

Enduring Understanding	Standards Addressed	Essential Questions	Anchor Lessons	Assessment
<p>Earth's common physical features can be mapped in a variety of ways.</p>	<p>Mapping the Earth</p> <ol style="list-style-type: none"> Recognize, interpret, and be able to create models of Earth's common physical features in various mapping representations, including contour maps. 	<ol style="list-style-type: none"> How are maps used as a model of the Earth? How can you create maps to represent Earth's physical features? 	<p>Design and build 3-D models</p> <p>Make contour maps from flat maps</p> <p>Draw a contour map of the school yard</p> <p>Draw a contour map of your hand</p> <p>Draw a contour map of a chocolate chip cookie</p>	<ul style="list-style-type: none"> In-class check Rubric Checklist Peer Assessment Individual Project Group Project Research Report Presentation Test Quiz Discussion Open-response questions Model

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<p>The Earth is made of different layers.</p>	<p>Earth's Structure</p> <p>2. Describe the layers of the Earth, including the lithosphere, the hot convecting mantle, and the dense metallic core.</p>	<p>1. What are the layers of the Earth?</p> <p>2. What makes up the layers of the Earth?</p>	<p>Label a diagram of the layers of the Earth</p> <p>Construct a styrofoam model of the layers of the earth</p> <p>Use a cupcake core to demonstrate the layers of the earth.</p> <p>Lab - Exploring properties of the Earth's mantle</p>	
<p>Temperature differs among water, land, and the atmosphere.</p>	<p>Heat Transfer in the Earth System</p> <p>3. Explain the relationship among the energy provided by the sun, the global patterns of atmospheric movement, and the temperature differences among water, land, and the atmosphere.</p>	<p>1. How does the temperature vary among water, land, and the atmosphere?</p> <p>2. What causes differences in temperature among water, land, and the atmosphere?</p>	<p>Using probes data loggers record temperature over time</p> <p>Use data from weather balloons to observe patterns</p> <p>Model the water cycle using hot water in a container with a container of ice on top</p>	

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Geologic events affect landforms.	4. Describe how the movements of the Earth's crustal plates causes both slow changes in the Earth's surface (e.g., formation of mountains and ocean basins) and rapid ones (e.g., volcanic eruptions and earthquakes).	<ol style="list-style-type: none"> 1. What changes occur within Earth's crust? 2. How is the world around us formed? 	<p>Plate tectonic modules 1-8</p> <p>Graham - cracker lab</p> <p>Use a milky way to demonstrate plate tectonics</p> <p>Make a model seismograph</p> <p>Use a map of Pangaea to understand plate movements</p> <p>Research and map locations of volcanic and earth quake activity</p>	
The Earth's surface is shaped by erosion, weathering, and deposition.	5. Describe and give examples of ways in which the Earth's surface is built up and torn down by natural processes, including deposition of sediments, rock formation, erosion and weathering.	<ol style="list-style-type: none"> 1. What do rocks tell about Earth's history? 2. How does the Earth recycle itself? 	<p>Use a stream table to demonstrate movement of sediment and erosion</p> <p>Beach erosion activity</p> <p>Draw and label rock cycle</p> <p>Geology in a bag lab</p> <p>Erosion and weathering of the Cape</p>	

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<p>Earth has evolved over geologic time.</p>	<p>6. Explain and give examples of how physical evidence, such as fossils and surface features of glaciation, supports theories that the Earth has evolved over geologic time.</p>	<p>1. How do we know how old the Earth is?</p>	<p>Make plaster cast molds of fossils</p> <p>Cookie mining activity</p> <p>Make a model glacier</p> <p>Make a timeline of index fossils</p> <p>Football field timeline</p> <p>Make a geologic clock</p>	
<p>The Earth is a unique part of the universe.</p>	<p>The Earth in the Solar System</p> <p>7. Recognize that gravity is a force that pulls all things near the Earth toward the center of the Earth. Gravity plays a major role in the formation of the planets, stars, and solar system and in determining their motions.</p>	<p>1. What is Earth's place in space?</p> <p>2. What is gravity's role in keeping the solar system in order?</p>	<p>Compare speed of objects with varying masses when dropped from the same height and graph the results</p>	

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<p>The Earth is a unique part of the universe.</p>	<p>8. Describe lunar and solar eclipses, the observed moon phases, and tides.</p> <p>Relate them to the relative position of the earth, moon, and sun.</p>	<ol style="list-style-type: none"> 1. What is the difference between a lunar and solar eclipse? 2. How do tides occur? 	<p>Construct a moon phase calendar</p> <p>Observe, record and graph daily tidal changes</p> <p>Use globes and a light source to explain why high tide on two successive mornings are typically about 25 hours.</p>	
<p>The Earth is a unique part of the universe.</p>	<p>9. Compare and contrast properties and conditions of objects in the solar system (i.e., sun, planets, and moons) to those on Earth (i.e., gravitational force, distance from the sun, speed, and movement, temperature, and atmospheric conditions.</p>	<ol style="list-style-type: none"> 1. How much would you weigh on each planet? 2. How long would it take you to travel to each planet? 	<p>Solar system research project</p> <p>Space – explorers</p> <p>Use various objects to make models that show how heavy a 1kg pumpkin would seem on the surfaces of the moon, Mars, Earth, and Jupiter</p>	

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Seasons are caused by the tilt of the Earth and revolution around the sun.	10. Explain how the tilt of the Earth and its revolution around the sun results in an uneven heating of the earth, which in turn causes the seasons.	1. What cause seasons?	The Real Reason for Seasons Modules 1-8 Tom Snyder - Seasons	
The universe consists of billions of galaxies.	11. Recognize that the universe contains many billions of galaxies and that each galaxy contains billions of stars.	1. How big is our universe? 2. What is the life cycle of a star?	Expanding universe activity Big Dipper Finder Constellation canopy	