

Earth Science is a robust course that explores Earth's composition, structure, processes, and history; its atmosphere, freshwater, and oceans; and its environment in space. Students are encouraged to look at Earth science from both personal and worldly perspectives and to analyze the societal implications of the topics covered. Laboratory experiments introduce students to different lab techniques while building their skills in critical thinking, inquiry, and observation.

Course topics include an exploration of the major cycles that affect every aspect of life, including weather, climate, air movement, tectonics, volcanic eruptions, rocks, minerals, geologic history, Earth's environment, sustainability, and energy resources.

The content is based on the National Science Teachers Association (NSTA) standards and is aligned with state standards.

Length: Two semesters

UNIT 1: WHAT IS EARTH SCIENCE?

LESSON 1: THINKING LIKE A SCIENTIST

Study: The Layers of Earth Science

Learn about the fields that make up Earth science and about the scientists who work in them.

Duration: 1 hr

Study: The Scientific Method

Solve problems by applying the steps of the scientific method.

Duration: 1 hr

Practice: The Thirsty Earth

Analyze and design a hydrology experiment.

Duration: 1 hr Scoring: 50 points

Explore: Careers in Earth Science

Explore career opportunities in Earth science and choose your favorites.

Duration: 1 hr

Discuss: That Is My Specialty

Discuss what you have learned about careers in Earth science.

Duration: 0 hrs 30 mins Scoring: 25 points

Journal: What Is Your Problem?

Approach a compelling Earth science problem from the perspective of one of the Earth science careers.

Duration: 0 hrs 30 mins Scoring: 15 points

Quiz: Working in Science

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 2: DISCOVERING PLANET EARTH

Study: A Global View

Differentiate among models used to graphically represent Earth. Examine maps and learn about how they are arranged.

Duration: 1 hr

Lab: Determining Longitude and Latitude

Complete a lab to investigate how latitude and longitude are calculated and how they indicate a location on the globe.

Prentice Hall's *Earth Science Lab Manual* required.

Duration: 1 hr 30 mins Scoring: 50 points

Study: Maps and More

Learn how different maps are used and made.

Duration: 1 hr

Quiz: Do You Know Your Earth?

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Lab: Using a Topographic Map to Create a Landform

Complete a lab to discover how you can use a topographic map to create a landform. Prentice Hall's *Earth Science Lab Manual* required.

Duration: 1 hr 30 mins Scoring: 50 points

Journal: Your Home Town, Your Home Planet

Explore and write about the topography and geographic history of your area.

Duration: 0 hrs 30 mins Scoring: 15 points

LESSON 3: CONCEPTS IN EARTH SCIENCE

Study: Equilibrium and Convection

Discover why equilibrium and convection are important Earth science concepts. Learn how to recognize them in everyday life.

Duration: 1 hr

Practice: A Recipe for Convection

Explain how a convection cell works in a pot of soup.

Duration: 1 hr Scoring: 50 points

Study: Cycling through the Conservation of Matter and Energy

Discover why cycling and the conservation of matter and energy are important Earth science concepts. Learn how to recognize them in everyday life.

Duration: 1 hr

Practice: Earth Science Concepts

Answer questions to demonstrate what seesaws, soup, surfing, rocks, and cows have in common.

Duration: 1 hr Scoring: 50 points

Quiz: Big Earth, Big Concepts

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 4: WHAT IS EARTH SCIENCE? WRAP UP

Review: What Is Earth Science?

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

Duration: 2 hrs

Test (CS): What Is Earth Science?

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

Duration: 0 hrs 15 mins Scoring: 30 points

Test (TS): What Is Earth Science?

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

Duration: 0 hrs 45 mins Scoring: 70 points

LESSON 5: DIAGNOSTIC

Diagnostic: What Is Earth Science?

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

Duration: 0 hrs 45 mins Scoring: 30 points

UNIT 2: WHERE IS EARTH?

LESSON 1: THE UNIVERSE

Project: Moon Viewing

Note how the position of the moon changes over the course of a couple of weeks.

Duration: 0 hrs 15 mins Scoring: 5 points

Study: The Big Bang Theory

Discover the Big Bang theory and learn about what evidence is used to support it.

Duration: 1 hr

Journal: How Did It All Begin?

Write about how you think the universe came into being.

Duration: 0 hrs 30 mins Scoring: 15 points

Study: Galaxies

The Milky Way is only one of many galaxies. Learn about the different types of galaxies in the universe.

Duration: 0 hrs 30 mins

Study: Star Life Cycles

Live like a star. Explore the life cycle of stars. Learn about why the size of a star influences how it dies.

Duration: 1 hr

Quiz: Matter Formation

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Practice: Everything in the Universe

Predict what will happen to stars and answer questions about the life cycles of stars.

Duration: 1 hr Scoring: 50 points

LESSON 2: SOLAR SYSTEM FORMATION

Study: Planet Formation

Discover how gravity influences the universe.

Duration: 0 hrs 30 mins

Explore: Finding Other Planets

Learn about how scientists are trying to find other planets in our galaxy.

Duration: 0 hrs 30 mins

Study: Comets and Asteroid Belts

Learn about comets and asteroids and how they are formed.

Duration: 0 hrs 30 mins

Lab: Exploring Orbits

Complete a lab to follow the paths of planets. Prentice Hall's Earth Science Lab Manual required.

Duration: 1 hr 30 mins Scoring: 50 points

Quiz: How Did Planets Form?

Take a quiz to assess your understanding of the material.

LESSON 3: OUR NEIGHBORHOOD

Study: Here Comes the Sun

How hot is hot? Examine the structure of the sun and learn about its energy.

Duration: 0 hrs 30 mins

Study: The Inner, Rocky Planets

Analyze similarities and differences among Mercury, Venus, Mars, and Earth.

Duration: 1 hr

Quiz: The Solar System So Far

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Study: The Gas Giants and Pluto

Analyze similarities and differences among Jupiter, Saturn, Neptune, Uranus, and Pluto.

Duration: 1 hr

Quiz: The Rest of the Solar System

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Practice: Our Solar System

Create a chart and answer questions to help you remember the objects in the solar system.

Duration: 1 hr Scoring: 50 points

Journal: Choose a Planet

Create an article, real estate advertisement, or letter in order to share your thoughts about a planet you would like to visit.

Duration: 0 hrs 30 mins Scoring: 15 points

LESSON 4: PLANET EARTH

Study: The Moving Earth

Around and around we go. Discover how Earth's movements affect conditions on the planet.

Duration: 1 hr

Practice: Stopping the Revolution

Determine how well you understand Earth's movement in space.

Duration: 1 hr Scoring: 50 points

Study: The Living Planet

Discover why life is able to survive on Earth.

Duration: 0 hrs 30 mins

Study: The Moon

Discover how the moon came into being and how it influences the Earth.

Duration: 1 hr

Quiz: The Earth and Moon System

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Explore: The Search for Extraterrestrial Intelligence

Is there alien life? Explore this question with the scientists who are trying to find out.

Duration: 0 hrs 30 mins

Discuss: Are We Alone?

Discuss the possible existence of aliens and whether you think space travel and planet colonization might be possible in the future.

Duration: 0 hrs 30 mins Scoring: 25 points

Practice: Eclipses 101

Be the professor. During today's class, explain the different types of eclipses.

Duration: 1 hr Scoring: 50 points

Project: Moon Viewing Reflections

Complete your moon-viewing project and analyze the results.

Duration: 0 hrs 45 mins Scoring: 45 points

LESSON 5: WHERE IS EARTH? WRAP-UP**Review: Where Is Earth?**

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

Duration: 1 hr 30 mins

Test (CS): Where Is Earth?

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

Duration: 0 hrs 15 mins Scoring: 30 points

Test (TS): Where Is Earth?

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

Duration: 0 hrs 45 mins Scoring: 70 points

LESSON 6: DIAGNOSTIC**Diagnostic: Where Is Earth?**

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

Duration: 0 hrs 45 mins Scoring: 30 points

UNIT 3: EARTH'S WATER**LESSON 1: THE BLUE PLANET****Project: Oh Buoy!**

Analyze data from real-time drifter buoys to track El Niño and determine if and when it might affect your community.

Duration: 0 hrs 15 mins Scoring: 5 points

Study: Water, Water, Everywhere

Get your feet wet. Discover why water exists on Earth, the three states of water, and the processes of the water cycle.

Duration: 0 hrs 30 mins

Practice: Water World

Answer questions to test your understanding of the states and movement of water.

Duration: 1 hr Scoring: 50 points

Quiz: What Do You Know about Water?

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 2: GETTING FRESH**Study: Fresh Water**

Jump into lakes, swim down rivers, and prowl through wetlands as you explore freshwater on Earth.

Duration: 1 hr

Study: You're Grounded

Learn what groundwater is and how it influences systems above ground.

Duration: 0 hrs 30 mins

Quiz: Different Bodies of Water

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Explore: Acting for Clean Water

Research laws that protect our water ecosystems.

Duration: 1 hr

Discuss: Make a Big Splash

Discuss the necessity of clean water and what you can do to protect this valuable resource.

Duration: 0 hrs 30 mins Scoring: 25 points

Journal: Your Water Diet

Reflect on how much water you consume each day. Share your thoughts about preserving wetlands in your community.

Duration: 0 hrs 30 mins Scoring: 15 points

LESSON 3: THE OCEANS**Study: An Oceanographic Voyage**

Travel on a research vessel to learn how oceanographers study the ocean and its inhabitants.

Duration: 1 hr

Lab: How Does Temperature Affect Water Density?

Complete a lab to determine the effects of temperature on water density. Prentice Hall's *Earth Science Lab Manual* required.

Duration: 1 hr 30 mins Scoring: 50 points

Journal: Under Pressure

Write about the challenges we face while exploring — and perhaps even colonizing — the ocean.

Duration: 0 hrs 30 mins Scoring: 15 points

Study: The Ocean in Motion

Learn about waves, tides, and currents and how they influence the environment.

Duration: 1 hr

Study: Wild World Weather

Assess the effects of El Niño and La Niña on global weather patterns.

Duration: 0 hrs 30 mins

Practice: Current Events

Examine and analyze data to understand the effects of ocean currents. Answer questions about your understanding of El Niño.

Duration: 1 hr Scoring: 50 points

Quiz: Earth's Oceans

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Project: Oh Buoy! Reflections

Complete your Oh Buoy! project and analyze the results.

Duration: 0 hrs 45 mins Scoring: 45 points

LESSON 4: EARTH'S WATER WRAP-UP**Review: Earth's Water**

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

Duration: 1 hr 30 mins

Test (CS): Earth's Water

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

Duration: 0 hrs 15 mins Scoring: 30 points

Test (TS): Earth's Water

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

Duration: 0 hrs 45 mins Scoring: 70 points

LESSON 5: DIAGNOSTIC

Diagnostic: Earth's Water

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

Duration: 0 hrs 45 mins Scoring: 30 points

UNIT 4: EARTH'S ATMOSPHERE

LESSON 1: THE SKY'S THE LIMIT

Project: Measuring Ozone

Learn how scientists study ozone depletion and determine how much data is necessary to accurately describe trends.

Duration: 0 hrs 15 mins Scoring: 5 points

Study: Layers of the Atmosphere

Float through the atmosphere on layers upon layers of air as an amateur meteorologist.

Duration: 1 hr

Quiz: Know Your Layers

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Explore: Oh No Ozone

Use the scientific method to analyze the evidence that supports consequences of ozone depletion.

Duration: 0 hrs 30 mins

Discuss: What about This Ozone?

Discuss strategies for reducing our impact on the ozone layer.

Duration: 0 hrs 30 mins Scoring: 25 points

Practice: Up, Up, and Away

Create a diagram to help you remember the layers of the atmosphere.

Duration: 1 hr Scoring: 50 points

Lab: Determining How Temperature Changes with Altitude

Complete a lab to understand how the temperature of Earth's atmosphere changes with altitude. Prentice Hall's *Earth Science Lab Manual* required.

Duration: 1 hr 30 mins Scoring: 50 points

LESSON 2: CYCLES IN THE ATMOSPHERE

Study: Carbon and Nitrogen

What goes around comes around — especially when it comes to carbon and nitrogen.

Duration: 1 hr

Study: Taking the Heat

Compare conduction, convection, and radiation. Learn how these methods of heat transfer drive atmospheric processes.

Duration: 1 hr

Practice: In Sink

Address some often-overlooked cycles in Earth science.

Duration: 1 hr Scoring: 50 points

Lab: Investigating Factors that Control Temperature

Complete a lab to understand the causes of temperature variations. Prentice Hall's *Earth Science Lab Manual* required.

Duration: 1 hr 30 mins Scoring: 50 points

Quiz: Air Head

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 3: THE WINDY PLANET

Study: Why the Wind Blows

Discover how Earth's rotation and revolution, atmospheric gases, and differences in land, ice, and water conspire to create wind.

Duration: 1 hr

Lab: Analyzing Pressure Systems

Complete a lab to determine how wind patterns relate to pressure systems. Prentice Hall's *Earth Science Lab Manual* required.

Duration: 1 hr 30 mins Scoring: 50 points

Study: Which Way the Wind Blows

Learn about global patterns of air circulation and find out what drives and gets driven by them.

Duration: 1 hr

Quiz: Do You Know about Currents?

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Project: Reflections: Measuring Ozone

Complete your ozone-measuring project and analyze the results.

Duration: 0 hrs 45 mins Scoring: 45 points

LESSON 4: EARTH'S ATMOSPHERE WRAP-UP

Review: Earth's Atmosphere

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

Duration: 1 hr 30 mins

Test (CS): Earth's Atmosphere

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

Duration: 0 hrs 15 mins Scoring: 30 points

Test (TS): Earth's Atmosphere

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

Duration: 0 hrs 45 mins Scoring: 70 points

LESSON 5: DIAGNOSTIC

Diagnostic: Earth's Atmosphere

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

Duration: 0 hrs 45 mins Scoring: 30 points

UNIT 5: WEATHER AND CLIMATE

LESSON 1: HOW'S THE WEATHER?

Project: Reading Clouds

Observe clouds in your area for a few weeks. Link cloud types to weather conditions.

Duration: 0 hrs 15 mins Scoring: 5 points

Study: Weather or Not

Identify the basic causes of most of the types of weather that we see.

Duration: 1 hr

Study: In the Clouds

Learn how clouds form and what different types of clouds mean for the forecast.

Duration: 0 hrs 45 mins

Practice: Cloudy Thinking

Show what you know about the kinds of weather that clouds forecast.

Duration: 1 hr Scoring: 50 points

Journal: On Cloud Nine

Track cloud types in your area to help predict weather conditions.

Duration: 0 hrs 30 mins Scoring: 15 points

Study: Going to Extremes

Explore the causes and effects of severe weather, including tornadoes, hurricanes, blizzards, and more.

Duration: 1 hr

Lab: Analyzing Severe Weather

Complete a lab to determine where tornadoes are most likely to occur. Prentice Hall's *Earth Science Lab Manual* required.

Duration: 1 hr 30 mins Scoring: 50 points

Quiz: Get in Front

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 2: IN THE FORECAST**Study: Instruments and Measurements**

Measure, read, gauge, and calculate. Learn about tools that are used to explore weather.

Duration: 1 hr

Lab: Measuring Humidity

Perform a lab to determine humidity. Prentice Hall's *Earth Science Lab Manual* required.

Duration: 1 hr 30 mins Scoring: 50 points

Study: Weather Maps

Examine weather maps from the inside out.

Duration: 1 hr

Practice: Weather Wizard

Analyze weather maps and create your own weather report.

Duration: 1 hr Scoring: 50 points

Study: Making and Faking the Forecast

Compare models used to help predict weather.

Duration: 1 hr

Discuss: Rain Dance

How reliable is the forecast? Can you and your classmates do a better job?

Duration: 0 hrs 30 mins Scoring: 25 points

Quiz: Assess the Forecast

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 3: CLIMATE

Study: Climate Time

Examine the factors that influence climate.

Duration: 1 hr

Explore: Hot Town

Is it getting hot in here? Find out what urban heat islands are and what evidence is used to support the theory that they exist.

Duration: 0 hrs 30 mins

Discuss: Talk City

Discuss urban heat islands.

Duration: 0 hrs 30 mins Scoring: 25 points

Quiz: Climate Climb

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Project: Reflections: Reading Clouds

Complete your cloud-reading project and analyze the results.

Duration: 0 hrs 45 mins Scoring: 45 points

LESSON 4: WEATHER AND CLIMATE WRAP-UP

Review: Weather and Climate

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

Duration: 1 hr 30 mins

Test (CS): Weather and Climate

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

Duration: 0 hrs 15 mins Scoring: 30 points

Test (TS): Weather and Climate

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

Duration: 0 hrs 45 mins Scoring: 70 points

LESSON 5: DIAGNOSTIC

Diagnostic: Weather and Climate

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

Duration: 0 hrs 45 mins Scoring: 30 points

UNIT 6: SEMESTER REVIEW AND EXAM

LESSON 1: EARTH SCIENCE SEMESTER 1

Review: Earth Science Semester 1

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

Duration: 3 hrs 30 mins

Exam: Earth Science Semester 1

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

Duration: 0 hrs 40 mins Scoring: 80 points

Final Exam: Earth Science Semester 1

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

Duration: 1 hr 20 mins Scoring: 120 points

UNIT 7: LAYING THE GROUNDWORK

LESSON 1: EARTH'S LAYERS

Project: Seismic Wise

Track seismic events around the globe for two weeks to draw your own conclusions about plate tectonics.

Duration: 0 hrs 20 mins Scoring: 5 points

Study: The Door to the Core

Get to the center of everything. (Just because it is out of sight doesn't mean it is out of mind.)

Duration: 1 hr

Study: The Mantle and Crust

Envision the layers of Earth's mantle and discover the composition and characteristics of the Earth's crust.

Duration: 0 hrs 45 mins

Practice: Digging Deep

Diagram Earth's layers and answer questions about their composition.

Duration: 1 hr Scoring: 50 points

Explore: Discovering Earth through Space

Explore how scientists theorize about the composition of the Earth's interior.

Duration: 1 hr

Discuss: Journey to the Center of Earth

Discuss whether you think existing data supports current theories about Earth's interior. What additional research would be beneficial?

Duration: 0 hrs 30 mins Scoring: 25 points

Quiz: Earth's Layers

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 2: EARTH'S MAGNETISM

Study: A Magnetic Personality

Why does a magnet stick to the fridge? Learn about magnetism and the magnetic field that surrounds the Earth.

Duration: 1 hr

Practice: Taming the Compass

Practice what you have learned about Earth's magnetic poles by taming the wild compass.

Duration: 1 hr Scoring: 50 points

Quiz: Magnetic Fields

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Explore: The Flip Side

Would a pole reversal spell disaster for animals on Earth? Make a hypothesis, study the evidence, and decide for yourself.

Duration: 1 hr

Journal: Pole Position

In a genre of your choosing, compose a description of what would happen if the poles were to reverse.

Duration: 0 hrs 30 mins Scoring: 15 points

Practice: Magnet Dragnet

Practice using evidence of Earth's magnetic field, including striped sea floors, auroras, wandering poles, and iron-rich meteorites.

Duration: 1 hr Scoring: 50 points

LESSON 3: IT IS DEEPLY MOVING

Study: Plate Tectonics

Consider how plate tectonics literally rock the world.

Duration: 1 hr

Journal: What's on Your Plate?

Explore the plate that you live on and determine how you are moving around the world.

Duration: 0 hrs 30 mins Scoring: 15 points

Practice: Chronic Tectonics

Check to see if you understand the theory of plate tectonics.

Duration: 1 hr Scoring: 50 points

Study: Whose Fault Is It, Anyway?

Examine fault lines and discover why they form.

Duration: 0 hrs 45 mins

Quiz: Fault Assault

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Project: Reflections: Seismic Wise

Complete a seismic-wise project by tracking seismic events around the globe for two weeks and drawing conclusions about plate tectonics.

Duration: n/a Scoring: 45 points

LESSON 4: LAYING THE GROUNDWORK WRAP-UP

Review: Laying the Groundwork

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

Duration: 2 hrs

Test (CS): Laying the Groundwork

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

Duration: 0 hrs 15 mins Scoring: 30 points

Test (TS): Laying the Groundwork

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

Duration: 0 hrs 45 mins Scoring: 70 points

LESSON 5: DIAGNOSTIC

Diagnostic: Laying the Groundwork

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

Duration: 0 hrs 45 mins Scoring: 30 points

UNIT 8: THE MOVERS AND SHAKERS

LESSON 1: MOUNTAINS TO TRENCHES

Project: It's Groundbreaking

Track the magnitude of earthquakes in Southern California for 10 days to see if you can predict "the big one."

Duration: 0 hrs 15 mins Scoring: 5 points

Study: Ocean Commotion

Examine features of ocean ridges and trenches to learn how Earth's crust gets recycled.

Duration: 1 hr

Study: Ain't No Mountain High Enough

Learn how mountains grow and change around the globe.

Duration: 1 hr

Quiz: Feature Creep

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Lab: Modeling a Plate Boundary

Complete a lab using earthquake data to model a convergent boundary between two plates. Prentice Hall's *Earth Science Lab Manual* required.

Duration: 1 hr 30 mins Scoring: 50 points

Journal: Extreme Scientists

Write about an "extreme" Earth scientist of your choosing.

Duration: 0 hrs 45 mins Scoring: 15 points

LESSON 2: CREAKS AND HAZARDS

Study: In a Volcanic Panic

Feel the heat, taste the ashes. Get up close and personal with some sleeping and waking volcanoes.

Duration: 1 hr

Explore: Hotspots on the Hot Plate

Explore the Earth and discover what areas are most unstable.

Duration: 0 hrs 30 mins

Discuss: Looking into Volcanoes

Discuss the dangers and benefits of living near volcanoes.

Duration: 0 hrs 30 mins Scoring: 25 points

Practice: The Yellowstone Supervolcano

Practice your volcano smarts with a case-study look at Yellowstone National Park's supervolcano.

Duration: 1 hr Scoring: 50 points

Study: Brake for Quakes

Try to stay on your feet while you learn what happens when tectonic plates shift suddenly.

Duration: 1 hr

Lab: Locating an Earthquake

Analyze data to determine the location of the epicenter and the magnitude of several earthquakes.

Duration: 1 hr 30 mins Scoring: 50 points

Quiz: Cracking Up

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 3: SCULPTING EARTH

Study: Down and Dirty

Discover what happens when wind, water, and gravity do their dirty work.

Duration: 0 hrs 45 mins

Study: Karst Topography

Consider how chemical weathering can cause the formation of caves and caverns.

Duration: 1 hr

Study: At a Glacial Pace

When mighty glaciers come your way, you'd better run! Examine how glaciers shape the Earth and discover what they leave behind.

Duration: 1 hr

Lab: Continental Glaciers Change Earth's Topography

Complete a lab to understand how continental glaciers change Earth's topography. Prentice Hall's *Earth Science Lab Manual* required.

Duration: 1 hr 30 mins Scoring: 50 points

Practice: Ice Is Nice

Practice your glacier and karst topography smarts as you learn more about Mammoth Caves and Glacier National Park.

Duration: 1 hr Scoring: 50 points

Quiz: Wasting Away

Test your understanding of weathering and erosion, karst topography, and glaciers.

Duration: 0 hrs 30 mins Scoring: 50 points

Project: Reflections: It's Groundbreaking

Draw conclusions using the data you collected in the It's Groundbreaking Project.

Duration: 0 hrs 45 mins Scoring: 45 points

LESSON 4: THE MOVERS AND SHAKERS WRAP-UP

Review: The Movers and Shakers

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

Duration: 1 hr 30 mins

Test (CS): The Movers and Shakers

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

Duration: 0 hrs 15 mins Scoring: 30 points

Test (TS): The Movers and Shakers

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

Duration: 0 hrs 45 mins Scoring: 70 points

LESSON 5: DIAGNOSTIC

Diagnostic: The Movers and Shakers

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

Duration: 0 hrs 45 mins Scoring: 30 points

UNIT 9: MINERALS AND ROCKS

LESSON 1: MINERALS

Project: You Rock

Delve into your daily life and diet to determine what minerals you use directly and indirectly. Draw conclusions about mineral resources.

Duration: 0 hrs 15 mins Scoring: 5 points

Study: Mining for Minerals

Explore the structure and general characteristics of minerals.

Duration: 1 hr

Study: Identifying Minerals

Explore the unique chemical and physical properties of minerals. Discover tests that geologists use to identify minerals.

Duration: 0 hrs 30 mins

Lab: Mineral Identification

Complete a lab to learn how to identify common minerals using simple tests and tools. Prentice Hall's *Earth Science Lab Manual* required. Alternate virtual lab available.

Duration: 1 hr 30 mins Scoring: 50 points

Quiz: Mineral Logic

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 2: IGNEOUS ROCKS

Study: Cool, Magma

Discover how igneous rocks form.

Duration: 1 hr

Study: Fire Up Your Skill

Get fired up about classifying igneous rocks.

Duration: 0 hrs 30 mins

Practice: Classify This: Igneous

Don't get burned as you practice classifying and describing igneous rocks.

Duration: 1 hr Scoring: 50 points

Quiz: Igneous Success

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 3: SEDIMENTARY ROCKS

Study: From Particles to Rock

Describe the formation of clastic, biogenic, and chemical sedimentary rocks and discover some fossils.

Duration: 1 hr

Study: An Assortment of Sediments

Learn how to classify types of sedimentary rocks.

Duration: 0 hrs 30 mins

Practice: Classify This: Sedimentary

Practice classifying and describing sedimentary rocks.

Duration: 1 hr Scoring: 50 points

Quiz: Sedimentary? It's Elementary!

Take a quiz to assess your understanding of the material.

Duration: 1 hr Scoring: 50 points

LESSON 4: METAMORPHIC ROCKS

Study: Ch-Ch-Changes

Consider how heat and pressure can change the structure of a rock.

Duration: 1 hr

Study: Arranging Changes

Learn how to classify metamorphic rocks.

Duration: 0 hrs 30 mins

Practice: Classify This: Metamorphic

Practice classifying and describing metamorphic rocks.

Duration: 1 hr Scoring: 50 points

Quiz: Metamorphism

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 5: THE ROCK CYCLE**Study: Rocky Road**

Learn about the rock cycle and the forces that drive it.

Duration: 0 hrs 30 mins

Discuss: Rock the Rock Cycle

Discuss the rock cycle.

Duration: 0 hrs 30 mins Scoring: 25 points

Practice: Rock Steady

Practice what you have learned about the rock cycle.

Duration: 1 hr Scoring: 50 points

Lab: Classifying Rocks Using a Key

Complete a lab to classify rocks using a key. Prentice Hall's *Earth Science Lab Manual* required. Alternate virtual lab available.

Duration: 1 hr 30 mins Scoring: 50 points

Quiz: Rock It

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Project: Reflections: You Rock

In the "You Rock" project, research a mineral and draw conclusions about mineral resources.

Duration: 0 hrs 45 mins Scoring: 45 points

LESSON 6: MINERALS AND ROCKS WRAP-UP**Review: Minerals and Rocks**

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

Duration: 1 hr 30 mins

Test (CS): Minerals and Rocks

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

Duration: 0 hrs 15 mins Scoring: 30 points

Test (TS): Minerals and Rocks

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

Duration: 0 hrs 45 mins Scoring: 70 points

LESSON 7: DIAGNOSTIC**Diagnostic: Minerals and Rocks**

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

Duration: 0 hrs 45 mins Scoring: 30 points

UNIT 10: ALL THE TIME IN THE WORLD

LESSON 1: MEASURING TIME

Project: A Picture Is Worth a Billion Years

Design your own version of the geologic time scale to understand why a picture is worth a billion years.

Duration: 0 hrs 15 mins Scoring: 5 points

Study: Just in Time

Learn how scientists organize geologic time.

Duration: 0 hrs 45 mins

Study: Telling Time

Discover techniques that paleontologists use to date rocks and fossils.

Duration: 1 hr

Lab: Determining Geologic Ages

Complete a lab to interpret the fossil record. Prentice Hall's *Earth Science Lab Manual* required.

Duration: 1 hr 30 mins Scoring: 50 points

Study: The Docile Fossil

Learn how to read the fossil record. Discover when it is and is not possible to read between the lines.

Duration: 1 hr

Quiz: Keeping Time

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 2: THE PAST IS VAST

Study: Older Than Dirt

Catch a glimpse of what Earth looked like right after it formed and for the next few billion years or so the Precambrian era.

Duration: 1 hr

Study: Living History

Learn how the Paleozoic and Mesozoic eras supported an explosion of life and continental musical chairs.

Duration: 1 hr

Quiz: Gone But Not Forgotten

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 3: NO TIME LIKE THE PRESENT

Explore: Linking Extinction

What happened to the dinosaurs? Learn how scientists investigate the causes of mass extinctions.

Duration: 0 hrs 45 mins

Discuss: On the Brink

Discuss extinction from an Earth science point of view with your classmates.

Duration: 0 hrs 30 mins Scoring: 25 points

Study: Now Means Now

Trace the dramatic, climactic changes of the Cenozoic era and discover how scientists study early humans.

Duration: 1 hr

Quiz: Quick! Cenozoic!

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Project: Reflections: A Picture Is Worth a Billion Years

Draw conclusions about the geologic time scale after designing your own scale.

Duration: 0 hrs 45 mins Scoring: 45 points

LESSON 4: ALL THE TIME IN THE WORLD WRAP-UP

Review: All the Time in the World

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

Duration: 1 hr 30 mins

Test (CS): All the Time in the World

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

Duration: 0 hrs 15 mins Scoring: 30 points

Test (TS): All the Time in the World

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

Duration: 0 hrs 45 mins Scoring: 70 points

LESSON 5: DIAGNOSTIC

Diagnostic: All the Time in the World

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

Duration: 0 hrs 45 mins Scoring: 30 points

UNIT 11: EARTH'S RESOURCES

LESSON 1: WHAT FUELS YOU?

Project: Planning for the Future

Learn what is involved in creating a sustainable future by becoming a city planner.

Duration: 0 hrs 15 mins Scoring: 5 points

Study: Energy Expertise

Examine different methods of energy production, from oil and gas to wind and water.

Duration: 1 hr

Quiz: Energy Bill

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Journal: Bigfoot

Capture data about your own energy use and reflect on the size of your ecological footprint.

Duration: 1 hr Scoring: 15 points

Practice: Have an Energy Think

Practice what you know about energy consumption and production.

Duration: 1 hr Scoring: 50 points

LESSON 2: USE IT AND LOSE IT

Study: Take It to the Limit

Find out how population growth affects Earth's ecosystems and how sustainability is the crucial for the future.

Duration: 0 hrs 45 mins

Quiz: Sustained!

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

Lab: Finding the Product that Best Conserves Resources

Complete a lab to see which packaging material conserves resources the best. Prentice Hall's *Earth Science Lab Manual* required.

Duration: 1 hr 30 mins Scoring: 50 points

Explore: We All Have Our Limits

Weigh evidence and draw conclusions about different sustainable-design strategies.

Duration: 0 hrs 45 mins

Discuss: The Buzz

Discuss the costs and benefits of alternative energy sources with your classmates.

Duration: 0 hrs 30 mins Scoring: 25 points

LESSON 3: EARTH MATTERS**Lab: Human Impact on Climate and Weather**

Complete a lab to understand how we know that human activity is changing Earth's climates. Prentice Hall's *Earth Science Lab Manual* required.

Duration: 1 hr 30 mins Scoring: 50 points

Study: Earth Matters

Explore case studies to see why Earth matters. Or just pick up a newspaper — chances are there's an Earth science issue being discussed in your community right now.

Duration: 1 hr

Practice: Environmental Journalism

Write an article about an environmental issue as if you were writing for your local newspaper.

Duration: 1 hr Scoring: 50 points

Project: Reflections: Planning for the Future

Plan your own city and draw conclusions about city planning.

Duration: 0 hrs 45 mins Scoring: 45 points

Quiz: Testing the Environment

Take a quiz to assess your understanding of the material.

Duration: 0 hrs 30 mins Scoring: 50 points

LESSON 4: EARTH'S RESOURCES WRAP-UP**Review: Earth's Resources**

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

Duration: 1 hr 30 mins

Test (CS): Earth's Resources

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

Duration: 0 hrs 15 mins Scoring: 30 points

Test (TS): Earth's Resources

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

Duration: 0 hrs 45 mins Scoring: 70 points

LESSON 5: DIAGNOSTIC**Diagnostic: Earth's Resources**

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

Duration: 0 hrs 45 mins Scoring: 30 points

UNIT 12: SEMESTER REVIEW AND EXAM

LESSON 1: EARTH SCIENCE SEMESTER 2

Review: Earth Science Semester 2

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

Duration: 4 hrs

Exam: Earth Science Semester 2

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

Duration: 0 hrs 40 mins Scoring: 80 points

Final Exam: Earth Science Semester 2

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

Duration: 1 hr 20 mins Scoring: 120 points