2021-2022 Math 7th Grade
Year at a Glance (YAG)

First Semester

1st Nine Weeks – 41 days
(August 16th – October 13th)
(September 6th – Labor day – No School, September 22nd – Early Release Day, October 11th- Student Holiday/Staff Development Day)

TEKS	
7.1A, 7.1B, 7.1C, 7.1D, 7.1E, 7.1F, 7.1G, 7.2A, 7.3A, 7.3B, 7.13C	**Rational Numbers & Operations (10 days)** In this unit students use a visual representation to organize and display the relationship of the sets and subsets of rational numbers, which include counting (natural) numbers, whole numbers, integers, and rational numbers. Students also apply and extend operations with rational numbers to include negative fractions and decimals. Grade 7 students are expected to fluently add, subtract, multiply, and divide various forms of positive and negative rational numbers that include integers, decimals, fractions, and percents converted to equivalent decimals or fractions.
7.1A, 7.1B, 7.1C, 7.1D, 7.1E, 7.1F, 7.1G, 7.10A, 7.10B, 7.10C, 7.11A, 7.11B, 7.11C, 7.13D, 7.13E, 7.13F	**Solving Equations & Inequalities (16 days)** Students extend their previous work with one-variable, one-step equations and inequalities to one-variable, two-step equations and inequalities. Students model and solve one-variable, two-step equations and inequalities with concrete and pictorial models and algebraic representations. Solutions to equations and inequalities are represented on number lines and given values are used to determine if they make an equation or inequality true. Students are expected to write an equation or inequality to represent conditions or constraints within a problem and then, conversely, when given an equation or inequality out of context, students are expected to write a corresponding real-world problem to represent the equation or inequality.
7.1A, 7.1B, 7.1C, 7.1D, 7.1E, 7.1F, 7.1G, 7.4A, 7.4B, 7.4C, 7.4D, 7.13B	**Proportional Reasoning with Ratios & Rates (12 days)** Students examine proportional reasoning with ratios and rates through the lens of constant rates of change. Students are expected to represent constant rates of change given pictorial, tabular, verbal, numeric, graphical, and algebraic representations. Exploring the relationship between distance, rate, and time allows students to generalize the effects when rates within any problem situation are changed. They also calculate unit rates from rates and determine the constant of proportionality in mathematical and real-world problems. Students use proportions and unit rates as they extend previous understandings of converting units within a measurement system to now include converting units between both customary and metric measurement systems. ****3 Days for buffer**

2nd Nine Weeks – 42 days
(October 14th – December 17st)
(November 22nd – 26th – Thanksgiving Break, December 20th – December 31st – Holiday Break)

TEKS	
7.1A, 7.1B, 7.1C, 7.1D, 7.1E, 7.1F, 7.1G, 7.4E, 7.5A, 7.5C	**Measurement, Similarity & Angle Relationships (10 days)** Students use proportions and unit rates as they extend previous understandings of converting units within a measurement system to now include converting units between both customary and metric measurement systems.Students extend concepts of proportionality to two-dimensional figures as they solve mathematical and real-world problems involving similar shapes and scale drawings. Students generalize the critical attributes of similarity, which include examining the multiplicative relationship within and between similar shapes. Additionally, students write and solve equations using geometric concepts, including the sum of the angles in a triangle, complementary angles, supplementary angles, straight angles, adjacent angles, and vertical angles.
7.1A, 7.1B, 7.1C, 7.1D, 7.1E, 7.1F, 7.1G, 7.6A, 7.6B, 7.6C, 7.6D, 7.6E, 7.6F, 7.6G, 7.6H, 7.6I, 7.12A, 7.12B, 7.12C, 7.13B	**Categorical Data & Probability (30 days)** Students extend the use of proportional reasoning to solve problems as they are formally introduced to probability concepts. Students use various representations, including lists, tree diagrams, tables, and the Fundamental Counting Principle to represent the sample spaces for simple and compound events. Compound events are inclusive of both independent events and dependent events. Students select, design, develop, and use various methods to simulate simple and compound events. Methods for simulation may or may not include the use of technology. When conducting simulations or investigating data from simulations, students develop an understanding of how the Law of Large Numbers will affect the experimental probability. Students are expected to distinguish between theoretical and experimental data and find the probabilities of a simple event. Students analyze and describe the relationship between the probability of a simple event and its complement. Probabilities may be represented as a decimal, fraction, or percent. Data and sample spaces are used to determine experimental and theoretical probabilities from simple and compound events. Data from experiments, experimental data, theoretical probability, and random samples are used to make qualitative and quantitative inferences about a population. Qualitative and quantitative predictions and comparisons from simple experiments are used to solve problems. Students should consider the proportional relationships within and between probabilistic situations when making predictions and inferences. ****2 Days for buffer**

2021-2022 Math 7th Grade
Year at a Glance (YAG)

Second Semester

3rd Nine Weeks – 43 days
(January 3rd – March 4th)
(January 17th – MLK – No School, February 21st - Staff Development, March 7th – 11th – Spring Break)

TEKS	
7.1A, 7.1B, 7.1C, 7.1D, 7.1E, 7.1F, 7.1G, 7.4A, 7.4C, 7.7A	**Linear Relationships (14 days)** Students use bivariate data, data with two variables, to reexamine constant rates of change given pictorial, tabular, verbal, numeric, graphical, and algebraic representations and extend their understanding of the constant of proportionality. Students are formally introduced to the slope intercept form of equations, $y = mx + b$, to represent linear relationships. Although students are not formally introduced to slope or y-intercept in linear proportional and nonproportional relationships until Grade 8, students are expected to relate the constant rate of change to m, and the y-coordinate, when the x-coordinate is zero, to b in equations that simplify to the form $y = mx + b$. This relationship is examined through the ratio of rise to run and the change in the y-values to the change in the x-values. Students represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$.
7.1A, 7.1B, 7.1C, 7.1D, 7.1E, 7.1F, 7.1G, 7.4E, 7.5B, 7.8C, 7.9B, 7.9C	**Circles & Composite Figures (12 days)** Students convert between measurement systems, customary to metric and metric to customary. Solution strategies may include dimensional analysis using unit rates, scale factor between ratios, proportions, and conversion graphs. Students use models to determine the approximate formulas for the circumference and area of a circle (e.g., the circumference of a circle is a little more than three times the length of the diameter of a circle; the circumference of a circle is a little more than three times twice the length of the radius of a circle or a little more than 6 times the radius; the area of a circle is a little more than three times the length of the radius squared). Students use the relationships from models to connect to the actual formulas for the circumference and area of a circle and apply these formulas to solve problems involving the circumference and area of circles. Students extend previous knowledge of the area of rectangles, parallelograms, trapezoids, and triangles along with the new understandings of the circumference and area of circles to solve problems involving area of composite figures that consist of rectangles, triangles, parallelograms, squares, quarter circles, semicircles, and trapezoids.
7.1A, 7.1B, 7.1C, 7.1D, 7.1E, 7.1F, 7.1G, 7.8A, 7.8B, 7.9A, 7.9D	**Volume & Surface Area (16 days)** Students model the relationship between the volume of a rectangular prism and a rectangular pyramid having both congruent bases and heights as well as connect that relationship to their respective formulas (e.g. the volume of a rectangular prism is three times the volume of a rectangular pyramid; the volume of a rectangular pyramid is ⅓ the volume of a rectangular prism). Students are expected to explain verbally and symbolically the relationship between the volume of a triangular prism and a triangular pyramid having both congruent bases and heights as well as connect that relationship to their respective formulas (e.g., the volume of a triangular prism is three times the volume of a triangular pyramid; the volume of a triangular pyramid is ⅓ the volume of a triangular prism). Students solve problems involving volume, including the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids. Students also solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism,

4th Nine Weeks – 51 days
(March 14th – May 25th)
(April 8th – Battle of Flowers – No School, April 15th – Good Friday – No School)

TEKS	
7.1A, 7.1B, 7.1C, 7.1D, 7.1E, 7.1F, 7.1G, 7.4D, 7.13A, 7.13B, 7.13C 7.13D, 7.13E, 7.13F	**Applications of percents & Financial Literacy (25 days)** Students solve problems involving ratios, rates, and percentages. Computations with percentages are now inclusive of solving problems involving percent increase, percent decrease, and financial literacy. Students also create and organize a financial assets and liabilities record, construct a net worth statement, calculate sales tax for a given purchase, and calculate income tax for earned wages. Equations and inequalities are extended to include problem situations involving monetary incentives such as sales, rebates, or coupons. Financial literacy aspects such as calculating and comparing simple and compound interest as well as utilizing a family budget estimator to determine the minimum household budget needed for a family to meet its basic needs is also explored.
7.1A, 7.1B, 7.1C, 7.1D, 7.1E, 7.1F, 7.1G, 7.7A, 7.10A, 7.10B, 7.10C, 7.11A, 7.11B	**Making Connections/Essential Understandings (26 days)** Students revisit and solidify essential understandings of algebra. Students represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$. Students model and solve one-variable, two-step equations and inequalities with concrete and pictorial models and algebraic representations. Solutions to equations and inequalities are represented on number lines and given values are used to determine if they make an equation or inequality true. Students are expected to write an equation or inequality to represent conditions or constraints within a problem and then, conversely, when given an equation or inequality out of context, students are expected to write a corresponding real-world problem to represent the equation or inequality. **STAAR Testing Days not included

	and triangular pyramid by determining the area of the shape's net.		