

Odysseyware®

SUPPLY LIST

Earth Science



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UNIT 1: ORIGIN OF THE EARTH

Assignment	Summary	Video Demo	Supplies
Project: Research a Career	Choose one of the scientific career fields listed in this project and write a report that will give you a closer look at what this type of scientist does in his/her work.	No	<ul style="list-style-type: none"> research resources
Experiment: Measuring in Science	<p>Use mathematical procedures and International System (SI) units to investigate density.</p> <p>Use technology to research SI units.</p> <p>Make scientific hypotheses in an experiment setting.</p>	No	<ul style="list-style-type: none"> 4 (8oz) clear glass containers: beaker or clear cups 1 tablespoon measuring spoon syringe sugar 3 food colorings very warm water research resources
Project: Doppler Effect	In this project you will learn how to apply the Doppler effect to determine the motion of an object.	No	N/A
Project: Newton's Law	In this project you will test some of Newton's laws of gravity and motion.	No	N/A
Project: Earth Comparisons	For this project, you'll make a chart of some of the basic characteristics of each planet so that you can compare and contrast these characteristics to those of Earth.	No	<ul style="list-style-type: none"> research resources
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 2: HISTORY OF THE EARTH

Assignment	Summary	Video Demo	Supplies
Project: Relative Dating	In this project you will apply the laws of stratigraphy to determine the relative ages of rock strata.	No	N/A
Project: The Clock of Eons	In this project you are going to design a clock to represent the different geologic eons throughout Earth's history.	No	<ul style="list-style-type: none"> Computer-based graphics program <p>or</p> <ul style="list-style-type: none"> Posterboard Colored pencils or markers
Project: Before, During, and After a Mass Extinction	In this project you will analyze the earth's structure and living organisms during a mass extinction.	No	<ul style="list-style-type: none"> Internet access Colored pens or pencils Large paper folded into 3 equal sections

*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A
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UNIT 3: DYNAMIC STRUCTURE OF EARTH

Assignment	Summary	Video Demo	Supplies
Project: Building a Model of the Earth	In this project you will build a simulated planet similar in structure to Earth.	No	N/A
Project: Mantle Convection	In this project, you'll demonstrate your understanding of mantle convection by observing a process of convection and relating it to plate tectonics.	No	N/A
Project: Plate Boundaries	In this project you will learn to distinguish types of plate boundaries and identify the results of plate interactions.	No	N/A
Project: Sphere Interaction Lab	In this project you will be able to identify a variety of sphere interactions of Earth.	No	N/A
Project: The Story of the Spheres	In this project you will Construct a story about Earth's spheres and cycles.	No	N/A
Project: Flow of Energy	In this project, you will construct a food web.	No	<ul style="list-style-type: none"> • Computer-based graphics program or • Posterboard • Colored pencils or markers
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 4: FORCES AND FEATURES OF EARTH

Assignment	Summary	Video Demo	Supplies
Project: Earthquake Features Lab	In this project you will identify geological features involved with earthquake activity and relate earthquake features to plate tectonics.	No	N/A
Project: Scientific Tools of the 21st Century	Use technology to research cause and effects of earthquakes	No	<ul style="list-style-type: none"> • research resources
Project: Volcanic Features Lab	In this project you will identify and distinguish various geological features involved with volcanic activity.	No	N/A

Project: Mapping	In Section 1 of this project, we will see if you can read these two types of maps by examining sample maps and responding to a variety of questions. In Section 2 of the project, you'll be able to create your own map of an area!	No		N/A
*Project: Create a Topographic Map	In this project you will create a topographic map of an area.	No	<ul style="list-style-type: none"> • crayons or colored pencils 	<ul style="list-style-type: none"> • pencil • paper
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A		N/A

UNIT 5: FEATURES OF EARTH'S CRUST

Assignment	Summary	Video Demo	Supplies
Project: Crystal Systems	In this project, you will create three-dimensional models of crystals in each crystal system.	No	<ul style="list-style-type: none"> • Paper • Printer
Project: Identifying a Mineral	In this project, you will identify six unknown minerals using color, luster, streak, hardness, cleavage, transparency, and acid reaction.	No	N/A
Project: Identifying a Rock	In this project, you will identify unknown rocks using grain size and the existence of layers, crystals, and gas bubbles.	No	N/A
Project: The RE's of Earth Science	The purpose of this activity is to create/recreate a game using as many recyclable materials as possible.	No	<ul style="list-style-type: none"> • reusable/recyclable materials such as: empty soda bottles/cans, milk containers, water bottles, egg cartons, aluminum foil, paper (of any kind like paper towel rolls, magazines/catalogs, phone books, paper bags, cardboard boxes, newspaper, toilet paper, etc.), empty mail envelopes, glass containers, juice boxes, pie plates, styrofoam (such as restaurant take- out containers), plastic bags, etc. • scissors, glue, staples, and tape • internet for topic research • camera to take pictures of game for submission
Project: Nuclear Energy	In this project, you will research nuclear energy.	No	<ul style="list-style-type: none"> • research resources
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 7: SHAPING EARTH'S CRUST

Assignment	Summary	Video Demo	Supplies
Project: Soil Particles	In this experiment, you will observe how particle size affects the soil profile.	No	<ul style="list-style-type: none"> 1 1/2 cups potting soil 1/2 cup sand 2 wide-mouthed juice bottles with lids <ul style="list-style-type: none"> Masking tape Pen Spoon Water
Project: Ice Erosion	In this experiment, you will investigate how glaciers change Earth's surface.	No	<ul style="list-style-type: none"> 10 lbs. sand Square of window screen or kitchen strainer 2 plastic trays, about 8 x 24 inches <ul style="list-style-type: none"> Water Freezer Ruler Bucket Measuring cup
Project: Water Erosion	For this project, you are given the opportunity to research and report on the cause and effect water erosion.	No	<ul style="list-style-type: none"> research resources a slideshow or a word processing program, such as Microsoft PowerPoint® or Publisher®).
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

UNIT 8: EARTH'S WATER

Assignment	Summary	Video Demo	Supplies
Project: Water Purification	In this experiment, you will purify water using a solar still.	No	<ul style="list-style-type: none"> 1 cup of dirt 4 cups of water Small glass Large glass bowl <ul style="list-style-type: none"> Clear plastic wrap Small, round rock Sunshine
Project: Water Conservation	In this project, you will research ways to conserve water.	No	<ul style="list-style-type: none"> Posterboard Colored pencils or markers
Experiment: Porosity and Permeability	In this experiment, you will measure porosity and permeability.	No	<ul style="list-style-type: none"> Water Graduated cylinder 6 clear, plastic cups Permanent marker Metric ruler Large, medium, and small <ul style="list-style-type: none"> Gravel, sand, and dirt (about 1 cup each) Funnel 3 coffee filters Ring stand Stopwatch or watch with a second hand

				pebbles (about 1 cup each)
Project: Ocean Temperature	In this project, you will study past and present global climate dynamics of hurricanes in the Atlantic or Pacific Oceans.	No	<ul style="list-style-type: none"> research resources a slideshow presentation or similar program such as PowerPoint® 	
Experiment: Fresh Water vs. Saltwater	In this experiment, you will compare freshwater and saltwater.	No	<ul style="list-style-type: none"> 4 tablespoons salt Water 2 clear glasses Measuring cup Tablespoon 2 eggs 2 plastic cups Spoon Marker 	<ul style="list-style-type: none"> Freezer Stove Small pot Stopwatch or watch with a second hand 2 pie plates or shallow pans about the same size Paper
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A		N/A

UNIT 9: EARTH'S ATMOSPHERE

Assignment	Summary	Video Demo	Supplies	
Project: Evolution of the Atmosphere	In this lesson, you'll demonstrate your knowledge of how the atmosphere developed.	No	N/A	
Project: Layers of the Atmosphere	When you see a falling star, it is a meteorite burning up in the mesosphere. This project will test your knowledge of each layer and its characteristics.	No	<ul style="list-style-type: none"> Crayons, markers, or colored pencils Posterboard 	
Project: Solar Energy	In this project, you will illustrate the Sun's relationship with Earth.	No	<ul style="list-style-type: none"> Crayons, markers, or colored pencils Posterboard 	
*Alternate Project: Temperature	<p>Predict a material's albedo and heat absorption capability.</p> <p>Observe the relative heat absorption of different materials.</p>	No	<ul style="list-style-type: none"> Sheet of black paper Sheet of white paper 	<ul style="list-style-type: none"> Window Sunlight shining through the window
Project: Air Circulation	This project will test your knowledge of air circulation patterns between different temperature and pressure zones.	No	N/A	
*Alternate Project: Barometers	For this project, you'll build your own barometer and discover the air	No	<ul style="list-style-type: none"> Coffee can or glass jar 	<ul style="list-style-type: none"> Toothpick

	pressure around you. You'll also learn about the weather conditions associated with pressure zones.		<ul style="list-style-type: none"> • Large balloon • Rubber band (big enough to fit around the top of the coffee can or jar) 	<ul style="list-style-type: none"> • Glue • Straw • Index card
Project: Climate and Energy	In this project you will research how this happens and some activities that are affecting this process.	No	<ul style="list-style-type: none"> • research resources 	
Project: Greenhouse Effect	In this investigation, you will create your own "greenhouse" to demonstrate the greenhouse effect.	No	<ul style="list-style-type: none"> • 2 shoe boxes or any other boxes that are similar in size • Sheet of clear plastic (plastic wrap) or a pane of glass • 2 thermometers for measuring air temp. 	<ul style="list-style-type: none"> • Watch or stop watch • Paper and pen to record temperature results • 2 lamps (only needed if it's a cloudy day)
Project: Human Impact on Climate Change	Research and analyze geoscientific data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.	No	<ul style="list-style-type: none"> • a slideshow or a word processing program, such as Microsoft PowerPoint® or Publisher®). 	
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A		N/A

UNIT 10: EARTH'S WEATHER AND CLIMATE

Assignment	Summary	Video Demo	Supplies
Project: Weather or Climate?	Distinguish between weather and climate conditions.	No	N/A
Project: Clouds and Weather	For this project, you're going to be a meteorologist. Let's see if you can identify the different types of clouds and predict the weather for your viewers, based strictly on cloud formation!	No	N/A
*Project: Clouds and Rain	In this lesson, you'll not only make a cloud, but you will also prepare for rain, by making a rain gauge.	No	<ul style="list-style-type: none"> • 2-liter plastic soda bottle • Matches (adult supervision required) • Hot tap water • Black paper
Project: Control the Weather	This project will allow you to create and control the weather.	No	<ul style="list-style-type: none"> • research resources

Project: Research Your Climate	In this lesson, you'll learn more about your area's climate by conducting research on it. You will also create a poster to illustrate your climate's features.	No	<ul style="list-style-type: none"> • Posterboard • Markers or crayons 	<ul style="list-style-type: none"> • Paper • Pen or pencil
Project: Predict the Weather	In this project, you'll be able to build some of the tools, record weather conditions, and make your own prediction about the weather in your area.	No	<ul style="list-style-type: none"> • Paper • Pen or pencil • Coffee can or glass jar • Large balloon • Rubber band (big enough to fit around the top of the coffee can or jar) • Toothpick • Glue • Straw 	<ul style="list-style-type: none"> • Index card • 2 thermometers • Tape • Wet piece of cotton, gauze, or cloth • Rubber band • Piece of cardboard • Compass • Beaufort scale
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A		N/A

UNIT 11: REVIEW

Assignment	Summary	Video Demo	Supplies
Project: Scale of the Solar System	In this project you will compare the sizes of the Sun and the planets.	No	N/A
Project: Life Histories of Stars	For this project, you will review the life histories of stars and create one or two posters that depict the lifetimes of two stars.	No	<ul style="list-style-type: none"> • Computer graphics program or: <ul style="list-style-type: none"> • Posterboard • Colored pencils or markers
Project: Identifying Galaxies	For this project, you will examine photographs of ten galaxies. For each galaxy, you will place it in a category and explain the basis for your categorization.	No	N/A
Project: Evaluating Growth	Use technological resources to research scientific data. Organize, analyze, evaluate, make inferences, prove, and predict trends using data and linear regression models.		<ul style="list-style-type: none"> • research resources • a slideshow presentation program such as PowerPoint®
*Special Project	Use this Special Project template to create your own assignment for this unit.	N/A	N/A

* indicates an alternative assignment