## What Students Learn

Throughout sixth grade, students expand and strengthen their use of mathematical practices and develop fluency in explaining how they solved a problem. Sixth-grade students complete their study of the four arithmetic operations involving whole numbers, fractions, and decimals. They make use of developing mathematical processes to apply these skills to problem-solving situations in a variety of contexts.

Students are introduced to the meaning of integers and rational numbers, how to represent them on a number line, how to order and compare them, and how to determine the absolute value of an integer. A critical area of understanding in sixth grade is the concept that variable expressions can be written and used to represent word problems. Students differentiate between expressions and equations, and attain mastery of solving single-variable equations. They are introduced to the concept of ratio and solve problems involving ratios. They understand that a ratio represents the relationship between two quantities.

Students collect and analyze data, finding measures of central tendency. They learn about statistical questions and data, how to collect a five-number summary, and represent statistical data graphically through dot plots, box plots, and histograms. Students find areas of polygons, and begin a study of the surface area of three-dimensional solids and the volume of rectangular prisms.

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<tr>
<th>Topics and Pacing</th>
<th>Sixth Grade Students Will Master....</th>
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<tr>
<td>0. Week of Inspirational Math: Math Practices (1 week)</td>
<td><strong>Essential (High Priority) Standards:</strong></td>
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<td>1. Number Concepts (6 weeks)</td>
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  - Division of whole numbers and finding common factors and multiples (NS.2 & NS.4)  
  - Division of fractions (NS.1)  
  - Operations with decimals (NS.3)  
  - Evaluating expressions w/whole-number exponents (EE.1)  
  - Interpreting, ordering, and plotting rational numbers on a number line or on a coordinate plane (NS.5-8)  
  - Solving one-step algebraic equations (EE.6-7)  
  - Read, write, and evaluate algebraic expressions (EE.2)  
  - Understanding & using ratio reasoning to solve problems (RP.1) |
| 2. Rational Numbers on the Number Line (4 weeks) | **Regular Priority Standards:**  
  - Simplifying & evaluating algebraic expressions (EE.3,4)  
  - Finding unit rates (RP.2)  
  - Calculating percent of a quantity (RP.3)  
  - Solving problems involving area of parallelograms and triangles (G.1,3)  
  - Finding surface area and volume of cubes and rectangular prisms (G.2,4) |
| 3. Expressions, Exponents & Properties (5 weeks) | **Low Priority Standards:**  
  - Writing and representing inequalities on a number line (EE.5,8)  
  - Analyzing the relationship between independent and dependent variables using graphs/tables (EE.9)  
  - Developing understanding of statistical variability (SP.1-3)  
  - Summarizing and describing data distribution (SP.4-5) |
| 4. Equations & Inequalities (3 weeks)       |  |
| 5. Ratios (8 weeks)                         |  |
| 6. Data Analysis (5 weeks)                  |  |
| 7. Geometric Concepts (4 weeks)             |  |