Integrated Chemistry & Physics is a two-semester course that offers alignment to the Indiana Academic Standards for Integrated Chemistry& Physics. The course focuses on foundational chemistry and physics concepts, including energy, forces, electricity, waves, the nature of matter, chemical reactions, and nuclear reactions, as well as the application of scientific and engineering practices. Students discover new core ideas through guided instruction and confirm their understanding in an interactive, feedback-rich environment. Embedded in the direct instruction are plentiful opportunities for students to develop scientific inquiry skills by learning to ask scientific questions, form and test hypotheses, analyze data, and use logic and evidence to draw conclusions about the concepts. A variety of activities encourage students to apply scientific and engineering practices. Lab and Project activities reinforce critical thinking, writing, and communication skills and help students develop a deeper understanding of the core ideas and overarching science concepts. In Discussions, students compare their lab results, construct explanations, and exchange ideas about their investigations. Practice and Explore activities provide additional opportunities for students to apply learned concepts and skills.

Length: Two Semesters

Unit 1: Science and Engineering

- Science
- Scientific and Engineering Processes
- Wrap-Up: Science and Engineering

Unit 2: Energy

- What Is Energy?
- Thermal Energy
- Doing Science: Energy
- Wrap-Up: Energy

Unit 3: Forces

- Force and Motion
- Momentum and Collisions
- Wrap-Up: Forces

Unit 4: Electromagnets

- Electricity and Magnetism
- Electromagnetism
- Wrap-Up: Electromagnets

Unit 5: Semester Wrap-Up

- Semester Wrap-Up

Unit 6: Waves

Copyright© Edmentum Inc. All Rights Reserved.

- Wave Properties and Interactions
- Electromagnetic Waves
- Applications of Waves
- Wrap-Up: Waves

Unit 7: Structure and Properties of Matter

- Structure of Matter
- Properties of Matter
- Wrap-Up: Structure and Properties of Matter

Unit 8: Chemical Reactions

- Describing Chemical Reactions
- Factors Affecting Chemical Reactions
- Wrap-Up: Chemical Reactions

Unit 9: Nuclear Reactions

- Fission, Fusion, and Radioactive Decay
- Modeling Nuclear Reactions
- Wrap-Up: Nuclear Reactions

Unit 10: Semester Wrap-Up

- Semester Wrap-Up

Copyright© Edmentum Inc. All Rights Reserved.