Science Foundations provides students with opportunities to develop the knowledge, skills, and strategies necessary for success in rigorous high school science courses. The course is appropriate for use as remediation at the high school level or as a bridge to high school.

Science Foundations is a two-semester course, with each semester containing 10 mini-units. Each mini-unit is composed of three lessons. The first lesson focuses on key concepts found in Earth science, physical science, and life science. The second lesson reinforces reading and math skills students need to be successful with the content introduced in the first lesson. The third lesson introduces scientific inquiry and critical thinking skills that will help students thrive in science as well as other disciplines. Carefully paced, guided instruction is accompanied by engaging and accessible interactive practice. Checkup activities provide an opportunity to review content prior to assessment. Practice activities offer an opportunity to apply concepts that were presented in Study activities.

This course is built to state standards.

No required or optional materials.

Length: Two Semesters

Unit 1: What Is Science?

- Introduction to Science
- Skills for Success
- Thinking Like a Scientist
- What Is Science? Wrap-Up

Unit 2: Properties of Matter

- Physical and Chemical Properties of Matter
- Using SI Units
- Making Observations
- Properties of Matter Wrap-Up

Unit 3: Changing Matter

- Physical and Chemical Changes
- Classifying Events and Objects
- Asking Questions and Forming Hypotheses
- Changing Matter Wrap-Up

Unit 4: What Makes Up Matter?

- Mixtures, Compounds, and Elements
- Recognizing Chemical Symbols

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- Using Models
- What Makes Up Matter? Wrap-Up

Unit 5: Energy

- Energy Transformations
- Learning New Vocabulary
- Designing an Experiment
- Energy Wrap-Up

Unit 6: Motion

- Newton's Laws
- Interpreting Mathematical Text
- Laboratory Safety
- Motion Wrap-Up

Unit 7: Forces and Motion

- Introduction to Forces
- Understanding Quantities
- Analyzing Data
- Forces and Motion Wrap-Up

Unit 8: Work and Machines

- Work, Power, and Simple Machines
- Solving Algebraic Equations
- Making Graphs
- Work and Machines Wrap-Up

Unit 9: Waves

- Light, Sound, and Energy
- Understanding Scientific Notation
- Using a Scientific Calculator
- Waves Wrap-Up

Unit 10: Science, Technology, and Society

- Science and Its Role in the World
- Connecting Science to Your Life
- Drawing Conclusions
- Science, Technology, and Society Wrap-Up

Unit 11: The Universe

- Where Are We?
- Understanding Scale
- Converting Between Units
- The Universe Wrap-Up

Unit 12: Our Planet

- The Earth, Moon, and Sun System

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- Using Geometry in Science
- Identifying Patterns
- Our Planet Wrap-Up

Unit 13: Earth's Structure

- Earth's Interior and Surface
- Recognizing Change over Time
- Identifying Questions for Further Investigation
- Earth's Structure Wrap-Up

Unit 14: Earth's Cycles

- The Movement of Materials Between Earth's Spheres
- Using Word Roots to Understand Scientific Words
- Following the Engineering Design Process
- Earth's Cycles Wrap-Up

Unit 15: The Atmosphere

- Weather and Climate
- Reading Maps
- Identifying Bias
- The Atmosphere Wrap-Up

Unit 16: Living Systems

- The Organization and Regulation of Organisms
- Relating Structure to Function
- Doing Ethical Experiments
- Living Systems Wrap-Up

Unit 17: Heredity and Genetics

- Introduction to Genes and Gene Technology
- Using Statistics in Science
- Replicating Experiments
- Heredity and Genetics Wrap-Up

Unit 18: Evolution

- The History of Life on Earth
- Identifying Signal Words
- Understanding Laws, Theories, and Hypotheses
- Evolution Wrap-Up

Unit 19: Interdependence of Life

- Ecosystems
- Studying Systems
- Communicating about Science
- Interdependence of Life Wrap-Up

Unit 20: Humans and the Earth

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- Earth's Resources
- Using the Internet for Research
- Using Science to Make Choices
- Humans and the Earth Wrap-Up

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