California Middle School Grade 8 Science delivers instruction, practice, and review to help students develop scientific literacy, deepen conceptual understanding, and apply scientific practices. Students explore concepts such as waves and electromagnetic radiation, energy and forces on Earth and in space, genetics and natural selection, engineering design, and the impact of humans on Earth's resources.

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.

Length: Two Semesters

Unit 1: Nature of Science

- What Is Science?
- Types of Investigations
- Using Models
- Wrap-Up: Nature of Science

Unit 2: Measurement and Data

- Tools and Measurement
- Displaying and Interpreting Data
- Wrap-Up: Measurement and Data

Unit 3: Force and Motion

- Describing Forces
- Describing Motion
- Effects of Forces
- Wrap-Up: Force and Motion

Unit 4: Noncontact Forces

- Electromagnetic Forces
- Gravitational Force
- Wrap-Up: Noncontact Forces

Unit 5: Energy

- Describing Energy

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- Energy Transfer and Transformation
- Wrap-Up: Energy

Unit 6: Waves

- Mechanical Waves
- Electromagnetic Waves
- Wrap-Up: Waves

Unit 7: Applications of Waves

- Interactions of Waves and Matter
- Waves and Technology
- Wrap-Up: Applications of Waves

Unit 8: Semester Wrap-Up

Unit 9: The Solar System

- Sun-Earth-Moon System
- Our Solar System
- Wrap-Up: The Solar System

Unit 10: Exploring the Universe

- The Universe
- Space Exploration
- Wrap-Up: Exploring the Universe

Unit 11: Living Things

- Classification of Living Things
- Cell Growth and Reproduction
- Wrap-Up: Living Things

Unit 12: Genetics

- Inheritance
- Genes and DNA
- Biotechnology
- Wrap-Up: Genetics

Unit 13: Evolution

- Geologic Time
- Theory of Evolution
- Natural Selection
- Wrap-Up: Evolution

Unit 14: Humans and Earth's Resources

- Natural Resources
- Impacts of Humans
- Wrap-Up: Humans and Earth's Resources

Unit 15: Semester Wrap-Up

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