

7th Grade Math - Year at a Glance

1st 9 Weeks

Unit 1: Rational Numbers (Integers and Decimal Operations) (9 days).

7.2 A extend previous knowledge of sets & subsets using a visual representation to describe relationships between sets of rational numbers
7.3 A add, subtract, multiply, and divide rational numbers fluently;

Unit 2: Rational Numbers (10 days)

7.3 A add, subtract, multiply, and divide rational numbers fluently;
7.3 B apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers

Unit 3: Equations and Inequalities (15 days)

7.10 A write one-variable, two-step equations & inequalities to represent constraints or conditions within problems
7.10 B represent solutions for one-variable, two-step equations and inequalities on number lines;
7.10 C write a corresponding real-world problem given a one-variable, two-step equation or inequality
7.11 A model and solve one-variable, two-step equations and inequalities;
7.11 B determine if the given value(s) make(s) one-variable, two-step equations and inequalities true

2nd 9 Weeks

Unit 4: Proportional Relationships (10 days)

7.4 B calculate unit rates from rates in mathematical & real world problems
7.4 D solve problems involving ratios, rates, & percents, including multi-step problems involving percent increase & decrease, & financial literacy prob. (R)
7.4 E convert between measurement systems, including the use of proportions and the use of unit rates

7.5 A generalize the critical attributes of similarity, including ratios within & between similar shape
7.5 C solve mathematical & real-world problems involving similar shape & scale drawings

Unit 5: Percents (3 days)

7.4D solve problems involving ratios, rates, & percents, including multi-step problems involving percent increase & decrease, & financial literacy prob.

Unit 6: Linear Relationships (10 days)

7.13 A calculate the sales tax for a given purchase and calculate income tax for earned wages
7.13 B 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;
7.13 C create and organize a financial assets and liabilities record and construct a net worth statement
7.13 E calculate and compare simple interest and compound interest earnings;
7.13 F analyze & compare monetary incentives, including sales, rebates, & coupons

3rd 9 Weeks

Unit 7: Probability (8 days)

7.6 A represent sample spaces for simple and compound events using lists and tree diagrams
7.6 C make predictions & determine solutions using exper data for simple & compound events
7.6 D make predictions and determine solutions using theoretical probability for simple and compound events
7.6 E find the probabilities of a simple event and its complement and describe the relationship between the two
7.6 H solve problems using qualitative and quantitative predictions & comparisons from simple experiments;
7.6 I determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces

Unit 8: Geometry (25 days)

7.5 B describe π as the ratio of the circumference of a circle to its diameter
7.9 A solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, & triangular pyramids
7.9 B determine the circumference and area of circles
7.9 C determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, & quarter circles
7.9 D 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
7.11 C write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships

4th 9 Weeks

Unit 9: Data (8 days)

7.6 F use data from a random sample to make inferences about a population
7.6 G solve problems using data represented in bar graphs, dot plots, & circle graphs, including part-to-whole and part-to-part comparisons & equivalents
7.12 A compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads
7.12 B use data from a random sample to make inferences about a population
7.12 C compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

Unit 10: Personal Finance (7 days)

7.4 A represent constant rates of change in mathematical & real-world problems given pictorial, tabular, verbal, numeric, graphical, & algebraic representations including $d=rt$
7.4 C determine the constant of proportionality ($k = y/x$) within mathematical and real-world problems;

7.7 A The student is expected to represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$.

Unit 11: STAAR Review (11 days)

Unit 12: 8th Grade Skills

8.5 I write an equation in the form $y=mx+b$ to model a linear relationship between two quantities using verbal, numerical, tabular, & graphical representations (extends 7.7A)
8.4B graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
8.4C use data from a table or graph to determine the rate of change or slope & y-intercept in real world problems.
8.7 B use previous knowledge of surface area to make connections to the formulas for lateral & total surface area & determine solutions involving rectangular prisms, triangular prisms, & cylinders