Science 8 is a two-semester course aligned to the Indiana Academic Standards for Science (Grade 8). This course delivers instruction, practice, and review to help students develop scientific literacy, deepen conceptual understanding, and apply scientific practices. Students explore concepts including the structure, properties, and changes of matter; energy and matter; reproduction and growth in organisms; heredity; biological evolution; weather and climate; and the impact of humans on Earth's systems. 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, multimodal 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.

The materials needed for this course include specified lab materials.

Length: Two Semesters

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?
- Properties of Matter
- Wrap-Up: Nature of Matter

Unit 4: Describing Matter

- Solids, Liquids, and Gases
- Mixtures of Matter
- Wrap-Up: Describing Matter

Unit 5: Changes in Matter

- Physical and Chemical Changes

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- Changes of State
- Chemical Equations
- Wrap-Up: Changes in Matter

Unit 6: Thermal Energy and Heat

- Thermal Energy and Temperature
- Heat and Thermal Energy
- Energy Transfer and Technology
- Wrap-Up: Thermal Energy and Heat

Unit 7: Nature of Life

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

Unit 8: Semester Wrap-Up

- Semester Wrap-Up

Unit 9: Genetics

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

Unit 10: Reproduction and Response to Stimuli

- Patterns of Reproduction
- Animal Behaviors
- Plant Responses
- Wrap-Up: Reproduction and Response to Stimuli

Unit 11: Evolution

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

Unit 12: The Atmosphere, Hydrosphere, and Cryosphere

- Freshwater and Ice
- Oceans
- The Atmosphere
- Wrap-Up: The Atmosphere, Hydrosphere, and Cryosphere

Unit 13: Weather and Severe Weather

- Weather
- Severe Weather
- Wrap-Up: Weather and Severe Weather

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Unit 14: Climate and Impact of Humans

- Climate
- Impacts of Humans
- Wrap-Up: Climate and Impact of Humans

Unit 15: Semester Wrap-Up

- Semester Wrap-Up

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