

# Curriculum Map for Grade 6 Science

<u>Content</u>	<u>Essential Questions</u>	<u>Skills</u>	<u>Materials</u>	<u>Assessment</u>	<u>Standards</u>
<p><b><u>The Nature of Science</u></b></p>	<p>Why is science important in our lives?</p> <p>How do we benefit from science?</p> <p>How do we use science?</p> <p>How do scientists conduct investigations?</p>	<p><b><u>What is science?</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Define science and identify questions that science cannot answer.</li> <li><input type="checkbox"/> Compare and contrast theories and laws.</li> <li><input type="checkbox"/> Identify a system and its components.</li> <li><input type="checkbox"/> Identify the three main branches of science.</li> </ul> <p><b><u>Science in Action</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify some skills that scientists use.</li> <li><input type="checkbox"/> Define Hypothesis.</li> <li><input type="checkbox"/> Explain the steps of The Scientific Method.</li> <li><input type="checkbox"/> Recognize the difference between observations and inferences.</li> <li><input type="checkbox"/> Compare and contrast predictions and inferences.</li> </ul>	<p>teacher collected resources</p> <p>science text</p> <p>printed note sheets</p> <p>hand out on steps of Scientific Method</p> <p>LAB: Observation LAB: Prediction LAB: Inferences.</p>	<p>Review and reinforcement activities</p> <p>Quizzes and tests</p> <p>Verbal and written Q&amp;A.</p> <p>Lab and activity write-ups</p> <p>Science Fair</p>	<p><b><u>Standard 1</u></b></p> <p><b>Analysis Inquiry and Design</b></p> <p><b>Scientific Inquiry</b> 1.1a, 1.1b, 1.1c, 1.2a, 1.2b, 1.2c, 2.1a, 2.1d, 2.2a, 2.2b, 2.2c, 2.2d, 3.1a</p> <p><b><u>Standard 6</u></b></p> <p><b>Inter-connectedness: Common Themes</b> 1.2</p>
<p><b><u>Environmental Science &amp; Ecology</u></b></p>	<p>What are the key components necessary for a healthy environment?</p>	<p><b><u>Living Things</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Distinguish between living and nonliving things.</li> <li><input type="checkbox"/> Identify what living things need to survive.</li> </ul>	<p>teacher collected resources</p> <p>science text</p>	<p>Review and reinforcement activities</p> <p>Quizzes and tests</p>	<p><b><u>Standard 4</u></b></p> <p><b>Living Environment</b> 1.1a, 4.3d, 5.1a, 5.1c</p>

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<b>"Biodiversity"</b>	What does it mean to be "alive"?	things need to survive. <input type="checkbox"/> Explain Habitat.  <u>Classifying Living Things</u> <input type="checkbox"/> Describe how early scientists classified living things. <input type="checkbox"/> Explain the system of binomial nomenclature. <input type="checkbox"/> Demonstrate how to use a dichotomous key.	printed note sheets   LAB: Classification	Verbal and written Q&A.  Lab and activity write-ups	5.1c  Living Environment 1.1h
	What is the benefit of an organizing scheme?	<u>Living Earth</u> <input type="checkbox"/> Identify places where life is found on Earth. <input type="checkbox"/> Define Ecology. <input type="checkbox"/> Observe how the environment influences life. <input type="checkbox"/> Differentiate between the levels of organization within ecosystems.			Living Environment 7.1a, 7.1c, 7.2a
<b><u>Environmental Science &amp; Ecology</u></b> (cont.)	How would you explain the importance of avoiding overpopulation?	<u>Populations</u> <input type="checkbox"/> Identify methods for estimating population size. <input type="checkbox"/> Explain how competition limits population growth.	teacher collected resources  science text  printed note sheets	Review and reinforcement activities  Quizzes and tests	<u>Standard 4</u>  Living Environment 3.2a, 7.1a, 7.1b, 7.1c, 7.2a

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<b>"Biodiversity"</b>	<p>What does mean to be extinct, threatened, or a species of special concern, and why should we care/what is our responsibility regarding life on Earth?</p> <p>How do you fit into environmental interactions?</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> List factors that influence changes in population growth.</li> <li><input type="checkbox"/> Compare and contrast carrying capacity and limiting factors.</li> </ul> <p><b><u>Interactions Among Living Things</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Describe how organisms obtain energy for life.</li> <li><input type="checkbox"/> Recognize that every organism occupies a niche.</li> <li><input type="checkbox"/> Distinguish between mutualism, commensalism, and parasitism.</li> <li><input type="checkbox"/> Compare and contrast food chains and food webs.</li> </ul>	<p>ACT: "Beanamals" and "Toothpick Acres"</p> <p>LAB: Counting Turtles</p> <p>LAB: Weather and Whooping Cranes</p> <p>WILD, p.36: "Oh Deer"</p> <p>WILD, p. 122: Quick Frozen Critters</p> <p>ACT: "Bye Bye Butterfly"</p> <p>WILD, p.91: Good Buddies</p>	<p>Verbal and written Q&amp;A.</p> <p>Lab and activity write-ups</p>	<p><b>Living Environment</b></p> <p>5.1d, 5.1e, 6.1b, 6.2c</p>
<b><u>Environmental Science &amp; Ecology</u></b> <b>(cont.)</b>	<p>How are humans, and all life on Earth, connected to the nonliving parts of our planet?</p>	<p><b><u>Abiotic factors</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify common abiotic factors in most ecosystems.</li> <li><input type="checkbox"/> List components of air that are needed for life.</li> <li><input type="checkbox"/> Explain how climate influences an ecosystem.</li> </ul>	<p>teacher collected resources</p> <p>science text</p> <p>printed note sheets</p>	<p>Review and reinforcement activities</p> <p>Quizzes and tests</p> <p>Verbal and written Q&amp;A.</p>	<p><b><u>Standard 4</u></b></p> <p><b>Living Environment</b></p> <p>7.1a, 7.1b</p>

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<b>"Interdependence"</b>	Which biomes do you belong to?	<ul style="list-style-type: none"> <li><input type="checkbox"/> Explain how climate influences land environments.</li> <li><input type="checkbox"/> Identify seven biomes on Earth.</li> <li><input type="checkbox"/> Describe adaptations of organisms found in each biome.</li> </ul>	ACT: Bioramas	write-ups	<b>Living Environment</b> 7.1a, 7.2c, 7.2d
	Why is water so precious yet taken for granted?	<u><b>Aquatic Ecosystems</b></u> <ul style="list-style-type: none"> <li><input type="checkbox"/> Compare flowing freshwater and standing freshwater ecosystems.</li> <li><input type="checkbox"/> Identify and describe important saltwater ecosystems.</li> <li><input type="checkbox"/> Identify problems that affect aquatic ecosystems.</li> </ul>	LAB: ???		<b>Living Environment</b> 7.1a, 7.2c, 7.2d

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<p><b><u>Environmental Science &amp; Ecology</u></b> (cont.)</p>	<p>How have human beings impacted our planets' environmental health?</p>	<p><b><u>Environmental Issues</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify the main types of environmental issues.</li> <li><input type="checkbox"/> Define Environmental Science.</li> <li><input type="checkbox"/> Describe how decision makers different needs and concerns relate to environmental issues.</li> </ul>	<p>teacher collected resources</p> <p>science text</p> <p>printed note sheets</p> <p>DVD: Strange Days on Planet Earth</p>	<p>Review and reinforcement activities</p> <p>Quizzes and tests</p> <p>Verbal and written Q&amp;A.</p> <p>Lab and activity write-ups</p>	<p><b><u>Standard 4</u></b></p>
<p><b>"Environmental Concerns"</b></p>	<p>What we do to the environment we do to ourselves. How do our environmental decisions impact us?</p>	<p><b><u>Forests and Fisheries</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Compare and contrast clear cutting and selective cutting of forests.</li> <li><input type="checkbox"/> Describe ways that fisheries can be managed for sustainability.</li> </ul>	<p>AQUATICS, p.76: Hooks and Ladders</p>		<p><b>Living Environment</b> 7.1a, 7.1b, 7.1c, 7.2a, 7.2b, 7.2c, 7.2d</p>
	<p>What steps can be taken as individuals, as members of a community, and as inhabitants of our planet to ensure our planet's health?</p>	<p><b><u>Biodiversity</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify factors that affect biodiversity.</li> <li><input type="checkbox"/> Describe ways that biodiversity can be protected.</li> <li><input type="checkbox"/> Explain the value of biodiversity.</li> </ul>	<p>WILD. p.326, Hazardous Links, Possible Solutions</p>		<p><b>Living Environment</b> 7.1a, 7.1b, 7.1c, 7.2a, 7.2b, 7.2c, 7.2d</p>
<p><b><u>Environmental</u></b></p>		<p><b><u>Conserving Land and Soil</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Describe major forms of land use.</li> </ul>			
		<p><b><u>Solid Waste</u></b></p>	<p>teacher collected</p>	<p>Review and</p>	<p><b><u>Standard 4</u></b></p>

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<p><b><u>Science &amp; Ecology</u></b> <b>(cont.)</b></p>	<p>How have human beings impacted our planets' environmental health?</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Describe three ways of managing solid waste.</li> <li><input type="checkbox"/> Compare and contrast the three "R's".</li> </ul> <p><b><u>Hazardous Wastes</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify categories of hazardous wastes.</li> <li><input type="checkbox"/> Recognize the effects of hazardous wastes on human health.</li> </ul>	<p>resources</p> <p>science text</p> <p>printed note sheets</p>	<p>reinforcement activities</p> <p>Quizzes and tests</p> <p>Verbal and written Q&amp;A.</p> <p>Lab and activity write-ups</p>	<p style="text-align: center;"><b>Living Environment</b></p> <p>7.1a, 7.1b, 7.1c, 7.2a, 7.2b, 7.2c, 7.2d</p>
<p><b>"Environmental" Concerns"</b></p>	<p>What we do to the environment we do to ourselves. How do our environmental decisions impact us?</p>	<p><b><u>Air Pollution</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify sources of indoor and outdoor air pollution.</li> <li><input type="checkbox"/> Explain the important of ozone.</li> <li><input type="checkbox"/> Describe Global Warming and identify impacts and solutions.</li> </ul>	<p>ACT: Burn Barrels ???</p>		<p style="text-align: center;"><b>Living Environment</b></p> <p>7.1a, 7.1b, 7.1c, 7.2a, 7.2b, 7.2c, 7.2d</p>
<p><b><u>Environmental Science &amp; Ecology</u></b></p>	<p>What steps can be taken as individuals, as members of a community, and as inhabitants of our planet to ensure our planet's health?</p>	<p><b><u>Water Pollution</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Describe factors that make most of Earth's water unavailable to humans.</li> <li><input type="checkbox"/> Identify human sources of water pollution.</li> </ul>	<p>WET, p.267: Sum of the Parts</p>		<p style="text-align: center;"><b>Standard 4</b></p>
		<p><b><u>Energy Issues</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify fossil fuels and</li> </ul>	<p>teacher collected resources</p>	<p>Review and reinforcement</p>	

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<p>(cont.)</p> <p><b>"Environmental" "Concerns"</b></p>	<p>How can we be "greener" members of society?</p> <p>What steps can be taken to reduce our carbon footprint?</p>	<p>explain how they're used.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Describe alternative renewable energy sources</li> <li><input type="checkbox"/> Distinguish between Renewable and nonrenewable energy sources.</li> </ul> <p><b><u>Energy Conservation</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify ways that individuals can conserve energy.</li> <li><input type="checkbox"/> Compare and contrast conservation and efficiency.</li> </ul>	<p>science text</p> <p>printed note sheets</p> <p>WILD, p.319: Flip the Switch for Wildlife</p>	<p>activities</p> <p>Quizzes and tests</p> <p>Verbal and written Q&amp;A.</p> <p>Lab and activity write-ups</p>	<p><b>Living Environment</b></p> <p>7.1a, 7.1b, 7.1c, 7.2a, 7.2b, 7.2c, 7.2d</p>
<p><b><u>Weather and Climate</u></b></p>	<p>Which gases in the atmosphere are essential to life?</p>	<p><b><u>Earth's Atmosphere</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify the gases in Earth's atmosphere.</li> <li><input type="checkbox"/> Describe the structure of Earth's atmosphere.</li> <li><input type="checkbox"/> Explain what causes air pressure.</li> </ul> <p><b><u>Energy Transfer in the</u></b></p>	<p>teacher collected resources</p> <p>science text</p> <p>printed note sheets</p> <p>ACT: Carbon dioxide Candles</p>	<p>Review and reinforcement activities</p> <p>Quizzes and tests</p> <p>Verbal and written Q&amp;A.</p>	<p><b><u>Standard 4</u></b></p> <p><b>Physical Setting</b></p> <p>2.1a, 2.1b, 2.1c, 2.1d</p>

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"The Atmosphere"	How are we all dependent on the Sun's energy?	<u>Atmosphere</u> <ul style="list-style-type: none"> <li><input type="checkbox"/> Describe what happens to the energy Earth receives from the Sun.</li> <li><input type="checkbox"/> Compare and contrast radiation, conduction, and convection.</li> <li><input type="checkbox"/> Explain the water cycle and its effect on the weather patterns and climate.</li> </ul>	ACT, p.25: Does Air Have Mass  LAB, p.18: How Clean is the Air		<b>Physical Setting</b> 4.1a, 2.1j, 3.3b, 4.1d, 4.2a
<u>Weather and Climate</u>  "Earth's Weather"	What role does weather play in our daily lives?          How can humans benefit from improving our understanding of weather?	<u>What is Weather</u> <ul style="list-style-type: none"> <li><input type="checkbox"/> Explain how solar heating and water vapor in the atmosphere affect weather.</li> <li><input type="checkbox"/> Discuss how clouds form and how they are classified.</li> <li><input type="checkbox"/> Describe how rain, snow, sleet, and hail develop.</li> </ul> <u>Weather Patterns</u> <ul style="list-style-type: none"> <li><input type="checkbox"/> Describe how weather is associated with fronts and high and low pressure areas.</li> <li><input type="checkbox"/> Explain how tornadoes develop from thunderstorms.</li> <li><input type="checkbox"/> Discuss the dangers of severe weather.</li> </ul>	teacher collected resources  science text  printed note sheets  ACT, p.67: How can You Make Hail  teacher collected resources  science text  printed note sheets	Review and reinforcement activities  Quizzes and tests  Verbal and written Q&A.  Lab and activity write-ups  Review and reinforcement activities  Quizzes and tests  Verbal and written Q&A.  Lab and activity	<b>Physical Setting</b> 2.2i, 2.2k, 2.2l, 2.2n, 2.2o          <b>Standard 4</b>  <b>Physical Setting</b> 2.2i, 2.2j, 2.2l, 2.2m

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"Earth's Weather"	<p>What severe weather precautions should be taken in our area?</p> <p>How have previous beliefs shaped our weather sense?</p>	<p><u>Weather Forecasting</u></p> <ul style="list-style-type: none"> <li>❑ Explain how data are collected for weather maps and forecasts.</li> <li>❑ Identify the symbols used in a weather station model.</li> <li>❑ Discuss weather lore.</li> </ul>	<p>ACT, p.76: Density and Fluid Behavior</p> <p>ACT: Frontal Movement and the Morning Paper</p>	write-ups	<p><u>Physical Setting</u> 2.2i, 2.2j, 2.2l, 2.2m</p>

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<p><u>Botany</u></p> <p><b>“Structure” and “Function”</b></p>	<p>How are plants important to almost all other life forms on Earth?</p>	<p><u>The Plant Kingdom</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify characteristics shared by all plants.</li> <li><input type="checkbox"/> List all life requirements for plants.</li> <li><input type="checkbox"/> Describe plant life cycles.</li> </ul> <p><u>Photosynthesis and Light</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Explain what happens when light strikes a green leaf.</li> <li><input type="checkbox"/> Describe the process of photosynthesis.</li> </ul> <p><u>Plant Evolution</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Discuss changes in plant anatomy over time.</li> <li><input type="checkbox"/> Compare and contrast nonvascular and vascular plants</li> <li><input type="checkbox"/> Explain reproduction by spores.</li> </ul>	<p>teacher collected resources</p> <p>science text</p> <p>printed note sheets</p> <p>LAB: Observing Chloroplasts</p> <p>ACT, p.120: What Colors Make up Sunlight</p>	<p>Review and reinforcement activities</p> <p>Quizzes and tests</p> <p>Verbal and written Q&amp;A.</p> <p>Lab and activity write-ups</p>	<p><u>Standard 4</u></p> <p><b>Living Environment</b></p> <p>1.1a, 1.1b, 1.1c, 1.1d, 1.1e, 1.1h, 5.1a, 5.1b, 5.1d, 6.1a</p>
<p><b>“Seed Plants”</b></p> <p><u>Botany</u></p>	<p>What advantages do seed plants have over less evolved plants?</p>	<p><u>Characteristics of Seed Plants</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify characteristics specific to all seed plants.</li> <li><input type="checkbox"/> Identify the parts of a seed and describe the function of each part.</li> <li><input type="checkbox"/> Explain the processes of seed dispersal and</li> </ul>	<p>teacher collected resources</p> <p>science text</p> <p>printed note sheets</p> <p>Act: Found a Peanut</p>	<p>Review and reinforcement activities</p> <p>Quizzes and tests</p> <p>Verbal and written Q&amp;A.</p> <p>Lab and activity write-ups</p> <p>Review and reinforcement</p>	<p><u>Standard 4</u></p> <p><b>Living Environment</b></p> <p>1.1a, 1.1b, 1.1c, 1.1d, 1.1e, 1.1h, 5.1a, 5.1b, 5.1d, 6.1a</p> <p><u>Standard 4</u></p>

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