

***SRA Life, Earth, and Physical Science Laboratories***  
**correlation to**  
**Washington State’s Essential Academic Learning Requirements for Science**  
**Grade 6**

*SRA Life, Earth, and Physical Science Laboratories* provide core science content in an alternate reading format. Each *SRA Science Lab* contains 180 Science Cards covering key science concepts and vocabulary. Each lab covers 90 different science topics presented at two different reading levels to meet varied student abilities. The *Teacher’s Handbook* includes hands-on inquiry activities as well as vocabulary building exercises. The *Classroom Resource CD-ROM* includes Writing Strategies in Science along with tests and vocabulary games.

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.1 Properties of Substances</b>
Understand how to use physical and chemical properties to sort and identify substances. <ul style="list-style-type: none"> <li>Identify, categorize, describe, and sort substances using physical and/or chemical properties (i.e., boiling point, density, freezing point, mass, acidity [pH], solubility, magnetism).</li> </ul>
Physical Science Lab, Level A: Cards 1, 2, 14, 15, 16, 42, 61, 66, 67, 74
Physical Science Lab, Level B: Cards 1, 2, 14, 15, 16, 42, 61, 66, 67, 74

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.3 Wave Behavior</b>
Understand sound waves, water waves, and light waves using wave properties, including amplitude, wavelength, and speed. Understand wave behaviors, including reflection, refraction, transmission, and absorption. <ul style="list-style-type: none"> <li>Describe how sound waves and/or water waves affect the motion of the particles in the substance through which the wave is traveling (e.g., air molecules vibrate back and forth as sound waves move through air).</li> </ul>
Physical Science Lab, Level A: Cards 77, 78, 79, 80
Physical Science Lab, Level B: Cards 77, 78, 79, 80
Physical Science Lab Teacher’s Handbook: Hands-On Activity 6, <i>Making Sound</i> , pages 97-99

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.3 Wave Behavior</b>
Understand sound waves, water waves, and light waves using wave properties, including amplitude, wavelength, and speed. Understand wave behaviors, including reflection, refraction, transmission, and absorption. <ul style="list-style-type: none"> <li>Describe the behavior of sound and water waves as the waves are reflected and/or absorbed by a surface.</li> </ul>
Physical Science Lab, Level A: Cards 78, 79, 81
Physical Science Lab, Level B: Cards 78, 79, 81
Physical Science Lab Teacher’s Handbook: Hands-On Activity 6, <i>Making Sound</i> , pages 97-99

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.4 Forms of Energy</b>
Understand that energy is a property of matter, objects, and systems and comes in many forms (i.e., heat [thermal] energy, sound energy, light energy, electrical energy, kinetic energy, potential energy, and chemical energy). <ul style="list-style-type: none"> <li>Describe the forms of energy present in matter, objects, and systems (i.e., heat [thermal] energy, sound energy, light energy, electrical energy, kinetic energy, potential energy, and chemical energy).</li> </ul>
Physical Science Lab, Level A: Cards 36, 37, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 79, 82, 83 Physical Science Lab, Level B: Cards 36, 37, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 79, 82, 83 Physical Science Lab Teacher’s Handbook: Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.4 Forms of Energy</b>
Understand that energy is a property of matter, objects, and systems and comes in many forms (i.e., heat [thermal] energy, sound energy, light energy, electrical energy, kinetic energy, potential energy, and chemical energy). <ul style="list-style-type: none"> <li>Describe the form of energy stored in a part of a system (i.e., energy can be stored in many forms, “stored energy” is not a form of energy).</li> </ul>
Life Science Lab, Level A: Cards 22, 46 Life Science Lab, Level B: Cards 22, 46  Earth Science Lab, Level A: Card 35 Earth Science Lab, Level B: Card 35  Physical Science Lab, Level A: Cards 36, 38, 40, 49, 70 Physical Science Lab, Level B: Cards 36, 38, 40, 49, 70

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Living Systems</b>
<b>GLE 1.1.6 Characteristics of Living Matter</b>
Understand how to classify organisms by their external and internal structures. <ul style="list-style-type: none"> <li>Describe how organisms can be classified using similarities and differences in physical and functional characteristics (both internal and external).</li> </ul>
Life Science Lab, Level A: Cards 2, 3, 16, 25, 27, 34, 40 Life Science Lab, Level B: Cards 2, 3, 16, 25, 27, 34, 40

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Systems Structure</b>
<b>GLE 1.2.1 Structure of Physical Earth/Space and Living Systems</b>
<b>Analyze how the parts of a system interconnect and influence each other.</b>
<ul style="list-style-type: none"> <li><b>Explain how the parts of a system interconnect and influence each other.</b></li> </ul>
<p><b>Life Science Lab, Level A:</b> Cards 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90</p> <p><b>Life Science Lab, Level B:</b> Cards 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90</p> <p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
<p><b>Earth Science Lab, Level A:</b> Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90</p> <p><b>Earth Science Lab, Level B:</b> Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p>
<p><b>Physical Science Lab, Level A:</b> Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90</p> <p><b>Physical Science Lab, Level B:</b> Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Physical Systems</b>
<b>GLE 1.2.2 Energy Transfer and Transformation</b>
<b>Understand how various factors affect energy transfers and that energy can be transformed from one form to of energy to another.</b>
<ul style="list-style-type: none"> <li><b>Describe and determine the factors that affect heat transfer (e.g., properties of substances/materials [conductors, insulators], distance, direction, position).</b></li> </ul>
<p><b>Earth Science Lab, Level A:</b> Card 38</p> <p><b>Earth Science Lab, Level B:</b> Card 38</p>
<p><b>Physical Science Lab, Level A:</b> Cards 42, 43, 44</p> <p><b>Physical Science Lab, Level B:</b> Cards 42, 43, 44</p>

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<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Physical Systems</b>
<b>GLE 1.2.2 Energy Transfer and Transformation</b>
Understand how various factors affect energy transfers and that energy can be transformed from one form to of energy to another. <ul style="list-style-type: none"> <li>Describe how an increase in one type of energy of an object or system results in a decrease in other types of energy within that object or system (e.g., a falling object’s potential energy decreases while its kinetic energy increases).</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 76, 77, 78, 79 <b>Life Science Lab, Level B:</b> Cards 76, 77, 78, 79 <b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99  <b>Earth Science Lab, Level A:</b> Cards 10, 11, 12, 13, 14, 15, 16, 17 <b>Earth Science Lab, Level B:</b> Cards 10, 11, 12, 13, 14, 15, 16, 17  <b>Physical Science Lab, Level A:</b> Cards 36, 37, 38, 39, 40, 41, 42, 66, 67, 70 <b>Physical Science Lab, Level B:</b> Cards 36, 37, 38, 39, 40, 41, 42, 66, 67, 70

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Physical Systems</b>
<b>GLE 1.2.2 Energy Transfer and Transformation</b>
Understand how various factors affect energy transfers and that energy can be transformed from one form to of energy to another. <ul style="list-style-type: none"> <li>Describe how waves transfer energy (e.g., light waves transfer energy from the sun to Earth; air transfers an object’s vibrations from one place to another as sound).</li> </ul>
<b>Earth Science Lab, Level A:</b> Card 16 <b>Earth Science Lab, Level B:</b> Card 16  <b>Physical Science Lab, Level A:</b> Cards 77, 78, 79, 80, 82, 83 <b>Physical Science Lab, Level B:</b> Cards 77, 78, 79, 80, 82, 83 <b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 6, <i>Making Sound</i> , pages 97-99

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Physical Systems</b>
<b>GLE 1.2.3 Structure of Matter</b>
Understand that all matter is made of particles called atoms and that atoms may combine to form molecules and that atoms and molecules can form mixtures. <ul style="list-style-type: none"> <li>Describe that matter is made of particles called atoms and molecules.</li> </ul>
<b>Physical Science Lab, Level A:</b> Cards 3, 4 <b>Physical Science Lab, Level B:</b> Cards 3, 4

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Physical Systems</b>
<b>GLE 1.2.3 Structure of Matter</b>
<b>Understand that all matter is made of particles called atoms and that atoms may combine to form molecules and that atoms and molecules can form mixtures.</b>
<ul style="list-style-type: none"> <li>• <b>Describe that elements are made of one kind of atom.</b></li> </ul>
<b>Physical Science Lab, Level A:</b> Cards 10, 17, 18, 19, 20
<b>Physical Science Lab, Level B:</b> Cards 10, 17, 18, 19, 20

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.2.5 Components of the Solar System and Beyond (Universe)</b>
<b>Understand the structure of the Solar System.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how the Earth orbits the Sun and the Moon orbits the Earth.</b></li> </ul>
<b>Earth Science Lab, Level A:</b> Cards 62, 63, 64
<b>Earth Science Lab, Level B:</b> Cards 62, 63, 64

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.2.5 Components of the Solar System and Beyond (Universe)</b>
<b>Understand the structure of the Solar System.</b>
<ul style="list-style-type: none"> <li>• <b>Describe the Sun (i.e., a medium-size star, the largest body in our solar system, major source of energy for phenomena on Earth's surface).</b></li> </ul>
<b>Earth Science Lab, Level A:</b> Cards 38, 47, 55, 62, 67, 68
<b>Earth Science Lab, Level B:</b> Cards 38, 47, 55, 62, 67, 68

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.2.5 Components of the Solar System and Beyond (Universe)</b>
<b>Understand the structure of the Solar System.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how planets, asteroids, and comets orbit the Sun.</b></li> </ul>
<b>Earth Science Lab, Level A:</b> Cards 62, 68, 69, 70, 71, 72, 73
<b>Earth Science Lab, Level B:</b> Cards 62, 68, 69, 70, 71, 72, 73
<b>Physical Science Lab, Level A:</b> Card 59
<b>Physical Science Lab, Level B:</b> Card 59

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.2.5 Components of the Solar System and Beyond (Universe)</b>
<b>Understand the structure of the Solar System.</b>
<ul style="list-style-type: none"> <li>• Describe meteors (e.g., planetary and comet debris that collides with Earth).</li> </ul>
Earth Science Lab, Level A: Card 73
Earth Science Lab, Level B: Card 73

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Living Systems</b>
<b>GLE 1.2.6 Structure and Organization of Living Systems</b>
<b>Understand that specialized cells within multicellular organisms for different kinds of tissues, organs, and organ systems to carry out life functions.</b>
<ul style="list-style-type: none"> <li>• Describe and identify how plant and animal cells are similar and different in structure and function.</li> </ul>
Life Science Lab, Level A: Cards 5, 6, 7, 8, 9, 10
Life Science Lab, Level B: Cards 5, 6, 7, 8, 9, 10
Life Science Lab Teacher’s Handbook: Hands-On Activity , <i>Examining Cells</i> , pages 77-79

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Living Systems</b>
<b>GLE 1.2.6 Structure and Organization of Living Systems</b>
<b>Understand that specialized cells within multicellular organisms for different kinds of tissues, organs, and organ systems to carry out life functions.</b>
<ul style="list-style-type: none"> <li>• Describe basic cell functions (i.e., extracting energy from food, using energy, and getting rid of waste).</li> </ul>
Life Science Lab, Level A: Cards 5, 6, 7, 8, 9, 10
Life Science Lab, Level B: Cards 5, 6, 7, 8, 9, 10
Life Science Lab Teacher’s Handbook: Hands-On Activity , <i>Examining Cells</i> , pages 77-79

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Living Systems</b>
<b>GLE 1.2.7 Molecular Basis of Heredity</b>
<b>Understand that organisms pass on genetic information in their life cycle and that an organism’s characteristics are determined by both genetic and environmental influences.</b>
<ul style="list-style-type: none"> <li>• Describe, analyze, and explain the life cycle of an organism.</li> </ul>
Life Science Lab, Level A: Cards 20, 22, 42
Life Science Lab, Level B: Cards 20, 22, 42

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Living Systems</b>
<b>GLE 1.2.7 Molecular Basis of Heredity</b>
Understand that organisms pass on genetic information in their life cycle and that an organism’s characteristics are determined by both genetic and environmental influences. <ul style="list-style-type: none"> <li>Describe that organisms require a set of instructions for specifying their traits (i.e., heredity is the passage of these instructions from one generation to another).</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 61, 62, 63, 64
<b>Life Science Lab, Level B:</b> Cards 61, 62, 63, 64

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Living Systems</b>
<b>GLE 1.2.7 Molecular Basis of Heredity</b>
Understand that organisms pass on genetic information in their life cycle and that an organism’s characteristics are determined by both genetic and environmental influences. <ul style="list-style-type: none"> <li>Describe that genes inherited from parents are combined in their offspring to produce a new combination of characteristics.</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 62, 63, 64
<b>Life Science Lab, Level B:</b> Cards 62, 63, 64

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Living Systems</b>
<b>GLE 1.2.8 Human Biology</b>
Understand human life functions and the interconnecting organ systems necessary to maintain human life. <ul style="list-style-type: none"> <li>Describe the components and functions of the organ systems (i.e., circulatory, digestive, reproductive, excretory, nervous-sensory [brain, nerves, spinal cord, hearing, vision], respiratory, and muscular-skeletal systems).</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58
<b>Life Science Lab, Level B:</b> Cards 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.7 Interactions in the Solar System and Beyond (Universe)</b>
Understand the effects of the regular and predictable motions of planets and moons in the Solar System. <ul style="list-style-type: none"> <li>Describe the causes of seasonal changes on Earth and other planets (i.e., Earth’s tilt causes different parts of Earth to point toward the Sun at different times of the year).</li> </ul>
<b>Earth Science Lab, Level A:</b> Cards 55 62
<b>Earth Science Lab, Level B:</b> Cards 55, 62

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.7 Interactions in the Solar System and Beyond (Universe)</b>
<b>Understand the effects of the regular and predictable motions of planets and moons in the Solar System.</b>
<ul style="list-style-type: none"> <li>Describe the effects of the position of the Sun and Moon on Earth phenomena (i.e., Moon phases, solar and lunar eclipses, shadows on Earth, tides).</li> </ul>
Earth Science Lab, Level A: Cards 62, 64, 65, 66
Earth Science Lab, Level B: Cards 62, 64, 65, 66

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.1 Questioning</b>
<b>Understand how to generate a question that can be answered through scientific investigation.</b>
<ul style="list-style-type: none"> <li>Generate multiple questions based on observations.</li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
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<b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.1 Questioning</b>
<b>Understand how to generate a question that can be answered through scientific investigation.</b>
<ul style="list-style-type: none"> <li>Generate a question that can be investigated scientifically.</li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
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<b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15



<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.1 Questioning</b>
<b>Understand how to generate a question that can be answered through scientific investigation.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a new question that can be investigated with the same materials and/or data as a given investigation.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>
<b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.2 Planning and Conducting Safe Investigations</b>
<b>Understand how to plan and conduct scientific investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Make predictions (hypothesize) and give reasons.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87</p>
<b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.2 Planning and Conducting Safe Investigations</b>
Understand how to plan and conduct scientific investigations. <ul style="list-style-type: none"> <li>• <b>Generate a logical plan for, and conduct, a scientific controlled investigation with the following attributes:</b> <ul style="list-style-type: none"> <li>○ prediction (hypothesis)\appropriate materials, tools, and available computer technology</li> <li>○ controlled variables (kept the same)</li> <li>○ one manipulated (changed) variable</li> <li>○ responding (dependent) variable</li> <li>○ gather, record, and organize data using appropriate units, charts, and/or graphs</li> <li>○ multiple trials.</li> </ul> </li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
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<b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.2 Planning and Conducting Safe Investigations</b>
Understand how to plan and conduct scientific investigations. <ul style="list-style-type: none"> <li>• <b>Generate a logical plan for a simple field investigation with the following attributes:</b> <ul style="list-style-type: none"> <li>○ identify multiple variables</li> <li>○ select observable or measurable variables related to the investigative question.</li> </ul> </li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83
<b>Classroom Resource CD-ROM:</b> Writing Strategy 15, 23

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.2 Planning and Conducting Safe Investigations</b>
<b>Understand how to plan and conduct scientific investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Identify and explain safety requirements that would be needed in the investigation.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
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<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.3 Explaining</b>
<b>Apply understanding of how to construct a scientific explanation using evidence and inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a scientific conclusion including supporting data from an investigation using inferential logic (e.g., chewing gum loses more mass than bubble gum after being chewed for 5 minutes; chewing gum lost 2.00 grams while bubble gum only lost 1.47 grams).</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
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<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.3 Explaining</b>
<b>Apply understanding of how to construct a scientific explanation using evidence and inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Describe a reason for a given conclusion using evidence from an investigation.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.3 Explaining</b>
<b>Apply understanding of how to construct a scientific explanation using evidence and inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a scientific explanation of an observed phenomena using given data.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.3 Explaining</b>
<b>Apply understanding of how to construct a scientific explanation using evidence and inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Predict what logically might occur if an investigation lasted longer or changed.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.4 Modeling</b>
<b>Understand how models are used to investigate objects, events, systems, and processes.</b>
<ul style="list-style-type: none"> <li>• <b>Compare models or computer simulations of phenomena to the actual phenomena.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p> <p><b>Classroom Resource CD-ROM:</b> Writing Strategy 20</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>Investigating Systems</b>
<b>GLE 2.1.4 Modeling</b>
<b>Understand how models are used to investigate objects, events, systems, and processes.</b>
<ul style="list-style-type: none"> <li>• <b>Explain how models or computer simulations are used to investigate and predict the behavior of objects, events, systems, or processes.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p> <p><b>Classroom Resource CD-ROM:</b> Writing Strategy 20</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.4 Modeling</b>
<p><b>Understand how models are used to investigate objects, events, systems, and processes.</b></p> <ul style="list-style-type: none"> <li>• <b>Create a model or computer simulation to investigate and predict the behavior of objects, events, systems, or processes (e.g., phases of the Moon using a solar system model).</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p> <p><b>Classroom Resource CD-ROM:</b> Writing Strategy 20</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.5 Communicating</b>
<p><b>Apply understanding of how to report investigations and explanations of objects, events, systems, and processes.</b></p> <ul style="list-style-type: none"> <li>• <b>Report observations of scientific investigations without making inferences.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.4 Communicating</b>
Apply understanding of how to report investigations and explanations of objects, events, systems, and processes. <ul style="list-style-type: none"> <li>• Summarize an investigation by describing: <ul style="list-style-type: none"> <li>▪ Reasons for selecting the investigative plan.</li> <li>▪ Materials used in the investigation.</li> <li>▪ Observations, data, results.</li> <li>▪ Explanations and conclusions in written, mathematical, oral, and information technology presentation formats.</li> <li>▪ Ramifications of investigations.</li> <li>▪ Safety procedures used.</li> </ul> </li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i> , pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i> , pages 93-95; Hands-On Activity 6, <i>Making Sound</i> , pages 97-99
<b>Classroom Resource CD-ROM:</b> Writing Strategy 15

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.5 Communicating</b>
Apply understanding of how to report investigations and explanations of objects, events, systems, and processes. <ul style="list-style-type: none"> <li>• Describe the difference between an objective summary of data and an inference made from data.</li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91; Hands-On Activity 6, <i>Making Sound</i> , pages 97-99
<b>Classroom Resource CD-ROM:</b> Writing Strategy 22, 24

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.1 Intellectual Honesty</b>
<b>Apply curiosity, honesty, skepticism, and openness when considering explanations and conducting investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Explain why an honest response to questionable results, conclusions, or explanations is important to the scientific enterprise.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.1 Intellectual Honesty</b>
<b>Apply curiosity, honesty, skepticism, and openness when considering explanations and conducting investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how scientists accurately and honestly record, report, and share observations and measurements without bias.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>



<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.1 Intellectual Honesty</b>
<b>Apply curiosity, honesty, skepticism, and openness when considering explanations and conducting investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Explain why honest acknowledgement of the contributions of others and information sources are necessary.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.2 Limitations of Science and Technology</b>
<b>Understand that scientific theories explain facts using inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how a principle or theory logically explains a given set of facts.</b></li> </ul>
<p><b>Life Science Lab, Level A:</b> Cards 5, 65  <b>Life Science Lab, Level B:</b> Cards 5, 65</p> <p><b>Earth Science Lab, Level A:</b> Cards 10, 68, 72, 78  <b>Earth Science Lab, Level B:</b> Cards 10, 68, 72, 78</p> <p><b>Physical Science Lab, Level A:</b> Cards 3, 9, 37, 53, 55, 59  <b>Physical Science Lab, Level B:</b> Cards 3, 9, 37, 53, 55, 59</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.3 Evaluating Inconsistent Results</b>
<b>Analyze inconsistent results from scientific investigations to determine how the results can be explained.</b>
<ul style="list-style-type: none"> <li>• <b>Compare two or more similar investigations and explain why different results were produced (e.g., insufficient data could be interpreted as inconsistent results).</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.3 Evaluating Inconsistent Results</b>
<b>Analyze inconsistent results from scientific investigations to determine how the results can be explained.</b>
<ul style="list-style-type: none"> <li>• <b>Explain whether sufficient information has been obtained to make a conclusion.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p> <p><b>Classroom Resource CD-ROM:</b> Writing Strategy 18</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.4 Evaluating Methods of Investigation</b>
<b>Understand how to make the results of scientific investigations reliable and how to make the methods of investigations valid.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how the method of investigation insures reliable results (i.e., multiple trials ensure more reliable results).</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.4 Evaluating Methods of Investigation</b>
<b>Understand how to make the results of scientific investigations reliable and how to make the methods of investigations valid.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how to increase the reliability of the results of an investigation (i.e., repeating an investigation exactly the same way the reliability of the results).</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.5 Evolution of Scientific Ideas</b>
<b>Understand that increased comprehension of systems leads to new inquiry.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how scientific inquiry results in new facts, evidence, unexpected findings, ideas, and explanations.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
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<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.5 Evolution of Scientific Ideas</b>
<b>Understand that increased comprehension of systems leads to new inquiry.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how increased understanding of systems leads to new questions to be investigated.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
<p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p>
<p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.1 Identifying Problems</b>
Analyze common problems or challenges in which scientific design can be or has been used to design solutions. <ul style="list-style-type: none"> <li>Describe how science and technology could be used to solve all or part of a human problem and vice versa (e.g., understanding erosion can be used to solve some flooding problems).</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 46, 49, 64, 69, 87, 88, 89, 90 <b>Life Science Lab, Level B:</b> Cards 46, 49, 64, 69, 87, 88, 89, 90
<b>Earth Science Lab, Level A:</b> Cards 16, 20, 31, 37, 42, 51, 54, 70, 79, 80, 81, 88 <b>Earth Science Lab, Level B:</b> Cards 16, 20, 31, 37, 42, 51, 54, 70, 79, 80, 81, 88
<b>Physical Science Lab, Level A:</b> Cards 33, 35, 76, 81, 84, 90 <b>Physical Science Lab, Level B:</b> Cards 33, 35, 76, 81, 84, 90

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.1 Identifying Problems</b>
Analyze common problems or challenges in which scientific design can be or has been used to design solutions. <ul style="list-style-type: none"> <li>Describe the scientific concept, principle, or process used in a solution to a human problem (e.g., understanding of the relationship between electricity and magnetism has been used to make electric motors and generators).</li> </ul>
<b>Earth Science Lab, Level A:</b> Cards 16, 20, 31, 51, 54, 80, 81, 88 <b>Earth Science Lab, Level B:</b> Cards 16, 20, 31, 51, 54, 80, 81, 88
<b>Physical Science Lab, Level A:</b> Cards 35, 70, 72, 73, 76, 81, 84, 90 <b>Physical Science Lab, Level B:</b> Cards 35, 70, 72, 73, 76, 81, 84, 90

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.1 Identifying Problems</b>
Analyze common problems or challenges in which scientific design can be or has been used to design solutions. <ul style="list-style-type: none"> <li>Explain how to scientifically gather information to develop a solution (e.g., collect data by measuring all the factors and establish which are the most important to solve the problem).</li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91; Hands-On Activity 6, <i>Making Sound</i> , pages 97-99
<b>Classroom Resource CD-ROM:</b> Writing Strategy 18

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.1 Identifying Problems</b>
Analyze common problems or challenges in which scientific design can be or has been used to design solutions. <ul style="list-style-type: none"> <li>Describe an appropriate question that could lead to a possible solution to the problem.</li> </ul>
<b>GLE 3.1.2 Designing and Testing Solutions</b>
Apply the scientific design process to develop and implement solutions to problems or challenges. <ul style="list-style-type: none"> <li>Propose, implement, and document the scientific design process used to solve a problem or challenge: <ul style="list-style-type: none"> <li>Define the problem.</li> <li>Scientifically gather information and collect measurable data.</li> <li>Explore ideas.</li> <li>Make a plan.</li> <li>List steps to do the plan.</li> <li>Scientifically test solutions.</li> <li>Document the scientific design process.</li> </ul> </li> <li>Explain possible solutions to the problem (e.g., using pulleys instead of levers to lift a heavy object).</li> <li>Explain the reason(s) for the effectiveness of a solution to a problem or challenge.</li> </ul>
<b>GLE 3.1.3 Evaluating Potential Solutions</b>
Analyze multiple solutions to a problem or challenge. <ul style="list-style-type: none"> <li>Describe the criteria to evaluate an acceptable solution to the problem or challenge.</li> <li>Describe the reason(s) for the effectiveness of a solution or challenge using scientific concepts and principles.</li> </ul>
These concepts are not covered at this level.

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.1 All Peoples Contribute to Science and Technology</b>
Analyze how science and technology have been developed, used, and affected by many diverse individuals, cultures, and societies throughout human history. <ul style="list-style-type: none"> <li>Explain how the contributions of diverse individuals have led to the development of science and technology.</li> </ul>
Life Science Lab, Level A: Cards 2, 5, 46, 59 Life Science Lab, Level B: Cards 2, 5, 46, 59
Earth Science Lab, Level A: Cards 10, 68, 72, 78 Earth Science Lab, Level B: Cards 10, 68, 72, 78
Physical Science Lab, Level A: Cards 3, 7, 17, 55 Physical Science Lab, Level B: Cards 3, 7, 17, 55

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.3 Careers and Occupations Using Science, Mathematics, and Technology</b>
Analyze the use of science, mathematics, and technology within occupational/career areas of interest. <ul style="list-style-type: none"> <li>Examines scientific, mathematical, and technological knowledge and skill used in an occupation/career.</li> <li>Research occupations/careers that require knowledge of science, mathematics, and technology.</li> </ul>
This concept is not covered at this level.

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.4 Environmental and Resource Issues</b>
Analyze how human societies' use of natural resources affects the quality of life and the health of ecosystems. <ul style="list-style-type: none"> <li>• <b>Discriminate between renewable and nonrenewable resources in an ecosystem.</b></li> </ul>
Life Science Lab, Level A: Cards 84, 85, 86, 87, 88, 90 Life Science Lab, Level B: Cards 84, 85, 86, 87, 88, 90
Earth Science Lab, Level A: Cards 29, 35, 47 Earth Science Lab, Level B: Cards 29, 35, 47
Physical Science Lab, Level A: Cards 38, 46, 47, 48, 49 Physical Science Lab, Level B: Cards 38, 46, 47, 48, 49

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.4 Environmental and Resource Issues</b>
Analyze how human societies' use of natural resources affects the quality of life and the health of ecosystems. <ul style="list-style-type: none"> <li>• <b>Explain the effects that the conservation of natural resources has on the quality of life and the health of ecosystems.</b></li> </ul>
Life Science Lab, Level A: Cards 84, 85, 86, 87, 88, 89, 90 Life Science Lab, Level B: Cards 84, 85, 86, 87, 88, 89, 90 Life Science Lab Teacher's Handbook: Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
Earth Science Lab, Level A: Cards 29, 35, 37, 42, 59, 60, 61, 85, 86 Earth Science Lab, Level B: Cards 29, 35, 37, 42, 59, 60, 61, 85, 86 Earth Science Lab Teacher's Handbook: Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.4 Environmental and Resource Issues</b>
Analyze how human societies' use of natural resources affects the quality of life and the health of ecosystems. <ul style="list-style-type: none"> <li>• <b>Explain the effects of various human activities on the health of an ecosystem and/or the ability of organisms to survive in that ecosystem (e.g., consumption of natural resources; waste management; urban growth; land use decisions; pesticide, herbicide, or fertilizer use).</b></li> </ul>
Life Science Lab, Level A: Cards 84, 86, 87, 88, 89, 90 Life Science Lab, Level B: Cards 84, 86, 87, 88, 89, 90 Life Science Lab Teacher's Handbook: Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
Earth Science Lab, Level A: Cards 35, 37, 41, 59, 60, 61, 85, 86 Earth Science Lab, Level B: Cards 35, 37, 42, 59, 60, 61, 85, 86 Earth Science Lab Teacher's Handbook: Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91

***SRA Life, Earth, and Physical Science Laboratories***  
**correlation to**  
**Washington State’s Essential Academic Learning Requirements for Science**  
**Grade 7**

*SRA Life, Earth, and Physical Science Laboratories* provide core science content in an alternate reading format. Each *SRA Science Lab* contains 180 Science Cards covering key science concepts and vocabulary. Each lab covers 90 different science topics presented at two different reading levels to meet varied student abilities. The *Teacher’s Handbook* includes hands-on inquiry activities as well as vocabulary building exercises. The *Classroom Resource CD-ROM* includes Writing Strategies in Science along with tests and vocabulary games.

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.2 Motion of Objects</b>
<b>Understand the positions, relative speeds, and changes in speed of objects.</b>
<ul style="list-style-type: none"> <li>• <b>Describe and measure the relative position or change in position of one or two objects.</b></li> </ul>
Physical Science Lab, Level A: Cards 50, 51, 52, 53, 54, 55, 56, 57, 58
Physical Science Lab, Level B: Cards 50, 51, 52, 53, 54, 55, 56, 57, 58
Physical Science Lab Teacher’s Handbook: Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.2 Motion of Objects</b>
<b>Understand the positions, relative speeds, and changes in speed of objects.</b>
<ul style="list-style-type: none"> <li>• <b>Describe an object’s motion as speeding up, slowing down, or moving with constant speed using models, numbers, words, diagrams, and graphs.</b></li> </ul>
Physical Science Lab, Level A: Cards 50, 51, 52, 53, 54, 55, 56, 57, 58
Physical Science Lab, Level B: Cards 50, 51, 52, 53, 54, 55, 56, 57, 58
Physical Science Lab Teacher’s Handbook: Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.2 Motion of Objects</b>
<b>Understand the positions, relative speeds, and changes in speed of objects.</b>
<ul style="list-style-type: none"> <li>• <b>Measure and describe the speed of an object relative to the speed of another object.</b></li> </ul>
Physical Science Lab, Level A: Card 51
Physical Science Lab, Level B: Card 51



<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.1.5 Nature and Properties of Earth Materials</b>
Understand how to classify rocks, soils, air, and water into groups based on their chemical and physical properties. <ul style="list-style-type: none"> <li>Describe properties of minerals and rocks that give evidence of how they were formed (e.g., crystal size and arrangement, texture, luster, cleavage, hardness, layering, reaction to acid).</li> </ul>
Earth Science Lab, Level A: Cards 3, 4, 5, 6, 7, 8, 9 Earth Science Lab, Level B: Cards 3, 4, 5, 6, 7, 8, 9 Earth Science Lab Teacher’s Handbook: Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.1.5 Nature and Properties of Earth Materials</b>
Understand how to classify rocks, soils, air, and water into groups based on their chemical and physical properties. <ul style="list-style-type: none"> <li>Describe properties of soils that give evidence of how the soils were formed (e.g., chemical composition such as acidic, types of particles, particle size, organic materials, layering).</li> </ul>
Earth Science Lab, Level A: Cards 23, 29 Earth Science Lab, Level B: Cards 23, 29

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.1.5 Nature and Properties of Earth Materials</b>
Understand how to classify rocks, soils, air, and water into groups based on their chemical and physical properties. <ul style="list-style-type: none"> <li>Describe how Earth’s water (i.e., oceans, fresh waters, glaciers, ground water) can have different properties (e.g., salinity, density).</li> </ul>
Earth Science Lab, Level A: Cards 82, 83, 84, 87 Earth Science Lab, Level B: Cards 82, 83, 84, 87 Earth Science Lab Teacher’s Handbook: Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.1.5 Nature and Properties of Earth Materials</b>
Understand how to classify rocks, soils, air, and water into groups based on their chemical and physical properties. <ul style="list-style-type: none"> <li>Describe how the atmosphere has different properties at different elevations.</li> </ul>
Earth Science Lab, Level A: Cards 36, 37 Earth Science Lab, Level B: Cards 36, 37

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Systems Structure</b>
<b>GLE 1.2.1 Structure of Physical, Earth/Space and Living Systems</b>
Analyze how the parts of a system interconnect and influence each other. <ul style="list-style-type: none"> <li>Describe the flow of matter and energy through a system (i.e., energy and matter inputs, outputs, transfers, transformations).</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 9, 13, 16, 17, 46, 50, 70, 73, 74, 75, 76, 77, 78, 79, 80 <b>Life Science Lab, Level B:</b> Cards 9, 13, 16, 17, 46, 50, 70, 73, 74, 75, 76, 77, 78, 79, 80 <b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99  <b>Earth Science Lab, Level A:</b> Cards 9, 10, 11, 12, 13, 14, 15, 16, 17, 22, 23, 25, 26, 27, 28, 33, 35, 38, 39, 40, 41, 42, 47, 52, 53, 54, 59, 60, 61, 62, 66, 67 <b>Earth Science Lab, Level B:</b> Cards 9, 10, 11, 12, 13, 14, 15, 16, 17, 22, 23, 25, 26, 27, 28, 33, 35, 38, 39, 40, 41, 42, 47, 52, 53, 54, 59, 60, 61, 62, 66, 67 <b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79; Hands-On Activity 4, <i>Using Sound Waves</i> , pages 85-87; Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95  <b>Physical Science Lab, Level A:</b> Cards 6, 8, 9, 27, 28, 29, 30, 34, 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 48, 49, 55, 56, 58, 59, 63, 64, 66, 67, 68, 69, 70, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88 <b>Physical Science Lab, Level B:</b> Cards 6, 8, 9, 27, 28, 29, 30, 34, 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 48, 49, 55, 56, 58, 59, 63, 64, 66, 67, 68, 69, 70, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88 <b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i> , pages 93-95; Hands-On Activity 6, <i>Making Sound</i> , pages 97-99

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.2.4 Components and Patterns of Earth Systems</b>
Understand the components and interactions of earth’s systems. <ul style="list-style-type: none"> <li>Describe the components of the Earth’s systems (i.e., the core, the mantle, oceanic and crustal plates, landforms, the hydrosphere and atmosphere).</li> </ul>
<b>Earth Science Lab, Level A:</b> Cards 1, 2, 10, 11, 12, 13, 14, 15, 17, 21, 36, 37, 82, 83, 84, 87, 88 <b>Earth Science Lab, Level B:</b> Cards 1, 2, 10, 11, 12, 13, 14, 15, 17, 21, 36, 37, 82, 83, 84, 87, 88 <b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.2.4 Components and Patterns of Earth Systems</b>
<b>Understand the components and interactions of earth’s systems.</b>
<ul style="list-style-type: none"> <li>Describe the interactions among the components of Earth’s systems (i.e., the core, the mantle, oceanic and crustal plates, landforms, the hydrosphere and atmosphere).</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 78, 79, 84, 87, 88, 89, 90 <b>Life Science Lab, Level B:</b> Cards 78, 79, 84, 87, 88, 89, 90 <b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab, Level A:</b> Cards 1, 2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 82, 83, 84, 85, 86, 87, 88, 89, 90 <b>Earth Science Lab, Level B:</b> Cards 1, 2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 82, 83, 84, 85, 86, 87, 88, 89, 90 <b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.2.4 Components and Patterns of Earth Systems</b>
<b>Understand the components and interactions of earth’s systems.</b>
<ul style="list-style-type: none"> <li>Describe magma (i.e., magma comes from Earth’s mantle and cools to form rocks).</li> </ul>
<b>Physical Science Lab, Level A:</b> Cards 8, 17 <b>Physical Science Lab, Level B:</b> Cards 8, 17

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Physical Systems</b>
<b>GLE 1.3.1 Nature of Force</b>
<b>Understand factors that affect the strength and direction of forces.</b>
<ul style="list-style-type: none"> <li>Observe and describe factors that affect the strength of forces (e.g., an object with a greater mass has a greater gravitational force [weight]; certain types of magnets have greater magnetic forces; a larger muscle can pull with a greater force).</li> </ul>
<b>Physical Science Lab, Level A:</b> Cards 55, 56, 57, 58, 59, 74, 76 <b>Physical Science Lab, Level B:</b> Cards 55, 56, 57, 58, 59, 74, 76 <b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Physical Systems</b>
<b>GLE 1.3.1 Nature of Force</b>
Understand factors that affect the strength and direction of forces. <ul style="list-style-type: none"> <li>Describe how forces acting on an object may balance each other (e.g., the downward force of gravity on an object sitting on a table is balanced up an upward force from the table).</li> </ul>
Physical Science Lab, Level A: Cards 54, 55, 56, 57, 58, 59 Physical Science Lab, Level B: Cards 54, 55, 56, 57, 58, 59 Physical Science Lab Teacher’s Handbook: Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Physical Systems</b>
<b>GLE 1.3.1 Nature of Force</b>
Understand factors that affect the strength and direction of forces. <ul style="list-style-type: none"> <li>Measure and describe how a simple machine can change the strength and/or direction of a force (i.e., levers and pulleys).</li> </ul>
Physical Science Lab, Level A: Cards 63, 64 Physical Science Lab, Level B: Cards 63, 64

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Physical Systems</b>
<b>GLE 1.3.1 Nature of Force</b>
Understand factors that affect the strength and direction of forces. <ul style="list-style-type: none"> <li>Describe pressure as a force (e.g., pressure increases result in greater forces acting on objects going deeper in a body of water).</li> </ul>
Physical Science Lab, Level A: Card 60 Physical Science Lab, Level B: Card 60

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Physical Systems</b>
<b>GLE 1.3.2 Forces to Explain Motion</b>
Understand how balanced and unbalanced forces can change the motion of objects. <ul style="list-style-type: none"> <li>Describe how an unbalanced force changes the speed and/or direction of different objects moving along a straight line, 2<sup>nd</sup> Law of Motion (e.g., a larger unbalanced force is needed to equally change the motion of more massive objectives).</li> </ul>
Physical Science Lab, Level A: Cards 55, 56 Physical Science Lab, Level B: Cards 55, 56

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Physical Systems</b>
<b>GLE 1.3.2 Forces to Explain Motion</b>
<b>Understand how balanced and unbalanced forces can change the motion of objects.</b>
<ul style="list-style-type: none"> <li>• Describe how frictional forces act to stop the motion of objects.</li> </ul>
Physical Science Lab, Level A: Cards 54, 55, 56, 58
Physical Science Lab, Level B: Cards 54, 55, 56, 58
Physical Science Lab Teacher's Handbook: Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Physical Systems</b>
<b>GLE 1.3.2 Forces to Explain Motion</b>
<b>Understand how balanced and unbalanced forces can change the motion of objects.</b>
<ul style="list-style-type: none"> <li>• Investigate and describe the balanced and unbalanced forces acting on an object (e.g., a model car speeding up on a table has both an unbalanced force pulling it forward and a gravitational force pulling it down balanced by the table pushing upward).</li> </ul>
Physical Science Lab, Level A: Cards 54, 55, 56, 57, 58, 59
Physical Science Lab, Level B: Cards 54, 55, 56, 57, 58, 59
Physical Science Lab Teacher's Handbook: Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Physical Systems</b>
<b>GLE 1.3.2 Forces to Explain Motion</b>
<b>Understand how balanced and unbalanced forces can change the motion of objects.</b>
<ul style="list-style-type: none"> <li>• Investigate and describe pressure differences that result in unbalanced forces moving objects (e.g., pressure differences cause forces that move air masses, move blood through the heart, cause volcanic eruptions).</li> </ul>
Life Science Lab, Level A: Card 47
Life Science Lab, Level B: Card 47
Life Science Lab Teacher's Handbook: Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91
Earth Science Lab, Level A: Cards 10, 11, 12, 13, 14, 15, 16, 17, 24, 25, 26, 27, 28, 38, 40, 41, 45, 46, 52, 53, 54, 62, 68, 87, 90
Earth Science Lab, Level B: Cards 10, 11, 12, 13, 14, 15, 16, 17, 24, 25, 26, 27, 28, 38, 40, 41, 45, 46, 52, 53, 54, 62, 68, 87, 90
Earth Science Lab Teacher's Handbook: Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79; Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95
Physical Science Lab, Level A: Cards 47, 48, 54, 55, 56, 57, 58, 59
Physical Science Lab, Level B: Cards 47, 48, 54, 55, 56, 57, 58, 59
Physical Science Lab Teacher's Handbook: Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Physical Systems</b>
<b>GLE 1.3.3 Conservation of Matter and Energy</b>
Understand that matter is conserved during physical and chemical changes. <ul style="list-style-type: none"> <li>Observe and describe evidence of physical and chemical changes of matter (e.g., change of state, size, shape, temperature, color, gas production, solid formation, light).</li> </ul>
Physical Science Lab, Level A: Cards 6, 7, 8, 9, 11, 12, 13, 27, 28, 29, 30 Physical Science Lab, Level B: Cards 6, 7, 8, 9, 11, 12, 13, 27, 28, 29, 30 Physical Science Lab Teacher’s Handbook: Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Physical Systems</b>
<b>GLE 1.3.3 Conservation of Matter and Energy</b>
Understand that matter is conserved during physical and chemical changes. <ul style="list-style-type: none"> <li>Observe and describe that substances undergoing physical changes produce matter with the same chemical properties as the original substance and the same total mass (e.g., tearing paper, freezing water, breaking wood, sugar dissolving in water).</li> </ul>
Physical Science Lab, Level A: Cards 6, 8, 12, 13 Physical Science Lab, Level B: Cards 6, 8, 12, 13

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Physical Systems</b>
<b>GLE 1.3.3 Conservation of Matter and Energy</b>
Understand that matter is conserved during physical and chemical changes. <ul style="list-style-type: none"> <li>Observe and describe that substances may react chemically to form new substances with different chemical properties and the same total mass (e.g., baking soda and vinegar; light stick mass before, during, and after reaction).</li> </ul>
Physical Science Lab, Level A: Cards 9, 11, 27, 28, 29, 30 Physical Science Lab, Level B: Cards 9, 11, 27, 28, 29, 30 Physical Science Lab Teacher’s Handbook: Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.4 Processes and Interactions in the Earth System</b>
Understand the processes that continually change the surface of the Earth. <ul style="list-style-type: none"> <li>Describe the processes by which soils are formed (e.g., erosion and deposition in river systems).</li> </ul>
Earth Science Lab, Level A: Cards 23, 29 Earth Science Lab, Level B: Cards 23, 29

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.4 Processes and Interactions in the Earth System</b>
Understand the processes that continually change the surface of the Earth. <ul style="list-style-type: none"> <li>Describe how heat (thermal) energy flow and movement (convection currents) beneath Earth’s crust cause earthquakes and volcanoes.</li> </ul>
Earth Science Lab, Level A: Cards 10, 11, 12, 13, 14, 15, 16, 17 Earth Science Lab, Level B: Cards 10, 11, 12, 13, 14, 15, 16, 17 Earth Science Lab Teacher’s Handbook: Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.4 Processes and Interactions in the Earth System</b>
Understand the processes that continually change the surface of the Earth. <ul style="list-style-type: none"> <li>Describe how constructive processes change landforms (e.g., crustal deformation, volcanic eruption, deposition of sediment).</li> </ul>
Earth Science Lab, Level A: Cards 11, 12, 13, 14, 15, 17 Earth Science Lab, Level B: Cards 11, 12, 13, 14, 15, 17

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.4 Processes and Interactions in the Earth System</b>
Understand the processes that continually change the surface of the Earth. <ul style="list-style-type: none"> <li>Describe how destructive processes change landforms (e.g., rivers erode landforms).</li> </ul>
Earth Science Lab, Level A: Cards 21, 22, 24, 25, 26, 27, 28 Earth Science Lab, Level B: Cards 21, 22, 24, 25, 26, 27, 28

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.4 Processes and Interactions in the Earth System</b>
Understand the processes that continually change the surface of the Earth. <ul style="list-style-type: none"> <li>Describe the processes involved in the rock cycle (e.g., magma cools into igneous rocks; rocks are eroded and deposited as sediments; sediments solidify into sedimentary rocks; rocks can be changes by heat and pressure to form metamorphic rocks).</li> </ul>
Earth Science Lab, Level A: Cards 6, 7, 8, 9 Earth Science Lab, Level B: Cards 6, 7, 8, 9

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.5 History and Evolution of the Earth</b>
Understand how fossils and other evidence are used to document life and environmental changes over time. <ul style="list-style-type: none"> <li>Describe how fossils are formed.</li> </ul>
Life Science Lab, Level A: Card 67 Life Science Lab, Level B: Card 67 Life Science Lab Teacher’s Handbook: Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95
Earth Science Lab, Level A: Cards 33, 34 Earth Science Lab, Level B: Cards 33, 34

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.5 History and Evolution of the Earth</b>
Understand how fossils and other evidence are used to document life and environmental changes over time. <ul style="list-style-type: none"> <li>Describe different kinds of evidence that are used to document past conditions on Earth (e.g., glacial markings, ash layers, tree rings, rock layers).</li> </ul>
Life Science Lab, Level A: Card 67 Life Science Lab, Level B: Card 67
Earth Science Lab, Level A: Cards 30, 31, 32, 33, 34 Earth Science Lab, Level B: Cards 30, 31, 32, 33, 34

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.5 History and Evolution of the Earth</b>
Understand how fossils and other evidence are used to document life and environmental changes over time. <ul style="list-style-type: none"> <li>Describe how fossils and other artifacts provide evidence of how life has changed over time (e.g., extinction of species).</li> </ul>
Life Science Lab, Level A: Card 67 Life Science Lab, Level B: Card 67
Earth Science Lab, Level A: Cards 31, 34 Earth Science Lab, Level B: Cards 31, 34

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.6 Hydrosphere and Atmosphere</b>
Analyze the relationship between weather and climate and how ocean currents and global atmospheric circulation affect weather and climate. <ul style="list-style-type: none"> <li>Compare weather and climate.</li> </ul>
Earth Science Lab, Level A: Cards 38, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 55, 56, 57, 58 Earth Science Lab, Level B: Cards 38, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 55, 56, 57, 58 Earth Science Lab Teacher’s Handbook: Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95



<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.6 Hydrosphere and Atmosphere</b>
Analyze the relationship between weather and climate and how ocean currents and global atmospheric circulation affect weather and climate. <ul style="list-style-type: none"> <li>• Explain the effect of the water cycle on weather (e.g., cloud formation, storms).</li> </ul>
Earth Science Lab, Level A: Cards 47, 48, 49, 52, 53, 54
Earth Science Lab, Level B: Cards 47, 48, 49, 52, 53, 54
Earth Science Lab Teacher’s Handbook: Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.6 Hydrosphere and Atmosphere</b>
Analyze the relationship between weather and climate and how ocean currents and global atmospheric circulation affect weather and climate. <ul style="list-style-type: none"> <li>• Explain how ocean currents influence the atmosphere in terms of weather and climate.</li> </ul>
Earth Science Lab, Level A: Cards 57, 58, 87
Earth Science Lab, Level B: Cards 57, 58, 87

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.6 Hydrosphere and Atmosphere</b>
Analyze the relationship between weather and climate and how ocean currents and global atmospheric circulation affect weather and climate. <ul style="list-style-type: none"> <li>• Explain the causes of atmospheric circulation and oceanic currents (e.g., prevailing winds are the result of hot tropical regions, cold polar regions, and Earth’s spin).</li> </ul>
Earth Science Lab, Level A: Cards 38, 40, 41
Earth Science Lab, Level B: Cards 38, 40, 41

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Living Systems</b>
<b>GLE 1.3.8 Life Processes and the Flow of Matter and Energy</b>
Understand how individual organisms, including cells, obtain matter and energy for life processes. <ul style="list-style-type: none"> <li>• Describe the different sources of matter and energy required for life processes in plants and animals (e.g., seeds have energy for germination; green plants need light for energy).</li> </ul>
Life Science Lab, Level A: Cards 7, 9, 13, 16, 17, 20, 21, 22, 45, 46, 73, 74, 75, 76, 77, 78, 79, 87
Life Science Lab, Level B: Cards 7, 9, 13, 16, 17, 20, 21, 22, 45, 46, 73, 74, 75, 76, 77, 78, 79, 87
Life Science Lab Teacher’s Handbook: Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Living Systems</b>
<b>GLE 1.3.8 Life Processes and the Flow of Matter and Energy</b>
Understand how individual organisms, including cells, obtain matter and energy for life processes. <ul style="list-style-type: none"> <li>Describe how organisms acquire materials needed for life processes.</li> </ul>
Life Science Lab, Level A: Cards 7, 8, 9, 13, 46, 74, 75, 76, 77
Life Science Lab, Level B: Cards 7, 8, 9, 13, 46, 74, 75, 76, 77

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Living Systems</b>
<b>GLE 1.3.8 Life Processes and the Flow of Matter and Energy</b>
Understand how individual organisms, including cells, obtain matter and energy for life processes. <ul style="list-style-type: none"> <li>Describe how systems interact to distribute materials and eliminate wastes produced by life processes.</li> </ul>
Life Science Lab, Level A: Cards 8, 9, 47, 50, 51, 52, 74, 76, 77
Life Science Lab, Level B: Cards 8, 9, 47, 50, 51, 52, 74, 76, 77
Life Science Lab Teacher’s Handbook: Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Living Systems</b>
<b>GLE 1.3.8 Life Processes and the Flow of Matter and Energy</b>
Understand how individual organisms, including cells, obtain matter and energy for life processes. <ul style="list-style-type: none"> <li>Describe that both plants and animals extract energy from food but plants produce their own food from light, air, water, and mineral nutrients while animals consume energy-rich food.</li> </ul>
Life Science Lab, Level A: Cards 9, 16, 17, 25, 74, 76, 77
Life Science Lab, Level B: Cards 9, 16, 17, 25, 74, 76, 77
Life Science Lab Teacher’s Handbook: Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Living Systems</b>
<b>GLE 1.3.9 Biological Evolution</b>
Understand how the theory of biological evolution accounts for species diversity, adaptation, natural selection, extinction, and change in species over time. <ul style="list-style-type: none"> <li>Describe how fossils show that extinction is common and that most organisms that lived long ago have become extinct.</li> </ul>
Life Science Lab, Level A: Card 67
Life Science Lab, Level B: Card 67
Earth Science Lab, Level A: Cards 32, 33
Earth Science Lab, Level B: Cards 32, 33

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Living Systems</b>
<b>GLE 1.3.9 Biological Evolution</b>
Understand how the theory of biological evolution accounts for species diversity, adaptation, natural selection, extinction, and change in species over time. <ul style="list-style-type: none"> <li>Describe how individual organisms with certain traits are more likely than others to survive and have offspring (i.e., natural selection, adaptation).</li> </ul>
Life Science Lab, Level A: Cards 65, 66
Life Science Lab, Level B: Cards 65, 66

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Living Systems</b>
<b>GLE 1.3.9 Biological Evolution</b>
Understand how the theory of biological evolution accounts for species diversity, adaptation, natural selection, extinction, and change in species over time. <ul style="list-style-type: none"> <li>Describe how biological evolution accounts for the diversity of species developed through gradual processes over many generations.</li> </ul>
Life Science Lab, Level A: Cards 65, 66, 67, 68
Life Science Lab, Level B: Cards 65, 66, 67, 68

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Living Systems</b>
<b>GLE 1.3.10 Interdependence of Life</b>
Understand how organisms in ecosystems interact with and respond to their environment and other organisms. <ul style="list-style-type: none"> <li>Describe how energy flows through a food chain or web.</li> </ul>
Life Science Lab, Level A: Cards 76, 77
Life Science Lab, Level B: Cards 76, 77
Life Science Lab Teacher’s Handbook: Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Living Systems</b>
<b>GLE 1.3.10 Interdependence of Life</b>
Understand how organisms in ecosystems interact with and respond to their environment and other organisms. <ul style="list-style-type: none"> <li>Describe how substances such as air, water, and mineral nutrients are continually cycled in ecosystems.</li> </ul>
Life Science Lab, Level A: Cards 13, 16, 17, 76, 77
Life Science Lab, Level B: Cards 13, 16, 17, 76, 77
Earth Science Lab, Level A: Card 47
Earth Science Lab, Level B: Card 47

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Living Systems</b>
<b>GLE 1.3.10 Interdependence of Life</b>
Understand how organisms in ecosystems interact with and respond to their environment and other organisms. <ul style="list-style-type: none"> <li>• Explain the role of an organism in an ecosystem (e.g., predator, prey, consumer, producer, decomposer, scavenger, carnivore, herbivore, omnivore).</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 71, 73, 74, 75, 76, 77
<b>Life Science Lab, Level B:</b> Cards 71, 73, 74, 75, 76, 77

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Living Systems</b>
<b>GLE 1.3.10 Interdependence of Life</b>
Understand how organisms in ecosystems interact with and respond to their environment and other organisms. <ul style="list-style-type: none"> <li>• Describe how a population of an organism responds to a change in its environment.</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 80, 86, 87, 88, 89, 90
<b>Life Science Lab, Level B:</b> Cards 80, 86, 87, 88, 89, 90

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.1 Questioning</b>
Understand how to generate a question that can be answered through scientific investigation. <ul style="list-style-type: none"> <li>• Generate multiple questions based on observations.</li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i> , pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
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<b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.1 Questioning</b>
<b>Understand how to generate a question that can be answered through scientific investigation.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a question that can be investigated scientifically.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p> <p><b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.1 Questioning</b>
<b>Understand how to generate a question that can be answered through scientific investigation.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a new question that can be investigated with the same materials and/or data as a given investigation.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p> <p><b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.2 Planning and Conducting Safe Investigations</b>
<b>Understand how to plan and conduct scientific investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Make predictions (hypothesize) and give reasons.</b></li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87
<b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.2 Planning and Conducting Safe Investigations</b>
<b>Understand how to plan and conduct scientific investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a logical plan for, and conduct, a scientific controlled investigation with the following attributes:</b> <ul style="list-style-type: none"> <li>○ <b>prediction (hypothesis) appropriate materials, tools, and available computer technology</b></li> <li>○ <b>controlled variables (kept the same)</b></li> <li>○ <b>one manipulated (changed) variable</b></li> <li>○ <b>responding (dependent) variable</b></li> <li>○ <b>gather, record, and organize data using appropriate units, charts, and/or graphs</b></li> <li>○ <b>multiple trials.</b></li> </ul> </li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
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<b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.2 Planning and Conducting Safe Investigations</b>
<b>Understand how to plan and conduct scientific investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a logical plan for a simple field investigation with the following attributes:</b> <ul style="list-style-type: none"> <li>○ identify multiple variables</li> <li>○ select observable or measurable variables related to the investigative question.</li> </ul> </li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83
<b>Classroom Resource CD-ROM:</b> Writing Strategy 15, 23

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.2 Planning and Conducting Safe Investigations</b>
<b>Understand how to plan and conduct scientific investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Identify and explain safety requirements that would be needed in the investigation.</b></li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
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<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.3 Explaining</b>
<b>Apply understanding of how to construct a scientific explanation using evidence and inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a scientific conclusion including supporting data from an investigation using inferential logic (e.g., chewing gum loses more mass than bubble gum after being chewed for 5 minutes; chewing gum lost 2.00 grams while bubble gum only lost 1.47 grams).</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.3 Explaining</b>
<b>Apply understanding of how to construct a scientific explanation using evidence and inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Describe a reason for a given conclusion using evidence from an investigation.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>



<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.3 Explaining</b>
<b>Apply understanding of how to construct a scientific explanation using evidence and inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a scientific explanation of an observed phenomena using given data.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
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<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.3 Explaining</b>
<b>Apply understanding of how to construct a scientific explanation using evidence and inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Describe the difference between evidence (data) and conclusions.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
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<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.4 Modeling</b>
<b>Understand how models are used to investigate objects, events, systems, and processes.</b>
<ul style="list-style-type: none"> <li>• <b>Create a model or computer simulation to investigate and predict the behavior of objects, events, systems, or processes (e.g., phases of the Moon using a solar system model).</b></li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99
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<b>Classroom Resource CD-ROM:</b> Writing Strategy 20

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.4 Modeling</b>
<b>Understand how models are used to investigate objects, events, systems, and processes.</b>
<ul style="list-style-type: none"> <li>• <b>Explain the advantages and limitations of investigating with a model.</b></li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99
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<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.5 Communicating</b>
<b>Apply understanding of how to report investigations and explanations of objects, events, systems, and processes.</b>
<ul style="list-style-type: none"> <li>• <b>Report observations of scientific investigations without making inferences.</b></li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i> , pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i> , pages 93-95; Hands-On Activity 6, <i>Making Sound</i> , pages 97-99

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.5 Communicating</b>
Apply understanding of how to report investigations and explanations of objects, events, systems, and processes. <ul style="list-style-type: none"> <li>• Summarize an investigation by describing: <ul style="list-style-type: none"> <li>▪ Reasons for selecting the investigative plan.</li> <li>▪ Materials used in the investigation.</li> <li>▪ Observations, data, results.</li> <li>▪ Explanations and conclusions in written, mathematical, oral, and information technology presentation formats.</li> <li>▪ Ramifications of investigations.</li> <li>▪ Safety procedures used.</li> </ul> </li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i> , pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i> , pages 93-95; Hands-On Activity 6, <i>Making Sound</i> , pages 97-99
<b>Classroom Resource CD-ROM:</b> Writing Strategy 15

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.5 Communicating</b>
Apply understanding of how to report investigations and explanations of objects, events, systems, and processes. <ul style="list-style-type: none"> <li>• Describe the difference between an objective summary of data and an inference made from data.</li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91; Hands-On Activity 6, <i>Making Sound</i> , pages 97-99
<b>Classroom Resource CD-ROM:</b> Writing Strategy 22, 24

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.1 Intellectual Honesty</b>
<b>Apply curiosity, honesty, skepticism, and openness when considering explanations and conducting investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Explain why an honest response to questionable results, conclusions, or explanations is important to the scientific enterprise.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.1 Intellectual Honesty</b>
<b>Apply curiosity, honesty, skepticism, and openness when considering explanations and conducting investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how scientists accurately and honestly record, report, and share observations and measurements without bias.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.1 Intellectual Honesty</b>
<b>Apply curiosity, honesty, skepticism, and openness when considering explanations and conducting investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Explain why honest acknowledgement of the contributions of others and information sources are necessary.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.2 Limitations of Science and Technology</b>
<b>Understand that scientific theories explain facts using inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how a principle or theory logically explains a given set of facts.</b></li> </ul>
<p><b>Life Science Lab, Level A:</b> Cards 5, 65  <b>Life Science Lab, Level B:</b> Cards 5, 65</p> <p><b>Earth Science Lab, Level A:</b> Cards 10, 68, 72, 78  <b>Earth Science Lab, Level B:</b> Cards 10, 68, 72, 78</p> <p><b>Physical Science Lab, Level A:</b> Cards 3, 9, 37, 53, 55, 59  <b>Physical Science Lab, Level B:</b> Cards 3, 9, 37, 53, 55, 59</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.2 Limitations of Science and Technology</b>
<b>Understand that scientific theories explain facts using inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how new facts or evidence may result in the modification or rejection of a theory (e.g., caloric theory of heat, theory of acquired characteristics).</b></li> </ul>
<p><b>Life Science Lab, Level A:</b> Cards 5, 65  <b>Life Science Lab, Level B:</b> Cards 5, 65</p> <p><b>Earth Science Lab, Level A:</b> Cards 10, 53, 59, 68, 72, 78  <b>Earth Science Lab, Level B:</b> Cards 10, 53, 59, 68, 72, 78</p> <p><b>Physical Science Lab, Level A:</b> Cards 3, 17  <b>Physical Science Lab, Level B:</b> Cards 3, 17</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.3 Evaluating Inconsistent Results</b>
<b>Analyze inconsistent results from scientific investigations to determine how the results can be explained.</b>
<ul style="list-style-type: none"> <li>• <b>Compare two or more similar investigations and explain why different results were produced (e.g., insufficient data could be interpreted as inconsistent results).</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.3 Evaluating Inconsistent Results</b>
<b>Analyze inconsistent results from scientific investigations to determine how the results can be explained.</b>
<ul style="list-style-type: none"> <li>• <b>Explain whether sufficient information has been obtained to make a conclusion.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p> <p><b>Classroom Resource CD-ROM:</b> Writing Strategy 18</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.3 Evaluating Inconsistent Results</b>
<b>Analyze inconsistent results from scientific investigations to determine how the results can be explained.</b>
<ul style="list-style-type: none"> <li>• Explain why the results from a single investigation or demonstration are not sufficient to describe a phenomena.</li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.4 Evaluating Methods of Investigation</b>
<b>Understand how to make the results of scientific investigations reliable and how to make the methods of investigations valid.</b>
<ul style="list-style-type: none"> <li>• Describe how to increase the reliability of the results of an investigation (i.e., repeating an investigation exactly the same way the reliability of the results).</li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.4 Evaluating Methods of Investigation</b>
<b>Understand how to make the results of scientific investigations reliable and how to make the methods of investigations valid.</b>
<ul style="list-style-type: none"> <li>Describe how the method of an investigation is valid (i.e., validity means that the investigation answered the investigative question with confidence; the manipulated variable caused the change in the responding or dependent variable).</li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.4 Evaluating Methods of Investigation</b>
<b>Understand how to make the results of scientific investigations reliable and how to make the methods of investigations valid.</b>
<ul style="list-style-type: none"> <li>Describe the purpose of the steps and materials of an investigation’s procedure in terms of the validity of the investigation.</li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p> <p><b>Classroom Resource CD-ROM:</b> Writing Strategy 15</p>



<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.5 Evolution of Scientific Ideas</b>
<b>Understand that increased comprehension of systems leads to new inquiry.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how scientific inquiry results in new facts, evidence, unexpected findings, ideas, and explanations.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
<p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p>
<p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.5 Evolution of Scientific Ideas</b>
<b>Understand that increased comprehension of systems leads to new inquiry.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how results of scientific inquiry may change our understanding of the systems of the natural and constructed world.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
<p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p>
<p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.5 Evolution of Scientific Ideas</b>
<b>Understand that increased comprehension of systems leads to new inquiry.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how increased understanding of systems leads to new questions to be investigated.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
<p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p>
<p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.5 Evolution of Scientific Ideas</b>
<b>Understand that increased comprehension of systems leads to new inquiry.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how new ideas need repeated inquires before acceptance.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
<p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p>
<p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.1 Identifying Problems</b>
Analyze common problems or challenges in which scientific design can be or has been used to design solutions. <ul style="list-style-type: none"> <li>Describe how science and technology could be used to solve all or part of a human problem and vice versa (e.g., understanding erosion can be used to solve some flooding problems).</li> </ul>
Life Science Lab, Level A: Cards 46, 49, 64, 69, 87, 88, 89, 90 Life Science Lab, Level B: Cards 46, 49, 64, 69, 87, 88, 89, 90
Earth Science Lab, Level A: Cards 16, 20, 31, 37, 42, 51, 54, 70, 79, 80, 81, 88 Earth Science Lab, Level B: Cards 16, 20, 31, 37, 42, 51, 54, 70, 79, 80, 81, 88
Physical Science Lab, Level A: Cards 33, 35, 76, 81, 84, 90 Physical Science Lab, Level B: Cards 33, 35, 76, 81, 84, 90

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.1 Identifying Problems</b>
Analyze common problems or challenges in which scientific design can be or has been used to design solutions. <ul style="list-style-type: none"> <li>Describe the scientific concept, principle, or process used in a solution to a human problem (e.g., understanding of the relationship between electricity and magnetism has been used to make electric motors and generators).</li> </ul>
Earth Science Lab, Level A: Cards 16, 20, 31, 51, 54, 80, 81, 88 Earth Science Lab, Level B: Cards 16, 20, 31, 51, 54, 80, 81, 88
Physical Science Lab, Level A: Cards 35, 70, 72, 73, 76, 81, 84, 90 Physical Science Lab, Level B: Cards 35, 70, 72, 73, 76, 81, 84, 90

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.1 Identifying Problems</b>
Analyze common problems or challenges in which scientific design can be or has been used to design solutions. <ul style="list-style-type: none"> <li>Explain how to scientifically gather information to develop a solution (e.g., collect data by measuring all the factors and establish which are the most important to solve the problem).</li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91; Hands-On Activity 6, <i>Making Sound</i> , pages 97-99
<b>Classroom Resource CD-ROM:</b> Writing Strategy 18

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.1 Identifying Problems</b>
Analyze common problems or challenges in which scientific design can be or has been used to design solutions. <ul style="list-style-type: none"> <li>• Describe an appropriate question that could lead to a possible solution to the problem.</li> </ul>
<b>GLE 3.1.2 Designing and Testing Solutions</b>
Apply the scientific design process to develop and implement solutions to problems or challenges. <ul style="list-style-type: none"> <li>• Propose, implement, and document the scientific design process used to solve a problem or challenge: <ul style="list-style-type: none"> <li>○ Define the problem.</li> <li>○ Scientifically gather information and collect measurable data.</li> <li>○ Explore ideas.</li> <li>○ Make a plan.</li> <li>○ List steps to do the plan.</li> <li>○ Scientifically test solutions.</li> <li>○ Document the scientific design process.</li> </ul> </li> <li>• Explain possible solutions to the problem (e.g., using pulleys instead of levers to lift a heavy object).</li> <li>• Explain the reason(s) for the effectiveness of a solution to a problem or challenge.</li> </ul>
<b>GLE 3.1.3 Evaluating Potential Solutions</b>
Analyze multiple solutions to a problem or challenge. <ul style="list-style-type: none"> <li>• Describe the criteria to evaluate an acceptable solution to the problem or challenge.</li> <li>• Describe the reason(s) for the effectiveness of a solution or challenge using scientific concepts and principles.</li> </ul>
These concepts are not covered at this level.

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.3 Evaluating Potential Solutions</b>
Analyze multiple solutions to a problem or challenge. <ul style="list-style-type: none"> <li>• Describe the consequences of the solution to the problem or challenge (e.g., using rocks on the edge of a stream to prevent erosion may destroy habitat).</li> </ul>
Life Science Lab, Level A: Cards 84, 85, 86, 87, 88, 89, 80 Life Science Lab, Level B: Cards 84, 85, 86, 87, 88, 89, 90
Earth Science Lab, Level A: Cards 29, 35, 42, 59, 60, 61, 85, 86 Earth Science Lab, Level B: Cards 29, 35, 42, 59, 60, 61, 85, 86

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.3 Evaluating Potential Solutions</b>
Analyze multiple solutions to a problem or challenge. <ul style="list-style-type: none"> <li>• Describe how to change a system to solve a problem or improve a solution to a problem.</li> </ul>
Life Science Lab, Level A: Cards 84, 85, 86, 87, 88, 89, 80 Life Science Lab, Level B: Cards 84, 85, 86, 87, 88, 89, 90
Earth Science Lab, Level A: Cards 29, 35, 42, 59, 60, 61, 85, 86 Earth Science Lab, Level B: Cards 29, 35, 42, 59, 60, 61, 85, 86

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.1 All Peoples Contribute to Science and Technology</b>
Analyze how science and technology have been developed, used, and affected by many diverse individuals, cultures, and societies throughout human history. <ul style="list-style-type: none"> <li>• Explain how the contributions of diverse individuals have led to the development of science and technology.</li> </ul>
Life Science Lab, Level A: Cards 2, 5, 46, 59 Life Science Lab, Level B: Cards 2, 5, 46, 59
Earth Science Lab, Level A: Cards 10, 68, 72, 78 Earth Science Lab, Level B: Cards 10, 68, 72, 78
Physical Science Lab, Level A: Cards 3, 7, 17, 55 Physical Science Lab, Level B: Cards 3, 7, 17, 55

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.2 Relationship of Science and Technology</b>
Analyze scientific inquiry and scientific design and understand how science supports technological development and vice versa. <ul style="list-style-type: none"> <li>• Describe how scientific investigations and scientific research support technology (e.g., investigation into materials led to Gortex and Kevlar).</li> </ul>
Life Science Lab, Level A: Cards 5, 59, 64, 69, 83, 87, 88, 89, 90 Life Science Lab, Level B: Cards 5, 59, 64, 69, 83, 87, 88, 89, 90
Earth Science Lab, Level A: Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88 Earth Science Lab, Level B: Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88
Physical Science Lab, Level A: Cards 33, 35, 76, 81, 84, 90 Physical Science Lab, Level B: Cards 33, 35, 76, 81, 84, 90

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.2 Relationship of Science and Technology</b>
Analyze scientific inquiry and scientific design and understand how science supports technological development and vice versa. <ul style="list-style-type: none"> <li>• Describe how technology supports scientific investigations and research (e.g., microscopes led to discovery of unicellular organisms).</li> </ul>
Life Science Lab, Level A: Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90 Life Science Lab, Level B: Cards 4, 49, 59, 64, 69, 83, 87, 88, 89, 90
Earth Science Lab, Level A: Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88 Earth Science Lab, Level B: Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88
Physical Science Lab, Level A: Cards 33, 35, 76, 81, 84, 90 Physical Science Lab, Level B: Cards 33, 35, 76, 81, 84, 90

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.2 Relationship of Science and Technology</b>
Analyze scientific inquiry and scientific design and understand how science supports technological development and vice versa. <ul style="list-style-type: none"> <li>Describe how a scientific designed solution to a human problem can lead to new tools that generate further inquiry (e.g., microscopes, telescopes, and computers).</li> </ul>
Life Science Lab, Level A: Cards 5, 50, 83 Life Science Lab, Level B: Cards 5, 59, 83
Earth Science Lab, Level A: Cards 16, 20, 31, 51, 70, 79, 80, 81, 88 Earth Science Lab, Level B: Cards 16, 20, 31, 51, 70, 79, 80, 81, 88
Physical Science Lab, Level A: Cards 35, 81, 84, 90 Physical Science Lab, Level B: Cards 35, 81, 84, 90

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.2 Relationship of Science and Technology</b>
Analyze scientific inquiry and scientific design and understand how science supports technological development and vice versa. <ul style="list-style-type: none"> <li>Compare the processes of scientific inquiry and scientific design in terms of activities, results, and/or influence on individuals and/or society.</li> </ul>
Life Science Lab, Level A: Cards 64, 69 Life Science Lab, Level B: Cards 64, 69
Earth Science Lab, Level A: Cards 16, 51, 54, 70, 79, 80, 81 Earth Science Lab, Level B: Cards 16, 51, 54, 70, 79, 80, 81
Physical Science Lab, Level A: Cards 35, 73, 81, 84, 90 Physical Science Lab, Level B: Cards 35, 73, 81, 84, 90

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.3 Careers and Occupations Using Science, Mathematics, and Technology</b>
Analyze the use of science, mathematics, and technology within occupational/career areas of interest. <ul style="list-style-type: none"> <li>Examine scientific, mathematical, and technological knowledge and skill used in an occupation/career.</li> <li>Research occupations/careers that require knowledge of science, mathematics, and technology.</li> </ul>
This concept is not covered at this level.

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.4 Environmental and Resource Issues</b>
Analyze how human societies' use of natural resources affects the quality of life and the health of ecosystems. <ul style="list-style-type: none"> <li>• <b>Discriminate between renewable and nonrenewable resources in an ecosystem.</b></li> </ul>
Life Science Lab, Level A: Cards 84, 85, 86, 87, 88, 90 Life Science Lab, Level B: Cards 84, 85, 86, 87, 88, 90
Earth Science Lab, Level A: Cards 29, 35, 47 Earth Science Lab, Level B: Cards 29, 35, 47
Physical Science Lab, Level A: Cards 38, 46, 47, 48, 49 Physical Science Lab, Level B: Cards 38, 46, 47, 48, 49

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.4 Environmental and Resource Issues</b>
Analyze how human societies' use of natural resources affects the quality of life and the health of ecosystems. <ul style="list-style-type: none"> <li>• <b>Explain the effects that the conservation of natural resources has on the quality of life and the health of ecosystems.</b></li> </ul>
Life Science Lab, Level A: Cards 84, 85, 86, 87, 88, 89, 90 Life Science Lab, Level B: Cards 84, 85, 86, 87, 88, 89, 90 Life Science Lab Teacher's Handbook: Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
Earth Science Lab, Level A: Cards 29, 35, 37, 42, 59, 60, 61, 85, 86 Earth Science Lab, Level B: Cards 29, 35, 37, 42, 59, 60, 61, 85, 86 Earth Science Lab Teacher's Handbook: Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.4 Environmental and Resource Issues</b>
Analyze how human societies' use of natural resources affects the quality of life and the health of ecosystems. <ul style="list-style-type: none"> <li>• <b>Explain the effects of various human activities on the health of an ecosystem and/or the ability of organisms to survive in that ecosystem (e.g., consumption of natural resources; waste management; urban growth; land use decisions; pesticide, herbicide, or fertilizer use).</b></li> </ul>
Life Science Lab, Level A: Cards 84, 86, 87, 88, 89, 90 Life Science Lab, Level B: Cards 84, 86, 87, 88, 89, 90 Life Science Lab Teacher's Handbook: Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
Earth Science Lab, Level A: Cards 35, 37, 41, 59, 60, 61, 85, 86 Earth Science Lab, Level B: Cards 35, 37, 42, 59, 60, 61, 85, 86 Earth Science Lab Teacher's Handbook: Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91

***SRA Life, Earth, and Physical Science Laboratories***  
**correlation to**  
**Washington State’s Essential Academic Learning Requirements for Science**  
**Grade 8**

*SRA Life, Earth, and Physical Science Laboratories* provide core science content in an alternate reading format. Each *SRA Science Lab* contains 180 Science Cards covering key science concepts and vocabulary. Each lab covers 90 different science topics presented at two different reading levels to meet varied student abilities. The *Teacher’s Handbook* includes hands-on inquiry activities as well as vocabulary building exercises. The *Classroom Resource CD-ROM* includes Writing Strategies in Science along with tests and vocabulary games.

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.1 Properties of Substances</b>
<b>Understand how to use physical and chemical properties to sort and identify substances.</b>
<ul style="list-style-type: none"> <li>• <b>Identify an unknown substance using the properties of a known substance.</b></li> </ul>
Physical Science Lab, Level A: Cards 14, 15, 16, 17, 18, 19, 20
Physical Science Lab, Level B: Cards 14, 15, 16, 17, 18, 19, 20
Physical Science Lab Teacher’s Handbook: Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.1 Properties of Substances</b>
<b>Understand how to use physical and chemical properties to sort and identify substances.</b>
<ul style="list-style-type: none"> <li>• <b>Recognize that the mass of an object is the same when measured anywhere in the universe at any normal speed.</b></li> </ul>
Physical Science Lab, Level A: Cards 2, 57
Physical Science Lab, Level B: Cards 2, 57

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.1 Properties of Substances</b>
<b>Understand how to use physical and chemical properties to sort and identify substances.</b>
<ul style="list-style-type: none"> <li>• <b>Describe why substances with the same volume or same mass may have different densities.</b></li> </ul>
Physical Science Lab, Level A: Card 2
Physical Science Lab, Level B: Card 2



<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.1 Properties of Substances</b>
Understand how to use physical and chemical properties to sort and identify substances. <ul style="list-style-type: none"> <li>Describe the volumetric properties of solids, liquids, and gases (e.g., a gas has the same volume as its container).</li> </ul>
Physical Science Lab, Level A: Cards 5, 7 Physical Science Lab, Level B: Cards 5, 7

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.3 Wave Behavior</b>
Understand sound waves, water waves, and light waves using wave properties, including amplitude, wavelength, and speed. Understand wave behaviors, including reflection, refraction, transmission, and absorption. <ul style="list-style-type: none"> <li>Describe how the observed properties of light, sound, and water are related to amplitude, frequency, wavelength, and speed of waves (e.g., color and brightness of light, pitch and volume of sound, height of water waves, light waves are faster than sound waves).</li> </ul>
Physical Science Lab, Level A: Cards 77, 78, 79, 80, 82, 83, 85 Physical Science Lab, Level B: Cards 77, 78, 79, 80, 82, 83, 85

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.3 Wave Behavior</b>
Understand sound waves, water waves, and light waves using wave properties, including amplitude, wavelength, and speed. Understand wave behaviors, including reflection, refraction, transmission, and absorption. <ul style="list-style-type: none"> <li>Describe the behavior of light waves when light interacts with transparent, translucent, and opaque substances (e.g., blue objects appear blue in color because the object reflects mostly blue light and absorbs the other colors of light, transparent objects transmit most light through them, lenses refract light).</li> </ul>
Physical Science Lab, Level A: Cards 85, 88 Physical Science Lab, Level B: Cards 85, 88

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.3 Wave Behavior</b>
Understand sound waves, water waves, and light waves using wave properties, including amplitude, wavelength, and speed. Understand wave behaviors, including reflection, refraction, transmission, and absorption. <ul style="list-style-type: none"> <li>Describe the changes in speed and direction as a wave goes from one substance into another.</li> </ul>
Physical Science Lab, Level A: Cards 79, 87, 88, 89, 90 Physical Science Lab, Level B: Cards 79, 87, 88, 89, 90

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Physical Systems</b>
<b>GLE 1.1.4 Forms of Energy</b>
Understand that energy is a property of matter, objects, and systems and comes in many forms (i.e., heat [thermal] energy, sound energy, light energy, electrical energy, kinetic energy, potential energy, and chemical energy). <ul style="list-style-type: none"> <li>• Compare the potential and kinetic energy within a system at various locations or times (i.e., kinetic energy is an object’s energy of motion; potential energy is an object’s energy of position).</li> </ul>
Physical Science Lab, Level A: Cards 36, 37, 39, 40, 41, 42
Physical Science Lab, Level B: Cards 36, 37, 39, 40, 41, 42

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</b>
<b>Living Systems</b>
<b>GLE 1.1.6 Characteristics of Living Matter</b>
Understand how to classify organisms by their external and internal structures. <ul style="list-style-type: none"> <li>• Explain an inference about whether organisms have a biological relationship or common ancestry based on given characteristics.</li> </ul>
Life Science Lab, Level A: Cards 2, 3, 66, 68
Life Science Lab, Level B: Cards 2, 3, 66, 68

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Systems Structure</b>
<b>GLE 1.2.1 Structure of Physical Earth/Space and Living Systems</b>
<b>Analyze how the parts of a system interconnect and influence each other.</b>
<ul style="list-style-type: none"> <li>• <b>Describe the interactions and influences between two or more simple systems.</b></li> </ul>
<p><b>Life Science Lab, Level A:</b> Cards 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90</p> <p><b>Life Science Lab, Level B:</b> Cards 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90</p> <p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
<p><b>Earth Science Lab, Level A:</b> Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90</p> <p><b>Earth Science Lab, Level B:</b> Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p>
<p><b>Physical Science Lab, Level A:</b> Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90</p> <p><b>Physical Science Lab, Level B:</b> Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Physical Systems</b>
<b>GLE 1.2.2 Energy Transfer and Transformation</b>
Understand how various factors affect energy transfers and that energy can be transformed from one form to of energy to another. <ul style="list-style-type: none"> <li>Explain the transfer and transformations of energy within a system (e.g., conduction and convection of heat [thermal] energy).</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 9, 13, 16, 17, 46, 47, 48, 50, 54, 55, 71, 73, 74, 75, 76, 77, 78, 79 <b>Life Science Lab, Level B:</b> Cards 9, 13, 16, 17, 46, 47, 48, 50, 54, 55, 71, 73, 74, 75, 76, 77, 78, 79 <b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99  <b>Earth Science Lab, Level A:</b> Cards 15, 17, 38, 39, 40, 41, 52, 53, 54, 66, 90 <b>Earth Science Lab, Level B:</b> Cards 15, 17, 38, 39, 40, 41, 52, 53, 54, 66, 90 <b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95  <b>Physical Science Lab, Level A:</b> Cards 27, 28, 34, 37, 38, 41, 42, 43, 44, 45, 46, 47, 48, 49, 66, 67, 70, 76 <b>Physical Science Lab, Level B:</b> Cards 27, 28, 34, 37, 38, 41, 42, 43, 44, 45, 46, 47, 48, 49, 66, 67, 70, 76 <b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 5, <i>Making a Potato Battery</i> , pages 93-95

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Physical Systems</b>
<b>GLE 1.2.3 Structure of Matter</b>
Understand that all matter is made of particles called atoms and that atoms may combine to form molecules and that atoms and molecules can form mixtures. <ul style="list-style-type: none"> <li>Describe that atoms may be combined in various ways and ratios to form molecules.</li> </ul>
<b>Physical Science Lab, Level A:</b> Cards 3, 4, 10, 11, 21, 22, 23, 24, 25, 26 <b>Physical Science Lab, Level B:</b> Cards 3, 4, 10, 11, 21, 22, 23, 24, 25, 26

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Physical Systems</b>
<b>GLE 1.2.3 Structure of Matter</b>
Understand that all matter is made of particles called atoms and that atoms may combine to form molecules and that atoms and molecules can form mixtures. <ul style="list-style-type: none"> <li>Describe the different atoms and molecules in mixtures (e.g., dissolving carbon dioxide in water produces a type of mixture [solution] of CO<sub>2</sub> and H<sub>2</sub>O molecules).</li> </ul>
<b>Physical Science Lab, Level A:</b> Cards 12, 13 <b>Physical Science Lab, Level B:</b> Cards 12, 13

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.2.5 Components of the Solar System and Beyond (Universe)</b>
<b>Understand the structure of the Solar System.</b>
<ul style="list-style-type: none"> <li>• <b>Compare the relationships among the components of the solar system (e.g., composition, size, atmosphere, gravity, distance from the Sun, number of moons).</b></li> </ul>
<b>Earth Science Lab, Level A:</b> Cards 68, 69, 70, 71, 72, 73, 74
<b>Earth Science Lab, Level B:</b> Cards 68, 69, 70, 71, 72, 73, 74
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Living Systems</b>
<b>GLE 1.2.6 Structure and Organization of Living Systems</b>
<b>Understand that specialized cells within multicellular organisms for different kinds of tissues, organs, and organ systems to carry out life functions.</b>
<ul style="list-style-type: none"> <li>• <b>Describe the life function of specialized cells or tissues (e.g., red blood cells carry oxygen to body tissues; cells in plant leaves capture light energy).</b></li> </ul>
<b>Life Science Lab, Level A:</b> Cards 6, 7, 17, 19, 20, 21, 22, 44, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58
<b>Life Science Lab, Level B:</b> Cards 6, 7, 17, 19, 20, 21, 22, 44, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Living Systems</b>
<b>GLE 1.2.6 Structure and Organization of Living Systems</b>
<b>Understand that specialized cells within multicellular organisms for different kinds of tissues, organs, and organ systems to carry out life functions.</b>
<ul style="list-style-type: none"> <li>• <b>Describe the life function of organs or organ systems (e.g., the stomach breaks down food and the intestines absorb food in the digestive system).</b></li> </ul>
<b>Life Science Lab, Level A:</b> Cards 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58
<b>Life Science Lab, Level B:</b> Cards 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Living Systems</b>
<b>GLE 1.2.7 Molecular Basis of Heredity</b>
<b>Understand that organisms pass on genetic information in their life cycle and that an organism’s characteristics are determined by both genetic and environmental influences.</b>
<ul style="list-style-type: none"> <li>• <b>Explain how physical characteristics of living things can be affected by genetic information and/or by interactions with the environment (e.g., nutrition, disease, sanitation).</b></li> </ul>
<b>Life Science Lab, Level A:</b> Cards 23, 24, 36, 41, 43, 62, 63, 64, 65, 66
<b>Life Science Lab, Level B:</b> Cards 23, 24, 36, 41, 43, 62, 63, 64, 65, 66
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Living Systems</b>
<b>GLE 1.2.7 Molecular Basis of Heredity</b>
<b>Understand that organisms pass on genetic information in their life cycle and that an organism’s characteristics are determined by both genetic and environmental influences.</b>
<ul style="list-style-type: none"> <li>• <b>Describe and compare sexual (two parents) and asexual (one parent) life cycles of plants and animals.</b></li> </ul>
<b>Life Science Lab, Level A:</b> Cards 60, 61
<b>Life Science Lab, Level B:</b> Cards 60, 61

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Living Systems</b>
<b>GLE 1.2.8 Human Biology</b>
<b>Understand human life functions and the interconnecting organ systems necessary to maintain human life.</b>
<ul style="list-style-type: none"> <li>• <b>Describe relationships among the organ systems of the human body (e.g., the role of the senses and the nervous system for human survival, the relationships between the digestive and excretory systems).</b></li> </ul>
<b>Life Science Lab, Level A:</b> Cards 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58
<b>Life Science Lab, Level B:</b> Cards 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.</b>
<b>Living Systems</b>
<b>GLE 1.2.8 Human Biology</b>
<b>Understand human life functions and the interconnecting organ systems necessary to maintain human life.</b>
<ul style="list-style-type: none"> <li>• <b>Compare human body systems to another organism’s body system (e.g., human lungs to plant leaves, human skeletal or circulatory systems to plant stems).</b></li> </ul>
<b>Life Science Lab, Level A:</b> Cards 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58
<b>Life Science Lab, Level B:</b> Cards 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.7 Interactions in the Solar System and Beyond (Universe)</b>
<b>Understand the effects of the regular and predictable motions of planets and moons in the Solar System.</b>
<ul style="list-style-type: none"> <li>• Describe how the spin of Earth and other planets accounts for the length of a day on those planets.</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 62, 68, 69, 70, 71, 72
<b>Life Science Lab, Level B:</b> Cards 62, 68, 69, 70, 71, 72

<b>EALR 1—SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</b>
<b>Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.</b>
<b>Earth and Space Systems</b>
<b>GLE 1.3.7 Interactions in the Solar System and Beyond (Universe)</b>
<b>Understand the effects of the regular and predictable motions of planets and moons in the Solar System.</b>
<ul style="list-style-type: none"> <li>• Describe how Earth’s and other planets’ orbits around the Sun account for the length of a year on those planets.</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 62, 68, 69, 70, 71, 72
<b>Life Science Lab, Level B:</b> Cards 62, 68, 69, 70, 71, 72

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.1 Questioning</b>
<b>Understand how to generate a question that can be answered through scientific investigation.</b>
<ul style="list-style-type: none"> <li>• Generate multiple questions based on observations.</li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i> , pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i> , pages 93-95; Hands-On Activity 6, <i>Making Sound</i> , pages 97-99
<b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.1 Questioning</b>
<b>Understand how to generate a question that can be answered through scientific investigation.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a question that can be investigated scientifically.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p> <p><b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.1 Questioning</b>
<b>Understand how to generate a question that can be answered through scientific investigation.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a new question that can be investigated with the same materials and/or data as a given investigation.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p> <p><b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15</p>



<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.2 Planning and Conducting Safe Investigations</b>
<b>Understand how to plan and conduct scientific investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Make predictions (hypothesize) and give reasons.</b></li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87
<b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.2 Planning and Conducting Safe Investigations</b>
<b>Understand how to plan and conduct scientific investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a logical plan for, and conduct, a scientific controlled investigation with the following attributes:</b> <ul style="list-style-type: none"> <li>○ <b>prediction (hypothesis) appropriate materials, tools, and available computer technology</b></li> <li>○ <b>controlled variables (kept the same)</b></li> <li>○ <b>one manipulated (changed) variable</b></li> <li>○ <b>responding (dependent) variable</b></li> <li>○ <b>gather, record, and organize data using appropriate units, charts, and/or graphs</b></li> <li>○ <b>multiple trials.</b></li> </ul> </li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
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<b>Classroom Resource CD-ROM:</b> Writing Strategy 8, 15

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.2 Planning and Conducting Safe Investigations</b>
<b>Understand how to plan and conduct scientific investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a logical plan for a simple field investigation with the following attributes:</b> <ul style="list-style-type: none"> <li>○ identify multiple variables</li> <li>○ select observable or measurable variables related to the investigative question.</li> </ul> </li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83
<b>Classroom Resource CD-ROM:</b> Writing Strategy 15, 23

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.2 Planning and Conducting Safe Investigations</b>
<b>Understand how to plan and conduct scientific investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Identify and explain safety requirements that would be needed in the investigation.</b></li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i> , pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
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<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.3 Explaining</b>
<b>Apply understanding of how to construct a scientific explanation using evidence and inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a scientific conclusion including supporting data from an investigation using inferential logic (e.g., chewing gum loses more mass than bubble gum after being chewed for 5 minutes; chewing gum lost 2.00 grams while bubble gum only lost 1.47 grams).</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.3 Explaining</b>
<b>Apply understanding of how to construct a scientific explanation using evidence and inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Describe a reason for a given conclusion using evidence from an investigation.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.3 Explaining</b>
<b>Apply understanding of how to construct a scientific explanation using evidence and inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Generate a scientific explanation of an observed phenomena using given data.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
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<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.3 Explaining</b>
<b>Apply understanding of how to construct a scientific explanation using evidence and inferential logic.</b>
<ul style="list-style-type: none"> <li>• <b>Describe the difference between evidence (data) and conclusions.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
<p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p>
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<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.4 Modeling</b>
<p><b>Understand how models are used to investigate objects, events, systems, and processes.</b></p> <ul style="list-style-type: none"> <li>• <b>Create a model or computer simulation to investigate and predict the behavior of objects, events, systems, or processes (e.g., phases of the Moon using a solar system model).</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p> <p><b>Classroom Resource CD-ROM:</b> Writing Strategy 20</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.5 Communicating</b>
<p><b>Apply understanding of how to report investigations and explanations of objects, events, systems, and processes.</b></p> <ul style="list-style-type: none"> <li>• <b>Report observations of scientific investigations without making inferences.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.5 Communicating</b>
<b>Apply understanding of how to report investigations and explanations of objects, events, systems, and processes.</b>
<ul style="list-style-type: none"> <li>• <b>Summarize an investigation by describing:</b> <ul style="list-style-type: none"> <li>▪ <b>Reasons for selecting the investigative plan.</b></li> <li>▪ <b>Materials used in the investigation.</b></li> <li>▪ <b>Observations, data, results.</b></li> <li>▪ <b>Explanations and conclusions in written, mathematical, oral, and information technology presentation formats.</b></li> <li>▪ <b>Ramifications of investigations.</b></li> <li>▪ <b>Safety procedures used.</b></li> </ul> </li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i> , pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i> , pages 93-95; Hands-On Activity 6, <i>Making Sound</i> , pages 97-99
<b>Classroom Resource CD-ROM:</b> Writing Strategy 15

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.</b>
<b>Investigating Systems</b>
<b>GLE 2.1.5 Communicating</b>
<b>Apply understanding of how to report investigations and explanations of objects, events, systems, and processes.</b>
<ul style="list-style-type: none"> <li>• <b>Describe the difference between an objective summary of data and an inference made from data.</b></li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91; Hands-On Activity 6, <i>Making Sound</i> , pages 97-99
<b>Classroom Resource CD-ROM:</b> Writing Strategy 22, 24

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.1 Intellectual Honesty</b>
<b>Apply curiosity, honesty, skepticism, and openness when considering explanations and conducting investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Explain why an honest response to questionable results, conclusions, or explanations is important to the scientific enterprise.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.1 Intellectual Honesty</b>
<b>Apply curiosity, honesty, skepticism, and openness when considering explanations and conducting investigations.</b>
<ul style="list-style-type: none"> <li>• <b>Describe a flaw in a claim or a conclusion (i.e., limited data, flawed procedure, or overgeneralization).</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.1 Intellectual Honesty</b>
<b>Apply curiosity, honesty, skepticism, and openness when considering explanations and conducting investigations.</b>
<ul style="list-style-type: none"> <li>• Describe how scientists accurately and honestly record, report, and share observations and measurements without bias.</li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.1 Intellectual Honesty</b>
<b>Apply curiosity, honesty, skepticism, and openness when considering explanations and conducting investigations.</b>
<ul style="list-style-type: none"> <li>• Explain why honest acknowledgement of the contributions of others and information sources are necessary.</li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>



<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.2 Limitations of Science and Technology</b>
<b>Understand that scientific theories explain facts using inferential logic.</b>
<ul style="list-style-type: none"> <li>Describe how a principle or theory logically explains a given set of facts.</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 5, 65 <b>Life Science Lab, Level B:</b> Cards 5, 65
<b>Earth Science Lab, Level A:</b> Cards 10, 68, 72, 78 <b>Earth Science Lab, Level B:</b> Cards 10, 68, 72, 78
<b>Physical Science Lab, Level A:</b> Cards 3, 9, 37, 53, 55, 59 <b>Physical Science Lab, Level B:</b> Cards 3, 9, 37, 53, 55, 59

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.2 Limitations of Science and Technology</b>
<b>Understand that scientific theories explain facts using inferential logic.</b>
<ul style="list-style-type: none"> <li>Describe how new facts or evidence may result in the modification or rejection of a theory (e.g., caloric theory of heat, theory of acquired characteristics).</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 5, 65 <b>Life Science Lab, Level B:</b> Cards 5, 65
<b>Earth Science Lab, Level A:</b> Cards 10, 53, 59, 68, 72, 78 <b>Earth Science Lab, Level B:</b> Cards 10, 53, 59, 68, 72, 78
<b>Physical Science Lab, Level A:</b> Cards 3, 17 <b>Physical Science Lab, Level B:</b> Cards 3, 17

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.3 Evaluating Inconsistent Results</b>
<b>Analyze inconsistent results from scientific investigations to determine how the results can be explained.</b>
<ul style="list-style-type: none"> <li>Compare two or more similar investigations and explain why different results were produced (e.g., insufficient data could be interpreted as inconsistent results).</li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i> , pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i> , pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i> , pages 93-95; Hands-On Activity 6, <i>Making Sound</i> , pages 97-99

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.3 Evaluating Inconsistent Results</b>
<b>Analyze inconsistent results from scientific investigations to determine how the results can be explained.</b>
<ul style="list-style-type: none"> <li>• <b>Explain whether sufficient information has been obtained to make a conclusion.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>
<b>Classroom Resource CD-ROM:</b> Writing Strategy 18

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.3 Evaluating Inconsistent Results</b>
<b>Analyze inconsistent results from scientific investigations to determine how the results can be explained.</b>
<ul style="list-style-type: none"> <li>• <b>Explain why the results from a single investigation or demonstration are not sufficient to describe a phenomena.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.4 Evaluating Methods of Investigation</b>
<b>Understand how to make the results of scientific investigations reliable and how to make the methods of investigations valid.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how to increase the reliability of the results of an investigation (i.e., repeating an investigation exactly the same way the reliability of the results).</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.4 Evaluating Methods of Investigation</b>
<b>Understand how to make the results of scientific investigations reliable and how to make the methods of investigations valid.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how the method of an investigation is valid (i.e., validity means that the investigation answered the investigative question with confidence; the manipulated variable caused the change in the responding or dependent variable).</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.4 Evaluating Methods of Investigation</b>
<b>Understand how to make the results of scientific investigations reliable and how to make the methods of investigations valid.</b>
<ul style="list-style-type: none"> <li>• <b>Describe the purpose of the steps and materials of an investigation’s procedure in terms of the validity of the investigation.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p> <p><b>Classroom Resource CD-ROM:</b> Writing Strategy 15</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.4 Evaluating Methods of Investigation</b>
<b>Understand how to make the results of scientific investigations reliable and how to make the methods of investigations valid.</b>
<ul style="list-style-type: none"> <li>• <b>Modify an investigation to improve the validity of the investigation and explain how the modifications improved the validity (e.g., more controlled variables, more accurate measuring techniques, greater sample size).</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.5 Evolution of Scientific Ideas</b>
<b>Understand that increased comprehension of systems leads to new inquiry.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how scientific inquiry results in new facts, evidence, unexpected findings, ideas, and explanations.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
<p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p>
<p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.5 Evolution of Scientific Ideas</b>
<b>Understand that increased comprehension of systems leads to new inquiry.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how results of scientific inquiry may change our understanding of the systems of the natural and constructed world.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
<p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p>
<p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.5 Evolution of Scientific Ideas</b>
<b>Understand that increased comprehension of systems leads to new inquiry.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how increased understanding of systems leads to new questions to be investigated.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
<p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p>
<p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.5 Evolution of Scientific Ideas</b>
<b>Understand that increased comprehension of systems leads to new inquiry.</b>
<ul style="list-style-type: none"> <li>• <b>Describe how new ideas need repeated inquires before acceptance.</b></li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p>
<p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p>
<p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR2—INQUIRY: The student knows and applies the skills, processes, and nature of scientific inquiry.</b>
<b>Component 2.2 Nature of Science: Understand the nature of scientific inquiry.</b>
<b>Nature of Science</b>
<b>GLE 2.2.5 Evolution of Scientific Ideas</b>
<b>Understand that increased comprehension of systems leads to new inquiry.</b>
<ul style="list-style-type: none"> <li>Describe how new investigative questions arise at the completion of scientific inquiry.</li> </ul>
<p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79; Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83; Hands-On Activity 3, <i>Investigating Arthropods</i>, pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i>, pages 89-91; Hands-On Activity 5, <i>Making Fossils</i>, pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i>, pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i>, pages 101-103</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i>, pages 73-75; Hands-On Activity 2, <i>Plate Boundaries in Action</i>, pages 77-79; Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 4, <i>Using Sound Waves</i>, pages 85-87; Hands-On Activity 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i>, pages 101-103</p> <p><b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i>, pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i>, pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i>, pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i>, pages 89-91; Hands-On Activity 5, <i>Making a Potato Battery</i>, pages 93-95; Hands-On Activity 6, <i>Making Sound</i>, pages 97-99</p>

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.1 Identifying Problems</b>
<b>Analyze common problems or challenges in which scientific design can be or has been used to design solutions.</b>
<ul style="list-style-type: none"> <li>Describe how science and technology could be used to solve all or part of a human problem and vice versa (e.g., understanding erosion can be used to solve some flooding problems).</li> </ul>
<p><b>Life Science Lab, Level A:</b> Cards 46, 49, 64, 69, 87, 88, 89, 90</p> <p><b>Life Science Lab, Level B:</b> Cards 46, 49, 64, 69, 87, 88, 89, 90</p> <p><b>Earth Science Lab, Level A:</b> Cards 16, 20, 31, 37, 42, 51, 54, 70, 79, 80, 81, 88</p> <p><b>Earth Science Lab, Level B:</b> Cards 16, 20, 31, 37, 42, 51, 54, 70, 79, 80, 81, 88</p> <p><b>Physical Science Lab, Level A:</b> Cards 33, 35, 76, 81, 84, 90</p> <p><b>Physical Science Lab, Level B:</b> Cards 33, 35, 76, 81, 84, 90</p>

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.1 Identifying Problems</b>
<b>Analyze common problems or challenges in which scientific design can be or has been used to design solutions.</b>
<ul style="list-style-type: none"> <li>Describe the scientific concept, principle, or process used in a solution to a human problem (e.g., understanding of the relationship between electricity and magnetism has been used to make electric motors and generators).</li> </ul>
<p><b>Earth Science Lab, Level A:</b> Cards 16, 20, 31, 51, 54, 80, 81, 88</p> <p><b>Earth Science Lab, Level B:</b> Cards 16, 20, 31, 51, 54, 80, 81, 88</p> <p><b>Physical Science Lab, Level A:</b> Cards 35, 70, 72, 73, 76, 81, 84, 90</p> <p><b>Physical Science Lab, Level B:</b> Cards 35, 70, 72, 73, 76, 81, 84, 90</p>

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.1 Identifying Problems</b>
Analyze common problems or challenges in which scientific design can be or has been used to design solutions. <ul style="list-style-type: none"> <li>• Explain how to scientifically gather information to develop a solution (e.g., collect data by measuring all the factors and establish which are the most important to solve the problem).</li> </ul>
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 3, <i>Investigating Arthropods</i> , pages 85-87; Hands-On Activity 4, <i>Your Cardiovascular System</i> , pages 89-91; Hands-On Activity 5, <i>Making Fossils</i> , pages 93-95; Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99; Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Identifying Minerals with the Mohs Scale</i> , pages 73-75; Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83; Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79; Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83; Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91; Hands-On Activity 6, <i>Making Sound</i> , pages 97-99
<b>Classroom Resource CD-ROM:</b> Writing Strategy 18

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.1 Identifying Problems</b>
Analyze common problems or challenges in which scientific design can be or has been used to design solutions. <ul style="list-style-type: none"> <li>• Describe an appropriate question that could lead to a possible solution to the problem.</li> </ul>
<b>GLE 3.1.2 Designing and Testing Solutions</b>
Apply the scientific design process to develop and implement solutions to problems or challenges. <ul style="list-style-type: none"> <li>• Propose, implement, and document the scientific design process used to solve a problem or challenge: <ul style="list-style-type: none"> <li>○ Define the problem.</li> <li>○ Scientifically gather information and collect measurable data.</li> <li>○ Explore ideas.</li> <li>○ Make a plan.</li> <li>○ List steps to do the plan.</li> <li>○ Scientifically test solutions.</li> <li>○ Document the scientific design process.</li> </ul> </li> <li>• Explain possible solutions to the problem (e.g., using pulleys instead of levers to lift a heavy object).</li> <li>• Explain the reason(s) for the effectiveness of a solution to a problem or challenge.</li> </ul>
<b>GLE 3.1.3 Evaluating Potential Solutions</b>
Analyze multiple solutions to a problem or challenge. <ul style="list-style-type: none"> <li>• Describe the criteria to evaluate an acceptable solution to the problem or challenge.</li> <li>• Describe the reason(s) for the effectiveness of a solution or challenge using scientific concepts and principles.</li> </ul>
These concepts are not covered at this level.



<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.3 Evaluating Potential Solutions</b>
Analyze multiple solutions to a problem or challenge. <ul style="list-style-type: none"> <li>Describe the consequences of the solution to the problem or challenge (e.g., using rocks on the edge of a stream to prevent erosion may destroy habitat).</li> </ul>
Life Science Lab, Level A: Cards 84, 85, 86, 87, 88, 89, 80 Life Science Lab, Level B: Cards 84, 85, 86, 87, 88, 89, 90
Earth Science Lab, Level A: Cards 29, 35, 42, 59, 60, 61, 85, 86 Earth Science Lab, Level B: Cards 29, 35, 42, 59, 60, 61, 85, 86

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.3 Evaluating Potential Solutions</b>
Analyze multiple solutions to a problem or challenge. <ul style="list-style-type: none"> <li>Describe how to change a system to solve a problem or improve a solution to a problem.</li> </ul>
Life Science Lab, Level A: Cards 84, 85, 86, 87, 88, 89, 80 Life Science Lab, Level B: Cards 84, 85, 86, 87, 88, 89, 90
Earth Science Lab, Level A: Cards 29, 35, 42, 59, 60, 61, 85, 86 Earth Science Lab, Level B: Cards 29, 35, 42, 59, 60, 61, 85, 86

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems.</b>
<b>Designing Solutions</b>
<b>GLE 3.1.3 Evaluating Potential Solutions</b>
Analyze multiple solutions to a problem or challenge. <ul style="list-style-type: none"> <li>Compare the effectiveness of a solution to a problem or challenge.</li> </ul>
This concept is not covered at this level

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.1 All Peoples Contribute to Science and Technology</b>
Analyze how science and technology have been developed, used, and affected by many diverse individuals, cultures, and societies throughout human history. <ul style="list-style-type: none"> <li>• Explain how the contributions of diverse individuals have led to the development of science and technology.</li> </ul>
Life Science Lab, Level A: Cards 2, 5, 46, 59 Life Science Lab, Level B: Cards 2, 5, 46, 59
Earth Science Lab, Level A: Cards 10, 68, 72, 78 Earth Science Lab, Level B: Cards 10, 68, 72, 78
Physical Science Lab, Level A: Cards 3, 7, 17, 55 Physical Science Lab, Level B: Cards 3, 7, 17, 55

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.1 All Peoples Contribute to Science and Technology</b>
Analyze how science and technology have been developed, used, and affected by many diverse individuals, cultures, and societies throughout human history. <ul style="list-style-type: none"> <li>• Explain how science and technology have affected individuals, cultures, and societies throughout human history.</li> </ul>
Life Science Lab, Level A: Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90 Life Science Lab, Level B: Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90
Earth Science Lab, Level A: Cards 16, 20, 31, 51, 54, 70, 78, 80, 81, 88 Earth Science Lab, Level B: Cards 16, 20, 31, 51, 54, 70, 78, 80, 81, 88
Physical Science Lab, Level A: Cards 33, 35, 63, 64, 69, 70, 72, 73, 76, 81, 84, 90 Physical Science Lab, Level B: Cards 33, 35, 63, 64, 69, 70, 72, 73, 76, 81, 84, 90

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.2 Relationship of Science and Technology</b>
Analyze scientific inquiry and scientific design and understand how science supports technological development and vice versa. <ul style="list-style-type: none"> <li>• Describe how scientific investigations and scientific research support technology (e.g., investigation into materials led to Gortex and Kevlar).</li> </ul>
Life Science Lab, Level A: Cards 5, 59, 64, 69, 83, 87, 88, 89, 90 Life Science Lab, Level B: Cards 5, 59, 64, 69, 83, 87, 88, 89, 90
Earth Science Lab, Level A: Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88 Earth Science Lab, Level B: Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88
Physical Science Lab, Level A: Cards 33, 35, 76, 81, 84, 90 Physical Science Lab, Level B: Cards 33, 35, 76, 81, 84, 90

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.2 Relationship of Science and Technology</b>
Analyze scientific inquiry and scientific design and understand how science supports technological development and vice versa. <ul style="list-style-type: none"> <li>Describe how technology supports scientific investigations and research (e.g., microscopes led to discovery of unicellular organisms).</li> </ul>
Life Science Lab, Level A: Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90 Life Science Lab, Level B: Cards 4, 49, 59, 64, 69, 83, 87, 88, 89, 90
Earth Science Lab, Level A: Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88 Earth Science Lab, Level B: Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88
Physical Science Lab, Level A: Cards 33, 35, 76, 81, 84, 90 Physical Science Lab, Level B: Cards 33, 35, 76, 81, 84, 90

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.2 Relationship of Science and Technology</b>
Analyze scientific inquiry and scientific design and understand how science supports technological development and vice versa. <ul style="list-style-type: none"> <li>Describe how a scientific designed solution to a human problem can lead to new tools that generate further inquiry (e.g., microscopes, telescopes, and computers).</li> </ul>
Life Science Lab, Level A: Cards 5, 50, 83 Life Science Lab, Level B: Cards 5, 59, 83
Earth Science Lab, Level A: Cards 16, 20, 31, 51, 70, 79, 80, 81, 88 Earth Science Lab, Level B: Cards 16, 20, 31, 51, 70, 79, 80, 81, 88
Physical Science Lab, Level A: Cards 35, 81, 84, 90 Physical Science Lab, Level B: Cards 35, 81, 84, 90

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.2 Relationship of Science and Technology</b>
Analyze scientific inquiry and scientific design and understand how science supports technological development and vice versa. <ul style="list-style-type: none"> <li>Compare the processes of scientific inquiry and scientific design in terms of activities, results, and/or influence on individuals and/or society.</li> </ul>
Life Science Lab, Level A: Cards 64, 69 Life Science Lab, Level B: Cards 64, 69
Earth Science Lab, Level A: Cards 16, 51, 54, 70, 79, 80, 81 Earth Science Lab, Level B: Cards 16, 51, 54, 70, 79, 80, 81
Physical Science Lab, Level A: Cards 35, 73, 81, 84, 90 Physical Science Lab, Level B: Cards 35, 73, 81, 84, 90

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.3 Careers and Occupations Using Science, Mathematics, and Technology</b>
Analyze the use of science, mathematics, and technology within occupational/career areas of interest. <ul style="list-style-type: none"> <li>• Examine scientific, mathematical, and technological knowledge and skill used in an occupation/career.</li> <li>• Research occupations/careers that require knowledge of science, mathematics, and technology.</li> </ul>
This concept is not covered at this level.

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.4 Environmental and Resource Issues</b>
Analyze how human societies’ use of natural resources affects the quality of life and the health of ecosystems. <ul style="list-style-type: none"> <li>• Discriminate between renewable and nonrenewable resources in an ecosystem.</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 84, 85, 86, 87, 88, 90 <b>Life Science Lab, Level B:</b> Cards 84, 85, 86, 87, 88, 90
<b>Earth Science Lab, Level A:</b> Cards 29, 35, 47 <b>Earth Science Lab, Level B:</b> Cards 29, 35, 47
<b>Physical Science Lab, Level A:</b> Cards 38, 46, 47, 48, 49 <b>Physical Science Lab, Level B:</b> Cards 38, 46, 47, 48, 49

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.4 Environmental and Resource Issues</b>
Analyze how human societies’ use of natural resources affects the quality of life and the health of ecosystems. <ul style="list-style-type: none"> <li>• Explain the effects that the conservation of natural resources has on the quality of life and the health of ecosystems.</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 84, 85, 86, 87, 88, 89, 90 <b>Life Science Lab, Level B:</b> Cards 84, 85, 86, 87, 88, 89, 90 <b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103
<b>Earth Science Lab, Level A:</b> Cards 29, 35, 37, 42, 59, 60, 61, 85, 86 <b>Earth Science Lab, Level B:</b> Cards 29, 35, 37, 42, 59, 60, 61, 85, 86 <b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91

<b>EALR3—APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.</b>
<b>Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</b>
<b>Science, Technology, and Society</b>
<b>GLE 3.2.4 Environmental and Resource Issues</b>
Analyze how human societies' use of natural resources affects the quality of life and the health of ecosystems. <ul style="list-style-type: none"> <li>• Explain the effects of various human activities on the health of an ecosystem and/or the ability of organisms to survive in that ecosystem (e.g., consumption of natural resources; waste management; urban growth; land use decisions; pesticide, herbicide, or fertilizer use).</li> </ul>
<b>Life Science Lab, Level A:</b> Cards 84, 86, 87, 88, 89, 90 <b>Life Science Lab, Level B:</b> Cards 84, 86, 87, 88, 89, 90 <b>Life Science Lab Teacher's Handbook:</b> Hands-On Activity 7, <i>The Effects of Acid Rain</i> , pages 101-103  <b>Earth Science Lab, Level A:</b> Cards 35, 37, 41, 59, 60, 61, 85, 86 <b>Earth Science Lab, Level B:</b> Cards 35, 37, 42, 59, 60, 61, 85, 86 <b>Earth Science Lab Teacher's Handbook:</b> Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91