

7th Grade (6th Grade Accelerated) Math Year at a Glance 2019-2020

Grading Period	2 nd Grading Period
<p>Rational Numbers Sets and Operations</p> <ul style="list-style-type: none"> • <u>Sets and Subsets</u> (7.2A) expected to extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers. • <u>Rational Number Operations</u> (7.3A) add, subtract, multiply, & divide rational numbers fluently (7.3B) apply and extend previous understanding of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers Scaffold – 6.3D add, subtract, multiply, and divide integers fluently 6.3E multiply and divide positive rational numbers fluently 6.4G generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money 6.7A generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization 	<p>Continue 1st 9wks</p> <p>Proportional Reasoning</p> <ul style="list-style-type: none"> • <u>Unit rates including between measurement systems</u> (7.4C) determine the constant of proportionality ($k = y/x$) within mathematical and real-world problems (7.4B) calculate unit rates from rates in mathematical and real-world problems (7.4E) convert between measurement systems, including the use of proportions and the use of unit rates • <u>Ratios, rates, and percents</u> Scaffold – 6.4B apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates 6.5B solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models (7.4D) solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems
<p>Equations/Inequalities</p> <ul style="list-style-type: none"> • <u>Model and Solve Equations and Inequalities</u> Scaffold – 6.10A model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts (7.11A) model and solve one-variable, two-step equations and inequalities (7.10B) represent solutions for one-variable, two-step equations and inequalities on number lines; (7.11B) determine if the given value(s) make(s) one-variable, two-step equations and inequalities true • <u>Write equations/inequalities and scenarios</u> (7.10A) write one-variable, two-step equations and inequalities to represent constraints or conditions within problems (7.10C) write a corresponding real-world problem given a one-variable, two-step equation or inequality. 	<p>Graphing and Interpreting Data</p> <ul style="list-style-type: none"> • <u>Inferences</u> (7.6F) use data from a random sample to make inferences about a population (7.12B) use data from a random sample to make inferences about a population (7.12C) compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations • <u>Graphing</u> Scaffold – 6.13A interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and <u>box plots</u> 6.12C summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution 6.12D summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution
<p>Multiple Representations</p> <ul style="list-style-type: none"> • <u>Constant rates of change and constant of proportionality</u> (7.4 A) represent constant rates of change in mathematical & real-world problems given pictorial, tabular, verbal, numeric, graphical, & algebraic representations, including $d = rt$ (7.4C) determine the constant of proportionality ($k = y/x$) within mathematical and real-world problems • <u>Tables, equations, graphs</u> Scaffold – 6.6C represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$ (7.7A) represent linear relationships using verbal descriptions, tables, graphs, & equations that simplify to the form $y = mx + b$ 	<p>(7.6G) solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents (7.12A) compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads</p>



3 rd Grading Period	4 th Grading Period
<p>Probability</p> <ul style="list-style-type: none"> • <u>Qualitative vs. quantitative</u> (7.6H) solve problems using qualitative and quantitative predictions and comparisons from simple experiments; • <u>Sample Space</u> (7.6A) represent sample spaces for simple and compound events using lists and tree diagrams • <u>Find Probabilities</u> (7.6B) select and use different simulations to represent simple and compound events with and without technology (7.6E) find the probabilities of a simple event and its complement and describe the relationship between the two (7.6I) determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces • <u>Make Predictions</u> (7.6C) make predictions and determine solutions using experimental data for simple and compound events (7.6D) make predictions and determine solutions using theoretical probability for simple and compound events 	<p>3D Geometry</p> <ul style="list-style-type: none"> • <u>Surface Area</u> (7.9D) solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net • <u>Volume</u> (7.8A) model the relationship between the volume of a rectangular prism and a rectangular pyramid having both congruent bases and heights and connect that relationship to the formulas (7.8B) explain verbally and symbolically the relationship between the volume of a triangular prism and a triangular pyramid having both congruent bases and heights and connect that relationship to the formulas; (7.9A) solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids
<p>2D Geometry</p> <ul style="list-style-type: none"> • <u>Similarity and Scale</u> (7.5A) generalize the critical attributes of similarity, including ratios within and between similar shapes (7.5C) solve mathematical and real-world problems involving similar shape and scale drawings • <u>Circle Relationships</u> (7.5B) describe π as the ratio of the circumference of a circle to its diameter; (7.8C) use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas. (7.9B) determine the circumference and area of circles • <u>Area of Composite Figures</u> Scaffold – 6.8D determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers (7.9C) determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles; • <u>Equations with Geometric Figures</u> (7.11C) write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships. ***1 week: Start curriculum from 4th nine weeks*** 	<p>Financial Literacy</p> <ul style="list-style-type: none"> • <u>Financial Decisions</u> (7.13A) calculate the sales tax for a given purchase and calculate income tax for earned wages; (7.13B) identify the components of a personal budget, including income; planned savings for college, retirement, and emergencies; taxes; and fixed and variable expenses, and calculate what percentage each category comprises of the total budget; (7.13C) create and organize a financial assets and liabilities record and construct a net worth statement; (7.13D) use a family budget estimator to determine the minimum household budget and average hourly wage needed for a family to meet its basic needs in the student's city or another large city nearby; (7.13E) calculate and compare simple interest and compound interest earnings; and (7.13F) analyze and compare monetary incentives, including sales, rebates, and coupons.

