



Fifth Grade: FOSS Earth Science - Water Planet



Investigation Title and Synopsis	Concepts	Assessments and TE Page Numbers
<p>1. Solar System Students use solar system cards to organize the Sun and other bodies into a representation of the system and categorize the bodies in different ways, based on their properties. Students learn how gravity keeps planets in orbit.</p>	<ul style="list-style-type: none"> The solar system comprises eight planets and various other bodies orbiting the Sun, a typical star composed mostly of hydrogen and helium Solar-system bodies can be put into categories, such as gas giants, terrestrial planets, and satellites Gravity is a pulling force that constantly changes the direction of travel of planets to maintain them in orbits around the Sun 	<ul style="list-style-type: none"> Pretest (pages 427-434) Part 1 Embedded Assessment: (pages 350-351) Science Notebook Sheet 1 <i>Solar-System Data</i> (page 251) Benchmark Assessment I-Check 1 (pages 435-436)
<p>2. Swingers Students experiment with pendulums to learn the basics of controlled experimentation, and learn to identify independent, dependent, and controlled variables. They represent data with a two-coordinate graph.</p>	<ul style="list-style-type: none"> A pendulum is a mass that is free to swing around a point A variable is anything that you can change in an experiment that might affect the outcome In a controlled experiment the independent variable is changed in order to determine how that variable affects the outcome of the experiment. All other variables are controlled. 	<ul style="list-style-type: none"> Part 1 Embedded Assessment: (page 352)/ Teacher Observation: <i>Swinger Construction</i> Part 2 Embedded Assessment: (pages 353-354)/ Science Notebook Sheet 5 <i>Response Sheet-Swingers</i> (page 255)/ Teacher Observation: Makes accurate measurements, and demonstrate intuitive sense of experimentation Benchmark Assessment for Part 3: I-Check 2 (pages 437-439)
<p>3. Water Vapor Students experiment with water to determine how temperature and surface area affect evaporation. They also investigate the conditions that produce liquid condensation and frost.</p>	<ul style="list-style-type: none"> Evaporation is the process by which liquid water changes into water vapor, a gas Temperature and surface area affect the rate of evaporation Condensation occurs when water vapor touches a cool surface and changes into liquid Evaporation and condensation contribute to the movement of water through the water cycle 	<ul style="list-style-type: none"> Part 1 Embedded Assessment: (pages 355-356) Science Notebook Sheet 7 <i>Wet Paper Towels</i> (page 257) Part 2 Embedded Assessment: (pages 357-358) Science Notebook Sheet 8 <i>Evaporation Location Charts</i> (page 258) Part 3 Embedded Assessment: (pages 359-360) Science Notebook Sheet 12 <i>Water Vapor</i> (page 262)

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<p>3. Water Vapor (cont'd)</p>		<ul style="list-style-type: none"> Part 4 Embedded Assessment: (pages 361-362)/ Science Notebook Sheet 12 Response Sheet Water Vapor (page 262)/Science Notebook Sheet 13 <i>Condensation Observations</i> (page 263) Benchmark Assessment I-Check 3 (pages 440-442)
<p>4. Heating Earth Students learn about uneven heating by monitoring the temperature of water and soil in the sunshine. They discover how uneven heating can cause convection currents. Students use syringes to investigate air pressure.</p>	<ul style="list-style-type: none"> The different energy-absorbing properties of earth materials can lead to uneven heating of Earth's surface Cold fluids are denser than warm fluids Convection currents result from uneven heating of Earth's surface Compressed air exerts pressure equally in all directions Earth's atmospheric pressure decreases with distance above Earth's surface 	<ul style="list-style-type: none"> Part 1 Embedded Assessment: (page 363)/ Science Notebook Sheet 14 Heating Earth Materials A (page 264)/Science Notebook Sheet 15 Heating Earth Materials B (page 265)/ Part 2 Embedded Assessment: (pages 364-365) Science Notebook Sheet 20 <i>Atmospheric Pressure at Work</i> (page 270) Benchmark Assessment I-Check 4 (pages 443-445)
<p>5. Weather Students inventory Earth's water and learn that the water cycle redistributes water worldwide. They investigate weather, learning the causes and effects of severe weather, and learn how to make weather maps and use them to forecast weather.</p>	<ul style="list-style-type: none"> Most of Earth's water (97%) is salt water Weather is the condition of the atmosphere at a given place and time: the amount of heat, moisture, pressure, and movement Solar energy drives weather Severe weather occurs when one or more variables is extreme, resulting in conditions that are dangerous or destructive Weather maps display weather conditions and can be used to forecast weather 	<ul style="list-style-type: none"> Part 1 Embedded Assessment: (page 368) Quick write Students describe and draw the water cycle. Part 2 Embedded Assessment: (pages 369-370) Science Notebook Sheet 22 <i>Severe Weather Questions</i> (page 272) Part 3 Embedded Assessment: (pages 371-372) Science Notebook Sheet 23 <i>Weather Maps Questions</i> (page 273) Benchmark Assessment I-Check 5 (pages 446-449) Part 4 Posttest (pages 427-434)