SIXTH GRADE MATHEMATICS

June 2021

Mathematical Practice Standards: Make sense of, communicate, connect, and justify mathematical ideas to support understanding and learning across all mathematical concepts

- Make sense of problems and persevere in solving them
- Reason abstractly and quantitatively
- Construct viable arguments and critique the reasoning of others
- Model with mathematics
- Use appropriate tools strategically
- Attend to precision
- Look for and make use of structure
- Look for and express regularity in repeated reasoning

Operations with Rational Numbers

- Extend understanding of rational numbers to include negative numbers. Use positive and negative numbers in real world contexts, explaining the meaning of zero in each context. Position rational numbers on horizontal and vertical number lines and all 4 quadrants of the coordinate plane. (6.NS.5-6)
- Understand ordering and absolute value (6.NS.7)
- Interpret and compute quotients of fractions and solve real world problems involving division of fractions by fractions, by using visual fraction models and equations to represent the problem. (6.NS.1)

Ratio and Rate Reasoning

- Understand the concept of ratio and unit rate and use ratio and unit rate language to describe the relationships between two quantities. (6.RP.1-2)
- Use ratio and rate reasoning to solve real world problems by using models such as tables of equivalent ratios, tape diagrams, double number line diagrams, points on a coordinate plane or equations. (6.RP.3)

Simplify Expressions and Solve Simple Real-World Equations and Inequalities Involving One Variable

- Apply and extend previous understandings of arithmetic to using variables and generating equivalent algebraic expressions. (6.EE.1-4)
- Reason about and solve simple one-variable equations and inequalities with real world contexts. Understand solving an equation or inequality as a process of answering a question. (6.EE.5-8)

Represent and Analyze Relationships Between Dependent and Independent Variables

- Solve simple real-world problems using numerical and algebraic expressions (6.EE.5-8)
- Represent and analyze quantitative relationships between dependent and independent variables and graph the relationship on a coordinate plane (6.NS.8; 6.EE.9)

Supporting Standards: Computation, Geometry

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- Compute fluently with multi-digit numbers and decimals and find common factors and multiples (6.NS.2-4).
- Find area of triangles, special quadrilaterals, and polygons by composing and decomposing (6.G.1) Find volume of right rectangular prisms with fractional side-lengths by packing with cubes and using the formula. (6.G.2) Draw polygons in the coordinate plane and solve length problems (6.G.3) Represent three dimensional figures using nets and solve surface area problems (6.G.4).
- Develop understanding of statistical variability of data (6.SP.1-3). Summarize and describe distributions (6.SP.4-5).

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