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

Study: Summarizing
Examine the inquiry the steps in the inquiry process
Duration: 1 hr 15 mins

Explore: Inquiry
Complete a Web-based exploration into the world of scientific inquiry.
Duration: 0 hrs 50 mins Scoring: 25 points

Discuss: Searching for Truth
Discuss the subject of inquiry with your classmates.
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: Inquiry
Complete an inquiry-based lab.
Duration: 1 hr 30 mins Scoring: 40 points

Quiz: Science as Inquiry
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 2: THE SCIENTIFIC METHOD

Study: Representing Data Graphically
Learn how to represent data graphically.
Duration: 1 hr 15 mins

Explore: Fermi and the Caveman
Complete a Web-based exploration into the world of the scientific method.
Duration: 0 hrs 50 mins Scoring: 25 points

Journal: Reflections on the Method
Compose a response to a question about the Scientific Method and submit it to your teacher.
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: Wet Pennies
Complete a lab on the Scientific Method using wet pennies.
Duration: 1 hr 30 mins Scoring: 40 points

Explore: A Career as a Forensic Scientist
Explore career options in science.
Duration: 0 hrs 30 mins

Quiz: The Scientific Method
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 3: LET'S GET PHYSICAL! WRAP-UP

Review: Let's Get Physical!
Prepare for the unit test by reviewing key concepts and skills.
Duration: 0 hrs 50 mins

Practice: Introduction to Physical Science
Complete a set of practice problems.
Duration: 1 hr Scoring: 50 points

Discuss: What Questions Do You Have?
Discuss ideas about this unit that are still unclear. Help answer your classmates' questions.
Duration: 0 hrs 30 mins Scoring: 20 points

Test (CS): Let's Get Physical!
Take a computer-scored test to assess what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Let's Get Physical!
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

LESSON 4: DIAGNOSTIC

Diagnostic: Let's Get Physical!
Take a diagnostic unit test that will generate a study plan based on your responses.
Duration: 1 hr Scoring: 25 points

UNIT 2: GET YOUR MOTOR RUNNING

LESSON 1: INTRODUCTION TO KINEMATICS

Study: Graphing Motion
Explore kinematics, the study of motion, and begin learning how to create graphs around movement.
Duration: 1 hr 15 mins

Discuss: Defining Distance and Displacement
Discuss distance and displacement.
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: How to Win at the Olympics without Really Trying
Complete a lab on displacement velocity and acceleration.
Duration: 1 hr 30 mins Scoring: 40 points

Explore: Your World in Motion
Complete a Web-based exploration into displacement velocity and acceleration.
Duration: 0 hrs 50 mins Scoring: 25 points

Quiz: Introduction to Kinematics
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 2: GRAVITY AND FREE FALL

Study: Catch Me — I'm Falling

Learn how gravitational acceleration affects motion in free fall.

Duration: 1 hr 15 mins

Lab: Falling Bodies

Complete a lab on falling bodies.

Duration: 1 hr 30 mins Scoring: 40 points

Journal: Free Fall

Compose a response to a question about free fall and submit it to your teacher.

Duration: 0 hrs 30 mins Scoring: 20 points

Quiz: Gravity and Free Fall

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 3: MOTION IN TWO DIMENSIONS

Study: Vectors

Introduction to vectors and magnitude.

Duration: 1 hr 15 mins

Discuss: Athletic Projectiles

Discuss two-dimensional motion.

Duration: 0 hrs 30 mins Scoring: 20 points

Explore: Vectors

Complete a Web-based exploration into two-dimensional motion.

Duration: 0 hrs 50 mins Scoring: 25 points

Lab: Follow the Vectors

Complete a lab on projectile motion.

Duration: 1 hr 30 mins Scoring: 40 points

Explore: A Career in Ski Jumping

Explore career options in the field of motion.

Duration: 0 hrs 30 mins

Quiz: Motion in Two Dimensions

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 4: GET YOUR MOTOR RUNNING WRAP-UP

Review: Get Your Motor Running

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hrs 50 mins

Practice: Motion

Complete a set of practice problems on motion and submit the assignment to your teacher.

Duration: 1 hr Scoring: 50 points

Discuss: What Questions Do You Have?

Discuss any ideas about motion that are unclear. Help answer your classmates' questions.

Duration: 0 hrs 30 mins Scoring: 20 points

Test (CS): Get Your Motor Running

Take a computer-scored test to assess what you have learned in this unit.

Duration: 1 hr Scoring: 50 points

Test (TS): Get Your Motor Running

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 1 hr Scoring: 50 points

LESSON 5: DIAGNOSTIC

Diagnostic: Get Your Motor Running

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 1 hr Scoring: 25 points

UNIT 3: MAY THE NET FORCE BE WITH YOU

LESSON 1: NEWTON'S LAWS OF MOTION

Study: Newton's First Law of Motion

Welcome to the world of dynamics, force, and Newton's First Law

Duration: 1 hr

Discuss: Cart and Horse

Discuss an obstinate but well-educated horse and the cart it is asked to pull.

Duration: 0 hrs 30 mins Scoring: 20 points

Lab: Newton's Laws

Complete a lab on Newton's laws of motion.

Duration: 1 hr 30 mins Scoring: 40 points

Explore: Forces

Complete a Web-based exploration into the world of Newton's laws.

Duration: 0 hrs 50 mins Scoring: 25 points

Quiz: Newton's Laws of Motion

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 2: FRICTION

Study: Therein Lies the Rub

Learn what causes friction its various types and what effects friction has on motion.

Duration: 1 hr 15 mins

Journal: Life with No Friction

Compose a journal entry in response to a question on friction and submit it to your teacher.

Duration: 0 hrs 30 mins Scoring: 20 points

Lab: That Rubs Me the Wrong Way

Complete a lab on friction.

Duration: 1 hr 30 mins Scoring: 40 points

Quiz: Friction

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 3: CENTRIPETAL FORCE

Study: Motion in a Circle

Learn what causes circular motion and how gravity acts on all objects in the universe.

Duration: 1 hr 15 mins

Lab: I'm So Dizzy

Complete a lab on centripetal force.

Duration: 1 hr 30 mins Scoring: 40 points

Discuss: My World Is Spinning

Discuss centripetal force.

Duration: 0 hrs 30 mins Scoring: 20 points

Explore: Circles in the Sky
Complete a Web-based exploration into the world of circular motion.
Duration: 0 hrs 50 mins Scoring: 25 points

Quiz: Centripetal Force
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 4: BUOYANT FORCE

Study: Buoyant Force and Archimedes' Principle
Why does something sink or swim? Learn by studying buoyant force and Archimedes' Principle
Duration: 1 hr 15 mins

Journal: What Floats Your Boat?
Compose a journal entry in response to a question on buoyancy and submit it to your teacher.
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: Density's Child
Complete a lab on buoyancy.
Duration: 1 hr 30 mins Scoring: 40 points

Explore: A Career as a Ship or Submarine Captain
Explore career options in the field of seafaring.
Duration: 0 hrs 30 mins

Quiz: Buoyancy
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 5: MAY THE NET FORCE BE WITH YOU WRAP-UP

Review: May the Net Force Be with You
Prepare for the unit test by reviewing key concepts and skills.
Duration: 0 hrs 50 mins

Practice: Forces
Complete a set of practice problems on forces and submit the assignment to your teacher.
Duration: 1 hr Scoring: 50 points

Discuss: What Questions Do You Have?
Discuss ideas about forces that are still unclear. Help answer your classmates' questions.
Duration: 0 hrs 30 mins Scoring: 20 points

Test (CS): May the Net Force Be with You
Take a computer-scored test to assess what you have learned in this unit.
Duration: 1 hr Scoring: 50 points

Test (TS): May the Net Force Be with You
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 1 hr Scoring: 50 points

LESSON 6: DIAGNOSTIC

Diagnostic: May the Net Force Be with You
Take a diagnostic unit test that will generate a study plan based on your responses.
Duration: 1 hr Scoring: 25 points

UNIT 4: CRASH INTO ME

LESSON 1: MOMENTUM

Study: Momentum and Newton's Second Law

Crash! Impulse, momentum, and the Impulse-Momentum Theorem.
Duration: 1 hr 15 mins

Lab: Losing My Marbles
Complete a lab on momentum.
Duration: 1 hr 30 mins Scoring: 40 points

Journal: Thinking about Momentum
Compose a journal entry in response to a question on momentum and submit it to your teacher.
Duration: 0 hrs 30 mins Scoring: 20 points

Explore: Winter Sports
Complete a Web-based exploration into the world of collisions.
Duration: 0 hrs 50 mins Scoring: 25 points

Quiz: Momentum
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 2: WORK SIMPLE MACHINES AND POWER

Study: Power
Jump into the world of work and simple machines.
Duration: 1 hr 15 mins

Discuss: Working Out
What does working out really mean?
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: Building a Pyramid
Complete a lab on work and power.
Duration: 1 hr 30 mins Scoring: 40 points

Quiz: Work Simple Machines and Power
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 3: ENERGY

Study: Work-Energy Theorem
Learn about the many states of energy and several formulas.
Duration: 1 hr 15 mins

Discuss: Conserving Energy
Discuss energy conservation.
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: Swinging in the Rain
Complete a lab on energy conservation.
Duration: 1 hr 30 mins Scoring: 40 points

Practice: Design a Roller Coaster
Complete a written assignment to design a working roller coaster.
Duration: 0 hrs 50 mins Scoring: 25 points

Explore: A Career Designing Futuristic Cars
Explore career options in the field of automobile design.
Duration: 0 hrs 30 mins

Quiz: Energy
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 4: CRASH INTO ME WRAP-UP

Review: Crash into Me
Prepare for the unit test by reviewing key concepts and skills.
Duration: 0 hrs 50 mins

Practice: Energy
Complete a set of practice problems on work and energy and submit the assignment to your teacher.
Duration: 1 hr Scoring: 50 points

Discuss: What Questions Do You Have?
Discuss ideas about work and energy that are still unclear. Help answer your classmates' questions.
Duration: 0 hrs 30 mins Scoring: 20 points

Test (CS): Crash into Me
Take a computer-scored test to assess what you have learned in this unit.
Duration: 1 hr Scoring: 50 points

Test (TS): Crash into Me
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 1 hr Scoring: 50 points

LESSON 5: DIAGNOSTIC

Diagnostic: Crash into Me
Take a diagnostic unit test that will generate a study plan based on your responses.
Duration: 0 hrs 30 mins Scoring: 25 points

UNIT 5: I'M PICKIN' UP GOOD VIBRATIONS

LESSON 1: PROPERTIES OF WAVES

Study: Types of Waves
Explore the types and properties of waves.
Duration: 1 hr 15 mins

Lab: Smile and Wave
Complete a lab on waves using coiled springs.
Duration: 1 hr 30 mins Scoring: 40 points

Discuss: Catch a Wave Dude
Discuss wave properties.
Duration: 0 hrs 30 mins Scoring: 20 points

Explore: Waves in the World
Complete a Web-based exploration into the world of tsunamis and ocean waves.
Duration: 0 hrs 50 mins Scoring: 25 points

Explore: A Career as a Seismologist
Explore career options in the field of seismology and earthquakes.
Duration: 0 hrs 30 mins

Quiz: Waves
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 2: SOUND WAVES

Study: Matching-Up Time
Learning about wave properties and the Doppler Effect
Duration: 1 hr 15 mins

Lab: Listen Up

Complete a lab on sound.

Duration: 1 hr 30 mins Scoring: 40 points

Discuss: Speak Up! I Can't Hear You

Engage in a discussion about sound.

Duration: 0 hrs 30 mins Scoring: 20 points

Explore: Do You Hear What I Hear?

Complete a Web-based exploration into the world of sound.

Duration: 0 hrs 50 mins Scoring: 25 points

Quiz: Sound Waves

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 3: ELECTROMAGNETIC WAVES

Study: Light Spectrum

Introduction to electromagnetic waves and the properties of the light spectrum.

Duration: 1 hr 15 mins

Journal: Who Can Take a Rainbow?

Compose a journal entry in response to a question on light and submit it to your teacher.

Duration: 0 hrs 30 mins Scoring: 20 points

Lab: Let There Be Light

Complete a lab on light and color.

Duration: 1 hr 30 mins Scoring: 40 points

Explore: Color My Universe

Complete a Web-based exploration into the world of color.

Duration: 0 hrs 50 mins Scoring: 25 points

Quiz: Electromagnetic Waves

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 4: OPTICS

Study: Reflection and Mirrors

Reflecting on reflections, rays, and optic applications.

Duration: 1 hr 15 mins

Explore: A Magical Mystery Tour

Complete a Web-based exploration into the world of optics.

Duration: 0 hrs 50 mins Scoring: 25 points

Lab: Bend It Like Beckham

Complete a lab on optics.

Duration: 1 hr 30 mins Scoring: 40 points

Quiz: Optics

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 5: I'M PICKIN' UP GOOD VIBRATIONS WRAP-UP

Review: I'm Pickin' Up Good Vibrations

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hrs 50 mins

Practice: Waves
Complete a set of practice problems on waves and submit the assignment to your teacher.
Duration: 1 hr Scoring: 50 points

Discuss: What Questions Do You Have?
Discuss ideas about waves that are still unclear. Help answer your classmates' questions.
Duration: 0 hrs 30 mins Scoring: 20 points

Test (CS): I'm Pickin' Up Good Vibrations
Take a computer-scored test to assess what you have learned in this unit.
Duration: 1 hr Scoring: 50 points

Test (TS): I'm Pickin' Up Good Vibrations
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 1 hr Scoring: 50 points

LESSON 6: DIAGNOSTIC

Diagnostic: I'm Pickin' Up Good Vibrations
Take a diagnostic unit test that will generate a study plan based on your responses.
Duration: 0 hrs 50 mins Scoring: 25 points

UNIT 6: IT'S ELECTRIC!

LESSON 1: STATIC ELECTRICITY

Study: Electric Charge
Investigate insulators, conductors, Coulomb's Law and Conservation of Charge.
Duration: 1 hr 15 mins

Discuss: A Bad Hair Day
Discuss static electricity.
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: A Shocking Tale
Complete a lab on static electricity.
Duration: 1 hr 30 mins Scoring: 40 points

Quiz: Static Electricity
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 2: CURRENT AND CIRCUITS

Study: Ohm's Law
Confronting the world of circuits and answering the question "why don't birds on electric wires get shocked?"
Duration: 1 hr 15 mins

Lab: A Series of Enlightening Events
Complete a lab on circuits.
Duration: 1 hr 30 mins Scoring: 40 points

Discuss: Current Events
Discuss current.
Duration: 0 hrs 30 mins Scoring: 20 points

Explore: Electricity: Friend or Foe?
Complete a Web-based exploration into the world of electric circuits.
Duration: 0 hrs 50 mins Scoring: 25 points

Quiz: Current and Circuits
Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 3: MAGNETISM

Study: Electromagnetism
Moving into the worlds of magnets and magnetic fields.
Duration: 1 hr 15 mins

Lab: Stuck on You
Complete a lab on magnetism.
Duration: 1 hr 30 mins Scoring: 40 points

Journal: Surprise Science
Compose a journal entry in response to a question on magnetism and submit it to your teacher.
Duration: 0 hrs 30 mins Scoring: 20 points

Explore: Magnets among Us
Complete a Web-based exploration into the world of magnetism.
Duration: 0 hrs 50 mins Scoring: 25 points

Explore: A Career as an MRI Technician
Explore career options in the fields of electricity and magnetism.
Duration: 0 hrs 30 mins

Quiz: Magnetism
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 4: IT'S ELECTRIC! WRAP-UP

Review: It's Electric!
Prepare for the unit test by reviewing key concepts and skills.
Duration: 0 hrs 50 mins

Practice: Electricity and Magnetism
Complete a set of practice problems on electricity and magnetism and submit the assignment to your teacher.
Duration: 1 hr Scoring: 50 points

Discuss: What Questions Do You Have?
Discuss ideas about electricity and magnetism that are still unclear. Help answer your classmates' questions.
Duration: 0 hrs 30 mins Scoring: 20 points

Test (CS): It's Electric!
Take a computer-scored test to assess what you have learned in this unit.
Duration: 1 hr Scoring: 50 points

Test (TS): It's Electric!
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 1 hr Scoring: 50 points

LESSON 5: DIAGNOSTIC

Diagnostic: It's Electric!
Take a diagnostic unit test that will generate a study plan based on your responses.
Duration: 1 hr Scoring: 25 points

UNIT 7: PHYSICAL SCIENCE SEMESTER 1 REVIEW AND EXAM

LESSON 1: PHYSICAL SCIENCE SEMESTER 1

Discuss: Skills and Concepts in Physical Science
Discuss concepts and skills from this semester that you found challenging or interesting.
Duration: 0 hrs 30 mins Scoring: 20 points

Review: Physical Science Semester 1

Prepare for the semester exam by reviewing key concepts covered in Physical Science Semester 1.

Duration: 1 hr

Exam: Physical Science Semester 1

Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Physical Science Semester 1.

Duration: 1 hr Scoring: 90 points

Final Exam: Physical Science Semester 1

Take a teacher-scored exam to demonstrate your mastery of concepts and skills covered in Physical Science Semester 1.

Duration: 1 hr Scoring: 90 points

UNIT 8: IT'S ELEMENTARY

LESSON 1: STRUCTURE AND COMPONENTS OF THE ATOM

Discuss: Looking Back Looking Ahead

Discuss experiences you have had in science and what you are looking forward to this semester.

Duration: 0 hrs 30 mins Scoring: 20 points

Study: It's Elementary

Probing the periodic table; exploring states of matter

Duration: 1 hr 15 mins

Study: Atomic Properties

Describe atoms and the many models of describing atoms.

Duration: 1 hr 15 mins

Lab: Braving the Elements

Complete a lab on atomic structure.

Duration: 1 hr 30 mins Scoring: 40 points

Explore: Unlocking the Atom

Complete a Web-based exploration into the world of atoms.

Duration: 0 hrs 50 mins Scoring: 25 points

Quiz: Structure and Components of the Atom

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 2: THE PERIODIC TABLE

Study: Families

Understanding rows and columns on the Periodic Table

Duration: 1 hr 15 mins

Discuss: Periodic Updates

Discuss the periodic table.

Duration: 0 hrs 30 mins Scoring: 20 points

Explore: The Elements

Complete a Web-based exploration into the world of the periodic table.

Duration: 0 hrs 50 mins Scoring: 25 points

Lab: The Periodic Table

Complete a lab on the periodic table.

Duration: 1 hr 30 mins Scoring: 40 points

Explore: A Career in Radiology

Explore career options in the field of atoms.

Duration: 0 hrs 30 mins

Quiz: The Periodic Table

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 3: TRENDS AND PATTERNS

Study: Trends

Sensing patterns in the Periodic Table.

Duration: 1 hr 15 mins

Lab: Elements from Outer Space

Complete a lab on trends and patterns.

Duration: 1 hr 30 mins Scoring: 40 points

Explore: Inside the Periodic Table

Complete a Web-based exploration into the world of trends and patterns.

Duration: 0 hrs 50 mins Scoring: 25 points

Discuss: A House of Cards

Discuss the ordering of the periodic table.

Duration: 0 hrs 30 mins Scoring: 20 points

Quiz: Trends and Patterns

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 4: IT'S ELEMENTARY WRAP-UP

Review: Atomic Structure and the Periodic Table

Prepare for the unit test by reviewing key concepts and skills.

Duration: 0 hrs 50 mins

Practice: Atomic Knowledge

Complete a set of practice problems on elements and submit the assignment to your teacher.

Duration: 0 hrs 50 mins Scoring: 50 points

Discuss: What Questions Do You Have?

Discuss ideas about atomic structure that are still unclear. Help answer your classmates' questions.

Duration: 0 hrs 30 mins Scoring: 20 points

Test (CS): It's Elementary

Take a computer-scored test to assess what you have learned in this unit.

Duration: 1 hr Scoring: 50 points

Test (TS): It's Elementary

Take a teacher-scored test to assess what you have learned in this unit.

Duration: 1 hr Scoring: 50 points

LESSON 5: DIAGNOSTIC

Diagnostic: It's Elementary

Take a diagnostic unit test that will generate a study plan based on your responses.

Duration: 1 hr Scoring: 25 points

UNIT 9: BOND. MOLECULAR BOND.

LESSON 1: BONDING

Study: The Bond Family Tree

Investigating ionic bonding, covalent bonding, and electronegativity.

Duration: 1 hr 15 mins

Discuss: Bond and Determined
Discuss bonding.
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: Big Fish Small Bond
Complete a lab on bonding.
Duration: 1 hr 30 mins Scoring: 40 points

Explore: Links to Bonds
Complete a Web-based exploration into the world of molecular bonds.
Duration: 0 hrs 50 mins Scoring: 25 points

Quiz: Bonding
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 2: SHAPES OF MOLECULES

Study: Hydrogen Bonding
Exploring exothermic and endothermic reactions.
Duration: 1 hr 15 mins

Discuss: Common Bonds
Discuss water bonds.
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: Edible Molecules
Complete a lab on shapes of molecules.
Duration: 1 hr 30 mins Scoring: 40 points

Quiz: Shapes of Molecules
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 3: COMPOUNDS

Study: Covalent Compounds
Grappling with the Naming of Compounds.
Duration: 1 hr 15 mins

Discuss: Compound Names
Discuss compounds.
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: How Do You Color Your Eggs?
Complete a lab on compounds.
Duration: 1 hr 30 mins Scoring: 40 points

Explore: The Melting Pot
Complete a Web-based exploration into the world of compounds.
Duration: 0 hrs 50 mins Scoring: 25 points

Explore: A Career in Materials Science and Engineering
Explore career options in the field of molecular bonds.
Duration: 0 hrs 30 mins

Quiz: Compounds
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 4: BOND. MOLECULAR BOND. WRAP-UP

Review: Bond. Molecular Bond.
Prepare for the unit test by reviewing key concepts and skills.
Duration: 0 hrs 50 mins

Practice: Bonding
Complete a set of practice problems on bonding and compounds and submit the assignment to your teacher.
Duration: 1 hr Scoring: 50 points

Discuss: What Questions Do You Have?
Discuss ideas about bonding that are still unclear. Help answer your classmates' questions.
Duration: 0 hrs 30 mins Scoring: 20 points

Test (CS): Bond. Molecular Bond.
Take a computer-scored test to assess what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Bond. Molecular Bond.
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

LESSON 5: DIAGNOSTIC

Diagnostic: Bond. Molecular Bond: Wrap-Up
Take a diagnostic unit test that will generate a study plan based on your responses.
Duration: 0 hrs 40 mins Scoring: 25 points

UNIT 10: CHEMICAL REACTIONS

LESSON 1: CHEMICAL EQUATIONS AND CONSERVATION LAWS

Study: Balancing Equations
Duration: 1 hr 15 mins

Discuss: Adding It All Up
Discuss chemical equations.
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: I'm Having a Reaction
Complete a lab on chemical reactions.
Duration: 1 hr 30 mins Scoring: 40 points

Quiz: Chemical Equations and Conservation Laws
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 2: REACTION TYPES

Study: Combustion Precipitates and Solutions — Oh My!
Duration: 1 hr 15 mins

Discuss: Discussing Chemical Reactions
Discuss reaction types.
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: React to This!
Complete a lab on reaction types.
Duration: 1 hr 30 mins Scoring: 40 points

Explore: Chemistry for Your Mouth
Complete a Web-based exploration into the world of chemical reactions.
Duration: 0 hrs 50 mins Scoring: 25 points

Quiz: Reaction Types
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 3: ACIDS AND BASES

Study: Reactions
Responding to reactions.
Duration: 1 hr 15 mins

Journal: Basic Hygiene
Compose a journal entry in response to a question on acids and bases and submit it to your teacher.
Duration: 0 hrs 30 mins Scoring: 20 points

Explore: Acid Rain
Complete a Web-based exploration into the world of acids and bases.
Duration: 0 hrs 50 mins Scoring: 25 points

Lab: Basic Acids
Complete a lab on acids and bases.
Duration: 1 hr 30 mins Scoring: 40 points

Explore: A Career as an Environmental Chemist
Explore career options in the field of chemical reactions.
Duration: 0 hrs 30 mins

Quiz: Acids and Bases
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 4: CHEMICAL REACTIONS WRAP-UP

Review: Chemical Reactions
Prepare for the unit test by reviewing key concepts and skills.
Duration: 0 hrs 50 mins

Practice: Chemical Reactions
Complete a set of practice problems on chemical reactions and submit the assignment to your teacher.
Duration: 0 hrs 50 mins Scoring: 50 points

Discuss: What Questions Do You Have?
Discuss ideas about chemical reactions that are still unclear. Help answer your classmates' questions.
Duration: 0 hrs 30 mins Scoring: 20 points

Test (CS): Chemical Reactions
Take a computer-scored test to assess what you have learned in this unit.
Duration: 1 hr Scoring: 50 points

Test (TS): Chemical Reactions
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 1 hr Scoring: 50 points

LESSON 5: DIAGNOSTIC

Diagnostic: Chemical Reactions Wrap-Up
Take a diagnostic unit test that will generate a study plan based on your responses.
Duration: 0 hrs 30 mins Scoring: 25 points

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

LESSON 1: HEAT

Study: Phase Changes

Duration: 1 hr 15 mins

Lab: Can You Feel the Heat?
Complete a lab on heat.
Duration: 1 hr 30 mins Scoring: 40 points

Journal: Temperature Scales
Compose a journal entry in response to a question on heat and submit it to your teacher.
Duration: 0 hrs 30 mins Scoring: 20 points

Explore: Feeling Hot Hot Hot
Complete a Web-based exploration into the world of heat.
Duration: 0 hrs 50 mins Scoring: 25 points

Quiz: Heat
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 2: THE GAS LAWS

Study: The Pieces of the Puzzle
Duration: 1 hr

Lab: Hit the Gas
Complete a lab on gas laws.
Duration: 1 hr 30 mins Scoring: 40 points

Discuss: Moonwalking
Discuss ideal gases.
Duration: 0 hrs 30 mins Scoring: 20 points

Explore: Under Pressure
Complete a Web-based exploration into the world of gases.
Duration: 0 hrs 50 mins Scoring: 25 points

Explore: A Career as a Scuba Diving Instructor
Explore career options in the field of gases.
Duration: 0 hrs 30 mins

Quiz: The Gas Laws
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 3: THERMODYNAMICS

Study: Entropy
Introduction to Entropy.
Duration: 1 hr

Discuss: From Order into Chaos
Discuss entropy.
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: Homemade Ice Cream
Complete a lab on thermodynamics at home.
Duration: 1 hr 30 mins Scoring: 40 points

Quiz: Thermodynamics
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 4: JUMPIN' JACK FLASH &MDASH; IT'S A GAS WRAP-UP

Review: Jumpin' Jack Flash — It's a Gas
Prepare for the unit test by reviewing key concepts and skills.
Duration: 0 hrs 50 mins

Practice: Gases and Thermodynamics
Complete a set of practice problems on gases and thermodynamics and submit the assignment to your teacher.
Duration: 1 hr Scoring: 50 points

Discuss: What Questions Do You Have?
Discuss ideas about gas laws and thermodynamics that are still unclear. Help answer your classmates' questions.
Duration: 0 hrs 30 mins Scoring: 20 points

Test (CS): Jumpin' Jack Flash — It's a Gas
Take a computer-scored test to assess what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Jumpin' Jack Flash — It's a Gas
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

LESSON 5: DIAGNOSTIC

Diagnostic: Jumpin' Jack Flash — It's a Gas
Take a diagnostic unit test that will generate a study plan based on your responses.
Duration: 1 hr Scoring: 25 points

UNIT 12: NUCLEAR ENERGY IS DA BOMB

LESSON 1: RADIOACTIVITY

Study: Decay Processes
Digging into the Decay Process. Radioactivity.
Duration: 1 hr 15 mins

Discuss: Bone Scans
Discuss radioactivity.
Duration: 0 hrs 30 mins Scoring: 20 points

Explore: Radium Girls
Complete a Web-based exploration into the world of radioactivity.
Duration: 0 hrs 50 mins Scoring: 25 points

Lab: Nuclear Decay Chain
Complete a lab on radioactivity.
Duration: 1 hr 30 mins Scoring: 40 points

Quiz: Radioactivity
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 2: NUCLEAR REACTIONS

Study: Nuclear Transmutations
Duration: 1 hr

Discuss: Conserving Your World
Discuss nuclear reactions.
Duration: 0 hrs 30 mins Scoring: 20 points

Lab: Radioactive (Tooth) Decay
Complete a lab on nuclear reactions.
Duration: 1 hr 30 mins Scoring: 40 points

Explore: Albert Einstein and His Famous Equation
Complete a Web-based exploration into the world of nuclear reactions.
Duration: 0 hrs 50 mins Scoring: 25 points

Quiz: Nuclear Reactions
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 3: ENERGY OF THE FUTURE

Study: Where Do We Go from Here?
Duration: 1 hr

Journal: Not in My House?
Compose a journal entry in response to a question on future energy sources and submit it to your teacher.
Duration: 0 hrs 30 mins Scoring: 20 points

Explore: Alternative Energy Sources
Complete a Web-based exploration into the world of nuclear energy.
Duration: 0 hrs 50 mins Scoring: 25 points

Discuss: The Future of Nuclear Energy
Discuss future energy sources.
Duration: 0 hrs 30 mins Scoring: 20 points

Explore: A Career in Nuclear Energy
Explore career options in the field of nuclear energy.
Duration: 0 hrs 30 mins

Quiz: Nuclear Energy
Take a quiz to assess your understanding of the material.
Duration: 0 hrs 40 mins Scoring: 30 points

LESSON 4: NUCLEAR ENERGY IS DA BOMB WRAP-UP

Review: Nuclear Energy Is Da Bomb
Prepare for the unit test by reviewing key concepts and skills.
Duration: 0 hrs 50 mins

Practice: A Pound of This and a Pound of That
Complete a set of practice problems on nuclear energy and submit the assignment to your teacher.
Duration: 0 hrs 50 mins Scoring: 50 points

Discuss: Fission, Fusion, and Alternative Energy Sources
Discuss ideas about nuclear energy that are still unclear. Help answer your classmates' questions.
Duration: 0 hrs 30 mins Scoring: 20 points

Test (CS): Nuclear Energy Is Da Bomb
Take a computer-scored test to assess what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

Test (TS): Nuclear Energy Is Da Bomb
Take a teacher-scored test to assess what you have learned in this unit.
Duration: 0 hrs 40 mins Scoring: 50 points

LESSON 5: DIAGNOSTIC

Diagnostic: Nuclear Energy Is Da Bomb
Take a diagnostic unit test that will generate a study plan based on your responses.
Duration: 1 hr Scoring: 25 points

UNIT 13: PHYSICAL SCIENCE SEMESTER 2 REVIEW AND EXAM

LESSON 1: PHYSICAL SCIENCE SEMESTER 2

Discuss: Skills and Concepts in Physical Science

Discuss concepts and skills from this semester that you found challenging or interesting.

Duration: 0 hrs 30 mins Scoring: 20 points

Review: Physical Science Semester 2

Prepare for the semester exam by reviewing key concepts covered in Physical Science Semester 2.

Duration: 1 hr

Exam: Physical Science Semester 2

Take a computer-scored exam to demonstrate your mastery of concepts and skills covered in Physical Science Semester 2.

Duration: 0 hrs 50 mins Scoring: 90 points

Final Exam: Physical Science Semester 2

Take a teacher-scored exam to demonstrate your mastery of concepts and skills covered in Physical Science Semester 2.

Duration: 0 hrs 50 mins Scoring: 90 points