

Mathematics Grade 7 delivers instruction, practice, and review designed to develop computational fluency, deepen conceptual understanding, and apply mathematical practices. Throughout the course, students gain a deep understanding of proportions and their use in solving problems. They extend their fluency with operations on rational numbers and translate among different forms of rational numbers. Algebra topics include simplifying and rewriting algebraic expressions and solving more complex equations and inequalities. Students also sketch geometric figures and explore scale drawings, investigate circle properties and angle relationships, and deepen their understanding of area, volume, and surface area. They see how statistics uses sample data to make predictions about populations and compare data from different data sets. Students gain a fundamental understanding of probability and explore different ways to find or estimate probabilities.

The two-semester course is arranged in themed units, each with three to five lessons. Each lesson includes a variety of activities such as direct instruction, application of skills, performance tasks, and formative and summative assessments. Students engage with the subject matter in an interactive, feedback-rich environment as they progress through standards-aligned content and demonstrate their learning through computer- and teacher-scored assignments. By constantly honing the ability to apply their knowledge in abstract and real-world scenarios, students build the depth of knowledge and higher-order skills required to demonstrate their mastery when put to the test.

This course is built to state standards.

Length: Two semesters

### UNIT 1: RATIONAL NUMBERS

- Lesson 1: Expressing Rational Numbers in Decimal Form
- Lesson 2: Using Properties to Add and Subtract Rational Numbers
- Lesson 3: Using Properties to Multiply and Divide Rational Numbers
- Lesson 4: Solving Multi-Step Problems with Rational Numbers
- Lesson 5: Wrap-Up: Rational Numbers

### UNIT 2: OPERATIONS ON SIGNED NUMBERS

- Lesson 1: Adding Rational Numbers
- Lesson 2: Subtracting Rational Numbers
- Lesson 3: Multiplying Rational Numbers
- Lesson 4: Dividing Rational Numbers
- Lesson 5: Wrap-Up: Operations on Signed Numbers

### UNIT 3: EXPRESSIONS, EQUATIONS, AND INEQUALITIES

- Lesson 1: Using Operations on Rational Numbers to Solve Problems
- Lesson 2: Solving Two-Step Equations
- Lesson 3: Using Equations to Solve Problems
- Lesson 4: Solving Linear Inequalities
- Lesson 5: Wrap-Up: Expressions, Equations, and Inequalities

### UNIT 4: RATE, RATIO, AND PROPORTION

- Lesson 1: Unit Rates
- Lesson 2: Identifying Proportional Relationships
- Lesson 3: Using Proportional Relationships
- Lesson 4: Using Proportions to Solve Problems
- Lesson 5: Wrap-Up: Rate, Ratio, and Proportion

## **UNIT 5: LINEAR RELATIONSHIPS**

- Lesson 1: Proportional Relationships
- Lesson 2: Linear Relationships
- Lesson 3: Equations of Linear Relationships
- Lesson 4: Wrap-Up: Linear Relationships

## **UNIT 6: SEMESTER WRAP-UP**

- Lesson 1: Semester Wrap-Up