

Science Grade 8 delivers instruction, practice, and review to help students develop scientific literacy, deepen conceptual understanding, and apply scientific practices. Students explore concepts such as force and motion, the physical and chemical properties of matter, characteristics of our universe, factors affecting Earth's climates, and interdependence of living systems and the environment.

The two-semester course is arranged in themed units, each with two to three lessons. In each unit, activities make complex ideas accessible to students as they discover the nature of science through focused content, interactive mini-investigations, multi-modal representations, and personalized feedback. 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.

This course is built to the Next Generation Science Standards for middle school science.

### **Unit 1: Science and Engineering**

- What Is Science?
- Types of Investigations
- What Is Engineering?
- Wrap-Up: Science and Engineering

### **Unit 2: Tools of Inquiry**

- Using Models
- Tools and Measurement
- Displaying and Interpreting Data
- Wrap-Up: Tools of Inquiry

### **Unit 3: Nature of Matter**

- What Is Matter?
- Atomic Structure
- Elements and the Periodic Table
- Wrap-Up: Nature of Matter

### **Unit 4: Changes in Matter**

- How Can Matter Change?
- Chemical Equations
- Wrap-Up: Changes in Matter

### **Unit 5: Forces and Motion**

- Describing Forces

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- What Is Motion?
  - Effects of Forces
  - Wrap-Up: Force and Motion

**Unit 6: Earth's Plates**

- Plate Tectonics
- Earthquakes and Volcanoes
- Wrap-Up: Earth's Plates

**Unit 7: Our Changing Planet**

- Deforming Earth's Crust
- Weathering and Erosion
- Wrap-Up: Our Changing Planet

**Unit 8: Semester Wrap-Up**