmetry - Finding perimeter and area of triangles and parallelograms - Identify three-dimensional figures - Finding the volume of prisms

Grade 7

Objectives	BSS Difference
- Extend the operations of numbers to include integers and rational numbers - Extend solving equations to include integers, decimals and fractions - Extend the concepts of ratios, rates and proportions as they apply to various situations - Extend the solving of percent problems - Review the basic figures of geometry - Review statistical concepts and extend them to making inferences - Extend the concepts of ratios and percents to probability - Develop an appreciation of math as it applies to real world situations	1:1 iPad with etext - Use of various apps to connect math concepts - Use of a Promethean Board to provide enhancement for various lessons - Integrate various math concepts into the STREAM program - Learn various strategies to assist with standardized testing - Scholastic Math magazine as a supplement to connect math to current issues - Various games to reinforce certain math concepts - Opportunity to be placed in an accelerated class

Operations and Algebraic Thinking	The Real and Complex Number Systems
- Compare and order integers and rational numbers - Using arithmetic properties to add, subtract, multiply and divide integers and rational numbers - Using the distributive property to simplify algebraic expressions - Evaluate algebraic expressions - Solving word problems leading to one-step and two-step equations and inequalities - Writing inequalities and graphing their solutions	- Reinforce square roots and cube roots **Accelerated Math** - Difference between rational and irrational numbers - Estimating square roots of non-perfect squares

- Reinforcement of ratios, rates and unit rates - Write and solve proportions - Use rates and proportions to solve problems involving similar figures, maps and scale models - Determining proportional relationships - Expand the comparing, ordering and converting of fractions, decimals and percents - Solve percent problems using proportions and equations - Use percents to solve real world problems - Writing numbers in standard and scientific notation **Accelerated Math** - Identify the number of solutions to an equation - Identify and describe linear and nonlinear functions - Finding the slope of a line - Using a table and equation to graph a linear function - Write a function rule from words, tables and a graph - Compare the properties of two functions - Using properties of exponents to multiply and divide numbers in scientific notation	
Statistics and Probability	**Geometry**
- Gathering data about a population - Making predictions and estimations about a population using data samples - Classifying data and analyze surveys - Comparing two populations - Finding the theoretical probability of an event - Finding the experimental probability of an event using simulations - Using a sample space and the Counting Principle - Finding the probability of compound events	- Review classifying angles and polygons and finding unknown angle measures. - Analysis of the angles and sides of a triangle - Find the area of parallelograms, triangles, trapezoids and irregular shapes - Find the circumference and area of a circle - Identifying three-dimensional solids - Finding the surface area and volume of prisms and cylinders.

● Finding the odds in favor and against an event **Accelerated Math** ● Finding the probability of mutually exclusive and overlapping events	**Accelerated Math** ● Use Pythagorean Theorem to find the length of the hypotenuse in a right triangle ● Converse of the Pythagorean Theorem ● Demonstrate that two triangles are congruent ● Graph translations, reflections and rotations ● Determine rotational and line symmetry

Grade 8

Objectives	BSS Difference
● Review and extend computing with integers, rational and irrational numbers ● Review and extend solving equations involving multi-step ● Introduction to linear and nonlinear functions ● Extend the solving of percent problems and probability ● Introduce algebraic expressions with exponents ● Review graphing in the coordinate plane ● Review and extend the application of ratios, rates,proportions and indirect measurement ● Review and extend the properties of two-dimensional figures ● Develop an appreciation of math as it applies to real world situations	● 1:1 iPad with etext ● Use of various apps to connect math concepts ● Use of a Promethean Board to provide enhancement for various lessons ● Learn various strategies to assist with standardized testing ● Integrate various math concepts into the STREAM program ● Scholastic Math magazine as a supplement to connect math to current issues ● Various games to reinforce certain math concepts ● Math Clinic to prepare students for High School Entrance Exams

Operations and Algebraic Thinking	The Real and Complex Number Systems
- Use appropriate operations to solve problems involving integers and rational numbers - Review writing and solving equations including multi-step and variable on both sides - Write, solve and graph inequalities - Review the Distributive Property to simplify expressions - Review solving problems involving ratios, rates and proportions - Review real-world applications of proportions to scale models and indirect measure - Review comparing and ordering integers, percents, fractions and decimals - Identify proportional relationships - Identify linear and nonlinear functions - Finding the slope of a line - Graphing a linear function - Write a function rule from a table. graph and words **Accelerated Math** - Writing and Solving Compound Inequalities - Graphing and describing the shape of a quadratic, absolute value and exponential function - Determining the axis of symmetry and the maximum and minimum point of a quadratic function - Writing a function rule in the form of *f(x)* - Finding the domain and range for a function - Identifying a sequential arithmetic pattern and writing it in function notation - Writing and graphing a direct variation - Writing and graphing a linear function in slope-intercept form, point-slope form and standard form	- Write and use numbers with exponents including scientific notation - Multiply and Divide Exponential expressions - Review finding the square root of perfect squares and cube roots of perfect cubes - Approximate the value of an irrational number - Review graphing points in a coordinate plane **Accelerated Math** - Classifying Polynomials

● Writing equations of parallel and perpendicular lines ● Solving and graphing systems of equations and inequalities ● Add and Subtract Polynomials ● Factoring Polynomials ● Multiply two binomials using the distributive property and FOIL ● Finding the square of a binomial ● Factoring Trinomials	
Statistics and Probability	**Geometry**
● Review theoretical and experimental probability ● Finding the probability of compound mutually exclusive and overlapping events ● Make and interpret frequencies and histograms	● Use Pythagorean Theorem to find the length of the hypotenuse in a right triangle ● Translate, reflect, rotate and dilate figures in a coordinate plane ● Determining rotational symmetry ● Review finding area of geometric shapes ● Construct congruent angles and parallel lines using a compass and straightedge ● Review classifying three-dimensional figures ● Finding surface area and volume of three-dimensional figures