MS Physical Science is a two-semester course aligned to the Indiana Academic Standards for Science (Grades 6 – 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; motion and stability; waves and their technological applications; and energy. 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?
- Atomic Structure
- The Periodic Table
- Wrap-Up: Nature of Matter

Unit 4: Describing Matter

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

Unit 5: Changes in Matter

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

Unit 6: Semester Wrap-Up

- Semester Wrap-Up

Unit 7: Force and Motion

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

Unit 8: Noncontact Forces

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

Unit 9: Energy

- Describing Energy
- Energy Transfer and Transformation
- Wrap-Up: Energy

Unit 10: Thermal Energy and Heat

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

Unit 11: Waves

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

Unit 12: Applications of Waves

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

Unit 13: Semester Wrap-Up

- Semester Wrap-Up

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