

Franklin Special School District
Grade 6 Mathematics Syllabus
2022-2023

RP.A1	Ratios and Proportional Relationships	<ul style="list-style-type: none"> ● Understand the concept of a ratio as a way of expressing relationships between quantities. ● Write a ratio to describe the relationship between two quantities. ● Use ratio language, to describe the relationship between two quantities.
6.RP.A.2	Ratios and Proportional Relationships	<ul style="list-style-type: none"> ● Understand the concept of a unit rate. ● Use rate and unit rate language. ● Find rates and unit rate.
6.RP.A.3	Ratios and Proportional Relationships	<ul style="list-style-type: none"> ● Use ratio and rate reasoning to solve problems. ● Use a table to find equivalent ratios. ● Use a tape diagram and double number line diagram to find equivalent ratios. ● Use an equation to find equivalent ratios.
6.RP.A.3a	Ratios and Proportional Relationships	<ul style="list-style-type: none"> ● Use a table to find equivalent fractions. ● Find missing value in equivalent ratio tables. ● Plot the pairs of values in a table on a coordinate plane. ● Use a table and graph to reason about equivalent ratios. ● Use a table and graph to compare ratios.
6.RP.A.3b	Ratios and Proportional Relationships	<ul style="list-style-type: none"> ● Solve unit rate problems about unit pricing. ● Solve unit rate problems involving constant speed
6.RP.A.3c	Ratios and Proportional Relationships	<ul style="list-style-type: none"> ● Find the percent of a quantity. ● Know that a percent is a rate per 100. ● Find the whole given a percent and a part. ● Find the part given the percent.
6.RP.A.3d	Ratios and Proportional Relationships	<ul style="list-style-type: none"> ● Use ratio reasoning to convert measurement units within the same system and between different systems.

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6.NS.A.1	The Number System	<ul style="list-style-type: none"> ● Use a model to show division of fractions. ● Use an understanding of multiplication of fractions to explain division of fractions. ● Compute quotients of fractions using algorithm. ● Compute quotients of fractions using equations.
Topics covered: <ul style="list-style-type: none"> ● Ratios ● Understand Unit Rate ● Equivalent Ratios ● Solve Problems with Unit Rate ● Solve Problems with Percent ● Understand Division with Fractions ● Divide with Fractions 	Major assignments: 1) Unit 1 Assessment	
Notes:		

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2nd Quarter Standards/Objectives		
6.NS.B.2	The Number System	<ul style="list-style-type: none"> ● Fluently divide multi-digit numbers using the standard algorithm. (4-digit by 2-digit) ● Understand how to set up a problem based on the context of the problem. ● Be able to interpret what the quotient represents. ● Recognize that what is known or not known is based on the type of division needed (partitive: Total/number of groups = size of groups; quantitative or measurement: Total/size of group = number of groups).
6.NS.B.3	The Number System	<ul style="list-style-type: none"> ● Understand the role of place value in the operations of addition and subtraction. ● Identify when it is appropriate to use the standard algorithm. ● Estimate sums and differences before using the standard algorithm, and use these sums and differences to check reasonableness of answers. ● Add and subtract multi-digit decimals. ● Model the operations of addition and subtraction with manipulatives, diagrams, and story contexts for multi-digit decimals. ● Fluently multiply and divide multi-digit decimals using the standard algorithm for each operation. ● Understand the role of place value in the operations of multiplication and division. ● Identify when it is appropriate to use the standard algorithm. ● Use estimation to approximate products and quotients to check for reasonableness of answers. ● Model the operations of multiplication and division with manipulatives, diagrams and story contexts for multi-digit decimals.
6.NS.B.4	The Number System	<ul style="list-style-type: none"> ● Understand that the greatest common factor (GCF) and least common multiple (LCM) are ways to discuss number relationships in multiplication and division. ● Use the distributive property to express a sum of two numbers with a common factor as a multiple of a sum of two whole numbers with no common factor. ● Find the GCF of two whole numbers less than or equal to 100 and the LCM of two whole numbers less than or equal to 12.

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2nd Quarter Standards/Objectives		
6.NS.C.5	The Number System	<ul style="list-style-type: none"> ● Relate positive and negative numbers to the real-world.
6.NS.C.6	The Number System	<ul style="list-style-type: none"> ● Understand integers and other rational numbers as points on a number line. ● Understand the sign of a number indicates its direction from zero on a vertical or horizontal number line.
6.NS.C.6a	The Number System	<ul style="list-style-type: none"> ● Understand the sign of a number indicates its direction from zero on a vertical or horizontal number line. ● Recognize that the opposite of an opposite of a number is the number itself; 0 is its own opposite. ● Recognize opposite signs of numbers represent locations on opposite sides of 0 on the number line.
6.NS.C.6b	The Number System	<ul style="list-style-type: none"> ● Understand the signs of numbers in an ordered pair indicates a location in a specific quadrant on the coordinate plane. ● Recognize when two ordered pairs differ only by signs, it indicates a reflection across one or both axes.
6.NS.C.6c	The Number System	<ul style="list-style-type: none"> ● Find and position rational numbers on a vertical or horizontal number line. ● Find and plot pairs of integers on a number line or coordinate plan
6.NS.C.7	The Number System	<ul style="list-style-type: none"> ● Write, interpret, and explain statements of order for rational numbers. ● Understand absolute value of a rational number as the distance from 0 on the number line. ● Interpret absolute value as the magnitude of the number from 0 in a real-world situation. ● Distinguish comparisons of absolute value from statements about order.
6.NS.C.7a	The Number System	<ul style="list-style-type: none"> ● Interpret statements of inequality as relating to the position of rational numbers on a number line
6.NS.C.7b	The Number System	<ul style="list-style-type: none"> ● Write, interpret, and explain statements of order for rational numbers.

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2nd Quarter Standards/Objectives		
6.NS.C.7c	The Number System	<ul style="list-style-type: none"> ● Understand the absolute value of rational number as its distance from 0 on the number line. ● Distinguish comparisons of absolute value from statements about order.
6.NS.C.8	The Number System	<ul style="list-style-type: none"> ● Identify the origin and four quadrants of the coordinate plane. Plot ordered pairs in all quadrants. ● Use the signs of coordinates to locate points in quadrants. Recognize that if the coordinates only differ by the signs, the points are reflections across one or both axes. ● Use coordinates and absolute values to find distances between points.
6.EE.A.1	Expressions and Equations	<ul style="list-style-type: none"> ● Write numerical expressions involving whole-number exponents. ● Evaluate numerical expressions involving whole-number exponents.
6.EE.A.2	Expressions and Equations	<ul style="list-style-type: none"> ● Write algebraic expressions. ● Read algebraic expressions. ● Evaluate algebraic expressions.
6.EE.A.2a	Expressions and Equations	<ul style="list-style-type: none"> ● Write expressions that record operations with numbers and with variables.
6.EE.A.2b	Expressions and Equations	<ul style="list-style-type: none"> ● Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient)
6.EE.A.2c	Expressions and Equations	<ul style="list-style-type: none"> ● Evaluate expression at specific value of their variables. ● Use expressions that come from formulas used in real world problems.

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2nd Quarter Standards/Objectives	
Topics covered: <ul style="list-style-type: none"> ● Divide Multi-Digit Numbers ● Add and Subtract Decimals ● Multiply and Divide Decimals ● Common Factors and Multiples ● Understand Positive and Negative Numbers ● The Coordinate Plane ● Numerical Expressions with Exponents ● Algebraic Expressions 	Major assignments: 1) Unit 2 Assessment
Notes: 	

3rd Quarter Standards/Objectives		
6.EE.A.3	Expressions and Equations	<ul style="list-style-type: none"> ● Apply the properties of operations (including, but not limited to, commutative, associative, and distributive properties) to create equivalent expressions.
6.EE.A.4	Expressions and Equations	<ul style="list-style-type: none"> ● Recognize and generate equivalent expressions. ● Substitute values into expressions to prove equivalency.
6.EE.A.5	Expressions and Equations	<ul style="list-style-type: none"> ● Understand the differences between equations and inequalities. ● Know that inequalities represent a range of possible value rather than a single solution. ● Use substitution to determine whether a given number in a specific set makes an equation or inequality true.
6.EE.B.6	Expressions and Equations	<ul style="list-style-type: none"> ● Use variables to represent numbers and write expressions when solving real world or mathematical problems ● Understand that a variable can represent an unknown number or any number in a specific set.

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3rd Quarter Standards/Objectives		
6.EE.B.7	Expressions and Equations	<ul style="list-style-type: none"> ● Solve real world and mathematical problems by writing and solving one-step equations
6.EE.B.8	Expressions and Equations	<ul style="list-style-type: none"> ● Write an inequality that represents real-world mathematical problems containing a constraint or a condition ($<$). ● Recognize that a variable can stand for an infinite number of solutions when used in inequalities.
6.EE.C.9	Expressions and Equations	<ul style="list-style-type: none"> ● Use variables to represent two quantities in a real world problem that change in relationship to one another.
6.EE.C.9a	Expressions and Equations	<ul style="list-style-type: none"> ● Write an equation to express one quantity thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable.
6.EE.C.9b	Expressions and Equations	<ul style="list-style-type: none"> ● Analyze the relationship between the dependent and independent variables using graphs and tables and relate these to the equation.
6.G.A.1	Geometry	<ul style="list-style-type: none"> ● Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing or decomposing into triangles and other shapes. ● Know and apply these techniques in the context of solving real world and mathematical problems.
6.G.A.3	Geometry	<ul style="list-style-type: none"> ● Understand that a line segment from one coordinate pair to another represents a distance. ● Understand that if two coordinates have the same x- or y-value they are on the same line. ● Find the distance between two points on the coordinate plane. ● Plot points in all four quadrants of the Cartesian coordinate plane. ● Plot a polygon in the Cartesian coordinate plane with given coordinates.

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3rd Quarter Standards/Objectives		
6.G.A.4	Geometry	<ul style="list-style-type: none"> ● Represent three dimensional figures using nets made up of rectangles and triangles. ● Use nets to find the surface area of figures ● Apply these techniques in the context of solving real world and mathematical problems.
Topics covered: <ul style="list-style-type: none"> ● Equivalent Expressions ● Understand Solutions to Equations ● Solve Equations ● Solving Inequalities ● Dependent and Independent Variables ● Area of Polygons ● Polygons in the Coordinate Plane ● Nets and Surface Area 		Major assignments: 1) Unit 3 Assessment
Notes:		

4th Quarter Standards/Objectives		
6.G.A.2	Geometry	<ul style="list-style-type: none"> ● Measuring with fractional units requires relating volume to multiplication with fractions. ● Use these formulas: $V = lwh$ and $V=Bh$. ● Prove that the volume works by creating diagrams of prisms with unit fraction edge lengths, and showing how unit fraction cubes pack them.

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4th Quarter Standards/Objectives		
6.SP.A.1	Statistics and Probability	<ul style="list-style-type: none"> ● Understand that data generated from statistical questions will vary. ● Recognize that responses to statistical questions have variations that can be used to draw conclusions about the data set. ● Differentiate between a statistical and non-statistical question. ● Write simple statistical questions.
6.SP.A.2	Statistics and Probability	<ul style="list-style-type: none"> ● Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center (mean, median, mode), spread, (range), and overall shape.
6.SP.A.3	Statistics and Probability	<ul style="list-style-type: none"> ● Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how it is valued very with a single number.
6.SP.B.4	Statistics and Probability	<ul style="list-style-type: none"> ● Display a single set of numerical data using dot plots (line plots), box plots, pie charts, and stem plots.
6.SP.B.5	Statistics and Probability	<ul style="list-style-type: none"> ● Summarize numerical data sets in relation to their context.
6.SP.B.5a	Statistics and Probability	<ul style="list-style-type: none"> ● Report the number of observations.
6.SP.B.5b	Statistics and Probability	<ul style="list-style-type: none"> ● Describe the nature of the attribute being investigated, including how it was measured and its units of measurement.

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4th Quarter Standards/Objectives		
6.SP.B.5c	Statistics and Probability	<ul style="list-style-type: none"> Give quantitative measure of center (median/mean) and variability (range) as well as describing any overall pattern with reference to context in which the data was gathered.
6.SP.B.5d	Statistics and Probability	<ul style="list-style-type: none"> Choose the measure of center that best describes the data set based on shape of the data distribution.
Topics covered: <ul style="list-style-type: none"> Volume Understand Statistical Questions Measures of Center and Variability Display Data on Dot Plots, Stem Plots, Box Plots, and Pie Charts Analyze Numerical Data 		Major assignments: <ol style="list-style-type: none"> Unit 4 Assessment Unit 5 Assessment
Notes:		

<p>Procedures for Parental Access for Instructional Materials:</p> <p>1) Many instructional materials can be accessed digitally via the FSSD website (fssd.org) using your student’s unique username and password.</p> <p>a. Student Resources: FSSD website > Parents & Students > Parent Information > Online Resources > Student</p> <p>b. Parent Resources: FSSD website > Parents & Students > Parent Information > Online Resources > Parent</p> <p>2) If additional information is needed regarding instructional materials, a written request may be submitted to your child’s teacher. Instructional material review is included in Board Policy 4.400.</p>
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