

MENDON UPTON REGIONAL SCHOOL DISTRICT

Earth Science
Grade 6

State Standard		Selected Classroom Activities	Text or Resource	Interdisciplinary Links	Technology Links
Mapping the Earth					
1	Recognize, interpret, and be able to create models of the earth's common physical features in various mapping representations, including contour maps.	Chapter 1, p. 12-33 (Plate Tectonics) Students create a topographic map. Make model to correspond with map – salt dough, modeling clay. Activities p. 28, 19, 26 Class discussions. Various worksheets.	Prentice Hall Science Explorer Earth's Changing Surface	Art – Creation of 3-D models, Drawing pixel picture.	
Earth's Structure					
2	Describe the layers of the earth, including the lithosphere, the hot convecting mantle, and the dense metallic core.	Chapter 1 Sections 1 and 2, p. 14-27 (Earth's Interior and Convection Currents and the Mantle) Students color-code a diagram of the Earth's layers. Students create a data chart of the Earth's layers. Students may create a 3-D model of Earth's layers Students relate layers of Earth to common objects. Class discussions. Various worksheets.	Prentice Hall Science Explorer Inside Earth	ELA/Art: Writing assignment to assess understanding. Class discussion/Informal presentations. Student-created diagrams on board.	Videos if available: Amazing Earth. Naked Science: Shifting Continents.
Heath Transfer in the Earth System					
3	Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through the earth's system.	Inside Earth, Chapter 1 Section 2 p. 25-27 (Convection Currents and the Mantle). Weather and Climate, Chapter 2 Section 2. Students do classroom activity classifying different examples of heat transfer into the three types. Students observe teacher demonstration of convection currents using hot water, cold water, and food coloring. Create foldable activity to illustrate and define each, and make "real life" connections. Diagrams – compare and contrast. Class discussions. Various worksheets.	Prentice Hall Science Explorer Inside Earth Prentice Hall Science Explorer Weather and Climate	ELA/Art: Incorporate discussion/illustration to assess learning. Creating Visual representations/models: poster.	

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4	Explain the relationship among the energy provided by the sun, the global patterns of atmospheric movement, and the temperature differences among water, land, and atmosphere.	Chapter 1 Section 1, p. 14-17. Chapter 1 Section 4, p. 31-36. Chapter 2 Section 1, p. 42-45. Chapter 2 Section 2, p. 48-51. Chapter 2 Section 3, p. 52-60. Chapter 3 Section 1, p. 76-82. Chapter 4 Section 1, p. 112-118. Interpreting diagrams. Skills Lab, p. 46-47 "Heating Earth's Surface" Class discussions. Various worksheets.	Prentice Hall Science Explorer Weather and Climate	ELA – Connection between Greek words and many scientific terms. "atmosphere"	
Earth's History					
5	Describe how the movement 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).	Chapter 1 Sections 3, 4, and 5. Chapter 2 and 3. Use manipulatives to model plate/fault movement: ex. modeling clay, sliced apples, frosting and crackers, layered sandwiches. Sea-floor spreading model, p. 40-41. Create and erupt model volcano. Simulate earthquake activities through Slinkys, movement activities, etc. Model earthquake movement with everyday items, test various structures. Liquefaction: cornstarch activity. Class discussions. Various worksheets.	Prentice Hall Science Explorer Inside Earth	ELA/Art : Poster and Journal Entry to assess understanding of various theories. Volcano report to go with model. Letter to describe earthquake event. Math – Use compasses to identify epicenter of an earthquake.	Videos if available: Amazing Earth. Naked Science: Shifting Continents. Earthquake video.
6	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.	Inside Earth, Chapters 1, 2, 3, 4, 5. Evaporation Activity, p. 131. Use rock samples to reinforce text material, ex. pumice. Create model of sedimentary rock, ex. crayons, food items, suggestion on p. 155. Earth's Changing Surface, Chapters 2, 3. Selected Classroom Activities: p. 40 Fizz Activity. p. 42, 44 Freezer Activities. p. 57 Soil and Erosion Activities. Project p. 64. Shortcut version 1 model (optional) p. 66 Sandpaper and marble. p. 70 Skills Lab	Prentice Hall Science Explorer Inside Earth Prentice Hall Science Explorer Earth's Changing Surface	Inside Earth: ELA/Art "An Island is Born": Surtsey. Students create visual aid an/or writing assignment to illustrate understanding of the rock cycle. Earth's Changing Surface: Math: p. 70 Skills Lab – measuring, recording data on a chart. Create visual aid to illustrate course of a river (p. 78-79) and/or	

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		<p>p. 72. Soap Activity p. 74 Raindrop activity. p. 75, 76, OR 82 Use soil. Class discussions. Various worksheets.</p>		glacial landforms (p. 92-93).	
7	<p>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>Inside Earth, Chapter 1 Sections 3, 4, 5. Earth's Changing Surface Chapter 4. Students create a diary entry of Alfred Wegener, describing all of the evidence he provided to support his theory of continental drift (including fossils and marks left by glaciers). Use puzzles to illustrate connections between pieces. Pangaea activity – cut and paste continents to simulate Wegener's theory. Class discussions. Various worksheets.</p>	<p>Prentice Hall Science Explorer Inside Earth</p> <p>Prentice Hall Science Explorer Earth's Changing Surface</p>	<p>ELA MCAS Open Response #19 Landform Diagram & Question</p>	
The Earth in the Solar System					
8	<p>Recognize that gravity is a force that pulls all things on and 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>Chapter 2 Section 1, p. 53-54 (Inertia and Gravity). Activity with ball and string. Interpreting diagrams, p. 54. Skills lab, p. 78-79 "Speeding Around the Sun." Class discussions. Various worksheets.</p>	<p>Prentice Hall Science Explorer Astronomy</p>		
9	<p>Describe lunar and solar eclipses, the observed moon phases, and tides. Relate them to the relative positions of the earth, moon, and sun.</p>	<p>Eclipse: Chapter 1 Section 2, p. 27-29 (Eclipses) Drawing scale model of solar eclipse. Interpreting diagrams, p. 27. Interpreting diagrams, p. 28. Interpreting diagrams, p. 29. Making Models, p. 28, drawing a scale model of a solar eclipse.</p> <p>Moon phases: Chapter 1 Section 2, p. 24-26 (Motions of the Moon, Phases of the Moon) Exploring, p. 26 "Phases of the Moon" Discover, p. 24 "How Does the Moon Move?" Skills lab, p. 30 "A 'Moonth' of Phases"</p>	<p>Prentice Hall Science Explorer Astronomy</p>	<p>Social Studies – Moon phases used to be important for planning activities. Examples: "harvest moon," "hunter's moon."</p> <p>ELA – Class collaborates to create a good definition of the word "phase" using three ways the word is used in science as context clues. (Examples: <i>phases of the moon, phases of matter, color phases in the species of animal or plant</i>)</p>	

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		<p>Tides: Chapter 1 Section 2, p. 32-34 (Tides) Interpreting diagrams, p. 33. Class activity: Students will use partially filled balloons and pull on either ends to represent the pull of the moon's gravity on Earth. Class activity: Predicting tide times on various coasts.</p> <p>Class discussions. Various worksheets.</p>			
10	<p>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, movement, temperature, and atmospheric conditions).</p>	<p>Chapter 2 Section 2, p. 56-60 (The Sun). Exploring the sun p. 59. Chapter 2 Section 3, p. 62-69 (The Inner Planets) Discover, p. 62 "How Does Mars Look from Earth?" Chapter 2 Section 4, p. 70-77 (The Outer Planets) Discover, p. 70 "How Large Are the Outer Planets?" Chapter 2 Section 5, p. 80-83 (Comets, Asteroids, and Meteors) Class Activity: Students will create a comparison chart using information in the text and the tables on pgs. 63 and 71. Class discussions. Various worksheets.</p>	<p>Prentice Hall Science Explorer Astronomy</p>		
11	<p>Explain how the tilt of the earth and its revolution around the sun result in an uneven heating of the earth, which in turn causes the seasons.</p>	<p>Chapter 1 Section 1, p. 14-21 (Earth in Space) Interpreting diagrams, p. 18. Exploring the Seasons, p. 19. Demonstration: Lamp and globe activity. Skills Lab: Reasons for the Seasons, p. 22-23 Class discussions. Various worksheets.</p>	<p>Prentice Hall Science Explorer Astronomy</p>	<p>Math – Angles</p>	
12	<p>Recognize that the universe contains many billions of galaxies, and that each galaxy contains many billions of stars.</p>	<p>Chapter 3, p. 92-124 (Stars, Galaxies, and the Universe) Discover, p. 117 "Why Does the Milky Way Look Hazy?" Discover, p. 121 "How Does the Universe Expand?" Class discussions. Various worksheets.</p>	<p>Prentice Hall Science Explorer Astronomy</p>		