

Physical Science is a thorough course that provides students with an understanding of the nature and structure of matter, the characteristics of energy, and the societal implications of physical science concepts. Using the scientific method — observation, data collection, analysis, hypothesis, and conclusion — students are encouraged to extend their knowledge through the development of scientific explanations, hypotheses, and conclusions.

Course topics include an introduction to kinematics, including gravity and two-dimensional motion; force; momentum; waves; electricity; atoms; the periodic table of elements; molecular bonding; chemical reactivity; gases; and an introduction to nuclear energy.

This course is built to state standards and the National Science Teachers Association (NSTA).

Length: Two semesters

UNIT 1: LET'S GET PHYSICAL!

- Lesson 1: Science as Inquiry
- Lesson 2: The Scientific Method
- Lesson 3: Let's Get Physical! Wrap-Up
- Lesson 4: Diagnostic

UNIT 2: GET YOUR MOTOR RUNNING

- Lesson 1: Introduction to Kinematics
- Lesson 2: Gravity and Free Fall
- Lesson 3: Motion in Two Dimensions
- Lesson 4: Get Your Motor Running Wrap-Up
- Lesson 5: Diagnostic

UNIT 3: MAY THE NET FORCE BE WITH YOU

- Lesson 1: Newton's Laws of Motion
- Lesson 2: Friction
- Lesson 3: Centripetal Force
- Lesson 4: Buoyant Force
- Lesson 5: May the Net Force Be with You Wrap-Up
- Lesson 6: Diagnostic

UNIT 4: CRASH INTO ME

- Lesson 1: Momentum
- Lesson 2: Work Simple Machines and Power
- Lesson 3: Energy
- Lesson 4: Crash into Me Wrap-Up
- Lesson 5: Diagnostic

UNIT 5: I'M PICKIN' UP GOOD VIBRATIONS

- Lesson 1: Properties of Waves
- Lesson 2: Sound Waves
- Lesson 3: Electromagnetic Waves
- Lesson 4: Optics
- Lesson 5: I'm Pickin' Up Good Vibrations Wrap-Up

- Lesson 6: Diagnostic

UNIT 6: IT'S ELECTRIC!

- Lesson 1: Static Electricity
- Lesson 2: Current and Circuits
- Lesson 3: Magnetism
- Lesson 4: It's Electric! Wrap-Up
- Lesson 5: Diagnostic

UNIT 7: PHYSICAL SCIENCE SEMESTER 1 REVIEW AND EXAM

- Lesson 1: Physical Science Semester 1

UNIT 8: IT'S ELEMENTARY

- Lesson 1: Structure and Components of the Atom
- Lesson 2: The Periodic Table
- Lesson 3: Trends and Patterns
- Lesson 4: It's Elementary Wrap-Up
- Lesson 5: Diagnostic

UNIT 9: BOND. MOLECULAR BOND.

- Lesson 1: Bonding
- Lesson 2: Shapes of Molecules
- Lesson 3: Compounds
- Lesson 4: Bond. Molecular Bond. Wrap-Up
- Lesson 5: Diagnostic

UNIT 10: CHEMICAL REACTIONS

- Lesson 1: Chemical Equations and Conservation Laws
- Lesson 2: Reaction Types
- Lesson 3: Acids and Bases
- Lesson 4: Chemical Reactions Wrap-Up
- Lesson 5: Diagnostic

UNIT 11: JUMPIN' JACK FLASH — IT'S A GAS

- Lesson 1: Heat
- Lesson 2: The Gas Laws
- Lesson 3: Thermodynamics
- Lesson 4: Jumpin' Jack Flash — It's a Gas Wrap-Up
- Lesson 5: Diagnostic

UNIT 12: NUCLEAR ENERGY IS DA BOMB

- Lesson 1: Radioactivity
- Lesson 2: Nuclear Reactions
- Lesson 3: Energy of the Future
- Lesson 4: Nuclear Energy Is Da Bomb Wrap-Up
- Lesson 5: Diagnostic

UNIT 13: PHYSICAL SCIENCE SEMESTER 2 REVIEW AND EXAM

- Lesson 1: Physical Science Semester 2