

***SRA Life, Earth, and Physical Science Laboratories***  
**correlation to**  
**West Virginia Science Content Standards and Objectives**  
**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.

**Standard 1: Nature of Science**

**SC.0.6.1.01 Students will realize that scientists formulate and test their explanations of nature using observation and experiments.**

**Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103

**Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

**Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

**Standard 1: Nature of Science**

**SC.0.6.1.02 Students will recognize scientific knowledge is subject to modification as new scientific information challenges current explanations.**

**Life Science Lab, Level A:** Cards 2, 5, 49, 64, 69

**Life Science Lab, Level B:** Cards 2, 5, 49, 64, 69

**Earth Science Lab, Level A:** Cards 10, 20, 31, 51, 54, 68, 72, 78

**Earth Science Lab, Level B:** Cards 10, 20, 31, 51, 54, 68, 72, 78

**Physical Science Lab, Level A:** Cards 3, 53, 59, 76

**Physical Science Lab, Level B:** Cards 3, 53, 59, 76

**Standard 1: Nature of Science**

**SC.0.6.1.03 Students will examine the careers and contributions of men and women of diverse cultures to the development of science.**

**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>Standard 1: Nature of Science</b>
<b>SC.0.6.1.04 Students will articulate the historical significance of scientific discoveries.</b>
<b>Life Science Lab, Level A:</b> Cards 5, 49, 59, 64, 69, 83 <b>Life Science Lab, Level B:</b> Cards 5, 49, 59, 64, 69, 83
<b>Earth Science Lab, Level A:</b> Cards 16, 20, 31, 70, 72, 79, 80, 81, 88 <b>Earth Science Lab, Level B:</b> Cards 16, 20, 31, 70, 72, 79, 80, 81, 88
<b>Physical Science Lab, Level A:</b> Cards 33, 34, 35, 76, 81, 82, 90 <b>Physical Science Lab, Level B:</b> Cards 33, 34, 35, 76, 81, 82, 90

<b>Standard 1: Nature of Science</b>
<b>SC.0.6.1.05 Students will cooperate and collaborate to ask questions, design and conduct investigations to find answers and solve problems.</b>
<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>Standard 1: Nature of Science</b>
<b>SC.0.6.1.06 Students will formulate conclusions through close observations, logical reasoning, objectivity, perseverance and integrity in data collection.</b>
<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 17, 18

<b>Standard 1: Nature of Science</b>
<b>SC.0.6.1.07 Students will apply skepticism, careful methods, logical reasoning and creativity in investigating the observable universe.</b>
<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>Standard 1: Nature of Science</b>
<b>SC.0.6.1.08 Students will use a variety of technologies and scientific instruments to conduct explorations, investigations, and experiments of the natural world.</b>
<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>Standard 1: Nature of Science</b>
<b>SC.0.6.1.09 Students will demonstrate safe techniques for handling, manipulating and caring for science materials, equipment, natural specimens and living organisms.</b>
<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>Standard 1: Nature of Science</b>
<b>SC.0.6.1.10 Students will utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, identifying dependent and independent variables).</b>
<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 1-30

<b>Standard 1: Nature of Science</b>
<b>SC.0.6.1.11 Students will construct and use charts, graphs, and tables to organize, display, interpret, analyze and explain data.</b>
<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 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 16, 21, 22, 24, 26, 27, 29

<b>Standard 1: Nature of Science</b>
<b>SC.0.6.1.12 Students will use inferential reasoning to make logical conclusions from collected data.</b>
<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>Standard 2: Content of Science</b>
<b>SC.O.6.2.01 Students will demonstrate the interrelationships among physics, chemistry, biology, earth and environmental science, and astronomy.</b>
<p><b>Life 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, 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>Life 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, 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>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, 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, 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, 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, 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 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, 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, 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, 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>Classroom Resource CD-ROM:</b> Writing Strategy

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.02 Students will use pictures to show cyclical processes in nature (e.g., nitrogen cycle, carbon cycle, or water cycle).</b>
<p><b>Life Science Lab, Level A:</b> Cards 42, 76, 78, 79</p> <p><b>Life Science Lab, Level B:</b> Cards 42, 76, 78, 79</p> <p><b>Earth Science Lab, Level A:</b> Cards 9, 47, 62, 64, 65, 66</p> <p><b>Earth Science Lab, Level B:</b> Cards 9, 47, 62, 64, 65, 66</p>

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.03 Students will classify living organisms according to their structure and functions.</b>
<p><b>Life Science Lab, Level A:</b> Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40</p> <p><b>Life Science Lab, Level B:</b> Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40</p> <p><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</p>

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.04 Students will compare the similarities of internal features or organisms, which can be used to infer relatedness.</b>
<b>Life Science Lab, Level A:</b> Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40
<b>Life Science Lab, Level B:</b> Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40
<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

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.05 Students will examine how abiotic and biotic factors affect the interdependence among organisms.</b>
<b>Life Science Lab, Level A:</b> Cards 13, 16, 17, 70, 71, 72, 73, 74, 75, 76, 77
<b>Life Science Lab, Level B:</b> Cards 13, 16, 17, 70, 71, 72, 73, 74, 75, 76, 77

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.06 Students will construct models of plant and animal cells and compare the basic parts (e.g., cytoplasm, cell wall, cell membrane, nucleus, or chloroplasts).</b>
<b>Life Science Lab, Level A:</b> Cards 6, 7, 8, 9, 10
<b>Life Science Lab, Level B:</b> Cards 6, 7, 8, 9, 10
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i> , pages 77-79

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.07 Students will compare growth cycles in different plants (e.g., mosses, ferns, perennials, biennials, woody plants, or herbaceous plants).</b>
<b>Life Science Lab, Level A:</b> Cards 18, 19, 20, 21, 22
<b>Life Science Lab, Level B:</b> Cards 18, 19, 20, 21, 22

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.08 Students will predict changes in populations of organisms due to limiting environmental factors (e.g., food supply, predators, disease, or habitat).</b>
<b>Life Science Lab, Level A:</b> Cards 71, 72, 73, 75, 76, 77
<b>Life Science Lab, Level B:</b> Cards 71, 72, 73, 75, 76, 77

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.09 Students will analyze the ecological consequences of human interactions with the environment (e.g., renewable and non-renewable resources).</b>
<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 35, 37, 42, 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
<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>Standard 2: Content of Science</b>
<b>SC.O.6.2.10 Students will classify and investigate properties and processes (changes) as either physical or chemical.</b>
Physical Science Lab, Level A: Cards 6, 7, 8, 9, 27, 28, 29, 30 Physical Science Lab, Level B: Cards 6, 7, 8, 9, 27, 28, 29, 30 Physical Science Lab Teacher's Handbook: Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.11 Students will investigate the formation and separation of simple mixtures of matter concluding that matter is composed of tiny particles and that the particles are the same for the same type of matter.</b>
Physical Science Lab, Level A: Cards 12, 13 Physical Science Lab, Level B: Cards 12, 13

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.12 Students will use indicators to classify substances as acidic, basic, or neutral.</b>
Physical Science Lab, Level A: Cards 14, 15, 16 Physical Science Lab, Level B: Cards 14, 15, 16 Physical Science Lab Teacher's Handbook: Hands-On Activity 1, <i>Measuring pH of Acids and Bases</i> , pages 77-79

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.13 Students will, using the periodic table, identify the symbols of elements as solids, liquids, and gases; metals or nonmetals.</b>
Physical Science Lab, Level A: Cards 17, 18, 19, 20, 21 Physical Science Lab, Level B: Cards 17, 18, 19, 20, 21

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.14 Students will describe the composition and properties of matter (e.g., particles, malleability, melting point, density, inertia, or specific heat).</b>
Physical Science Lab, Level A: Cards 1, 2, 5, 6, 7, 42 Physical Science Lab, Level B: Cards 1, 2, 5, 6, 7, 42

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.15 Students will investigate the properties of the electromagnetic spectrum (e.g., wavelengths, frequencies, visible light); relate wavelengths and/or frequencies to position on the electromagnetic spectrum (e.g., colors, x-ray).</b>
Physical Science Lab, Level A: Cards 82, 83, 84, 85, 87 Physical Science Lab, Level B: Cards 82, 83, 84, 85, 87

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.16 Students will recognize that an object's color is based upon the absorption and reflection of light waves.</b>
Physical Science Lab, Level A: Card 85 Physical Science Lab, Level B: Card 85

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.17 Students will describe light and sound in terms of longitudinal or transverse waves.</b>
Physical Science Lab, Level A: Cards 77, 78, 79, 80, 82, 83 Physical Science Lab, Level B: Cards 77, 78, 79, 80, 82, 83 Physical Science Lab Teacher's Handbook: Hands-On Activity 6, <i>Making Sound</i> , pages 97-99

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.18 Students will describe the flow of heat between objects (e.g., hot air rises, or absorption and release of heat by metals).</b>
<b>Earth Science Lab, Level A:</b> Cards 38, 41, 87 <b>Earth Science Lab, Level B:</b> Cards 38, 41, 87
<b>Physical Science Lab, Level A:</b> Cards 42, 43, 44, 46 <b>Physical Science Lab, Level B:</b> Cards 42, 43, 44, 46

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.19 Students will diagram simple parallel and series circuits (e.g., bulbs, battery, wires, or switch).</b>
<b>Physical Science Lab, Level A:</b> Cards 68, 69, 70, 71, 72 <b>Physical Science Lab, Level B:</b> Cards 68, 69, 70, 71, 72 <b>Physical Science Lab Teacher's Handbook:</b> Hands-On Activity 5, <i>Making a Potato Battery</i> , pages 93-95

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.20 Students will correlate the relationship of mass to gravitational force (e.g., the larger the mass the larger the gravitational force; or the closer the objects the stronger the force).</b>
<b>Physical Science Lab, Level A:</b> Cards 57, 59 <b>Physical Science Lab, Level B:</b> Cards 57, 59

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.21 Students will examine simple machines and the forces involved.</b>
<b>Physical Science Lab, Level A:</b> Cards 63, 64 <b>Physical Science Lab, Level B:</b> Cards 63, 64

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.22 Students will apply the effects of balanced and unbalanced forces on motion of objects.</b>
<b>Physical Science Lab, Level A:</b> Cards 54, 55, 56, 57, 58, 59 <b>Physical Science Lab, Level B:</b> Cards 54, 55, 56, 57, 58, 59 <b>Physical Science Lab Teacher's Handbook:</b> Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.23 Students will explain motion in terms of frames of references and analyze graphs depicting motion and predicted future motion.</b>
<b>Physical Science Lab, Level A:</b> Cards 50, 51, 52, 53 <b>Physical Science Lab, Level B:</b> Cards 50, 51, 52, 53

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.24 Students will monitor major atmospheric events using a variety of resources including technology.</b>
<b>Earth Science Lab, Level A:</b> Cards 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 <b>Earth Science Lab, Level B:</b> Cards 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 <b>Earth Science Lab Teacher's Handbook:</b> 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



<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.25 Students will compare and contrast continental drift hypothesis to the plate tectonic theory.</b>
Earth Science Lab, Level A: Cards 2, 10, 11, 12, 13, 14, 15, 16, 17 Earth Science Lab, Level B: Cards 2, 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>Standard 2: Content of Science</b>
<b>SC.O.6.2.26 Students will associate plant and animal life forms with specific geologic time periods.</b>
Life Science Lab, Level A: Card 67 Life Science Lab, Level B: Card 67  Earth Science Lab, Level A: Cards 32, 33, 34 Earth Science Lab, Level B: Cards 32, 33, 34

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.27 Students will recognize the phases of the moon.</b>
Earth Science Lab, Level A: Card 64 Earth Science Lab, Level B: Card 64

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.28 Students will investigate models of earth-moon-sun relationships (e.g., gravity, time, or tides).</b>
Earth Science Lab, Level A: Cards 55, 62, 63, 64, 65, 66 Earth Science Lab, Level B: Cards 55, 62, 63, 64, 65, 66

<b>Standard 2: Content of Science</b>
<b>SC.O.6.2.29 Students will compare the earth's tilt and revolution to the seasonal changes.</b>
Earth Science Lab, Level A: Cards 55, 62 Earth Science Lab, Level B: Cards 55, 62

**Standard 3: Application of Science****SC.O.6.3.01 Students will explore the relationship between the parts of a system to the whole system.**

**Life Science Lab, Level A:** Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 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

**Life Science Lab, Level B:** Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 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

**Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103

**Earth Science Lab, Level A:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 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, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90

**Earth Science Lab, Level B:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 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, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90

**Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

**Physical Science Lab, Level A:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 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

**Physical Science Lab, Level B:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 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

**Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

**Standard 3: Application of Science****SC.O.6.3.02 Students will construct a variety of useful models of an object, event, or process.**

**Life Science Lab Teacher's Handbook:** Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99

**Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99

**Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 6, *Making Sound*, pages 97-99

<b>Standard 3: Application of Science</b>
<b>SC.O.6.3.03 Students will compare and contrast changes that occur in an object or a system to its original state.</b>
<p><b>Life Science Lab, Level A:</b> Cards 8, 9, 10, 17, 42, 48, 50, 51, 52, 76, 77, 80, 86, 87, 88, 89, 90</p> <p><b>Life Science Lab, Level B:</b> Cards 8, 9, 10, 17, 42, 48, 50, 51, 52, 76, 77, 80, 86, 87, 88, 89, 90</p> <p><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 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 9, 10, 11, 12, 13, 14, 15, 16, 17, 22, 24, 25, 26, 27, 28, 29, 40, 41, 42, 47, 48, 59, 60, 61, 65, 66, 76, 86, 88</p> <p><b>Earth Science Lab, Level B:</b> Cards 9, 10, 11, 12, 13, 14, 15, 16, 17, 22, 24, 25, 26, 27, 28, 29, 40, 41, 42, 47, 48, 59, 60, 61, 65, 66, 76, 86, 88</p> <p><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 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95</p> <p><b>Physical Science Lab, Level A:</b> Cards 5, 6, 7, 8, 11, 12, 13, 27, 28, 29, 30, 37, 42, 43, 44</p> <p><b>Physical Science Lab, Level B:</b> Cards 5, 6, 7, 8, 11, 12, 13, 27, 28, 29, 30, 37, 42, 43, 44</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; 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>Standard 3: Application of Science</b>
<b>SC.O.6.3.04 Students will compare and contrast the influence that a variation in scale will have on the way an object or system works (e.g., cooling rates of different-sized containers of water, strengthen of different-sized constructions from the same material, or flight characteristics of different-sized model airplanes).</b>
<p><b>Life Science Lab, Level A:</b> Cards 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 44, 48, 60, 61, 62, 63, 64</p> <p><b>Life Science Lab, Level B:</b> Cards 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 44, 48, 60, 61, 62, 63, 64</p> <p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79</p> <p><b>Earth Science Lab, Level A:</b> Cards 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 45, 46, 52, 53, 54, 59, 60, 61, 68, 74, 77, 89</p> <p><b>Earth Science Lab, Level B:</b> Cards 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 45, 46, 52, 53, 54, 59, 60, 61, 68, 74, 77, 89</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99</p> <p><b>Physical Science Lab, Level A:</b> Cards 3, 4, 6, 7, 10, 11, 21, 34, 42, 54, 55, 57, 4, 76, 78, 80, 83</p> <p><b>Physical Science Lab, Level B:</b> Cards 3, 4, 6, 7, 10, 11, 21, 34, 42, 54, 55, 57, 4, 76, 78, 80, 83</p>

<b>Standard 3: Application of Science</b>
<b>SC.O.6.3.05 Students will research everyday applications and interactions of science and technology.</b>
<p><b>Life Science Lab, Level A:</b> Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90</p> <p><b>Life Science Lab, Level B:</b> Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90</p> <p><b>Earth Science Lab, Level A:</b> Cards 16, 20, 31, 37, 42, 51, 54, 59, 60, 61, 70, 79, 80, 81, 85, 86, 88</p> <p><b>Earth Science Lab, Level B:</b> Cards 16, 20, 31, 37, 42, 51, 54, 59, 60, 61, 70, 79, 80, 81, 85, 86, 88</p> <p><b>Physical Science Lab, Level A:</b> Cards 33, 35, 46, 47, 48, 49, 68, 69, 70, 71, 72, 73, 76, 81, 84, 90</p> <p><b>Physical Science Lab, Level B:</b> Cards 33, 35, 46, 47, 48, 49, 68, 69, 70, 71, 72, 73, 76, 81, 84, 90</p>

<b>Standard 3: Application of Science</b>
<b>SC.O.6.3.06 Students will evaluate and critically analyze mass media reports of scientific developments and events.</b>
This concept is not covered at this level.

***SRA Life, Earth, and Physical Science Laboratories***  
**correlation to**  
**West Virginia Science Content Standards and Objectives**  
**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.

**Standard 1: Nature of Science**

**SC.O.7.1.01 Students will realize that scientists formulate and test their explanations of nature using observation and experiments.**

**Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103

**Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

**Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

**Standard 1: Nature of Science**

**SC.O.7.1.02 Students will recognize scientific knowledge is subject to modification as new scientific information challenges current explanations.**

**Life Science Lab, Level A:** Cards 2, 5, 49, 64, 69

**Life Science Lab, Level B:** Cards 2, 5, 49, 64, 69

**Earth Science Lab, Level A:** Cards 10, 20, 31, 51, 54, 68, 72, 78

**Earth Science Lab, Level B:** Cards 10, 20, 31, 51, 54, 68, 72, 78

**Physical Science Lab, Level A:** Cards 3, 53, 59, 76

**Physical Science Lab, Level B:** Cards 3, 53, 59, 76

**Standard 1: Nature of Science**

**SC.O.7.1.03 Students will examine the careers and contributions of men and women of diverse cultures to the development of science.**

**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>Standard 1: Nature of Science</b>
<b>SC.O.7.1.04 Students will articulate the historical significance of scientific discoveries.</b>
<b>Life Science Lab, Level A:</b> Cards 5, 49, 59, 64, 69, 83 <b>Life Science Lab, Level B:</b> Cards 5, 49, 59, 64, 69, 83
<b>Earth Science Lab, Level A:</b> Cards 16, 20, 31, 70, 72, 79, 80, 81, 88 <b>Earth Science Lab, Level B:</b> Cards 16, 20, 31, 70, 72, 79, 80, 81, 88
<b>Physical Science Lab, Level A:</b> Cards 33, 34, 35, 76, 81, 82, 90 <b>Physical Science Lab, Level B:</b> Cards 33, 34, 35, 76, 81, 82, 90

<b>Standard 1: Nature of Science</b>
<b>SC.O.7.1.05 Students will cooperate and collaborate to ask questions, design and conduct investigations to find answers and solve problems.</b>
<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>Standard 1: Nature of Science</b>
<b>SC.O.7.1.06 Students will formulate conclusions through close observations, logical reasoning, objectivity, perseverance and integrity in data collection.</b>
<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 17, 18

<b>Standard 1: Nature of Science</b>
<b>SC.O.7.1.07 Students will apply skepticism, careful methods, logical reasoning and creativity in investigating the observable universe.</b>
<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>Standard 1: Nature of Science</b>
<b>SC.O.7.1.08 Students will use a variety of technologies and scientific instruments to conduct explorations, investigations, and experiments of the natural world.</b>
<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>Standard 1: Nature of Science</b>
<b>SC.O.7.1.09 Students will demonstrate safe techniques for handling, manipulating and caring for science materials, equipment, natural specimens and living organisms.</b>
<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

**Standard 1: Nature of Science****SC.O.7.1.10 Students will utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, identifying dependent and independent variables).**

**Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103

**Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

**Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

**Classroom Resource CD-ROM:** Writing Strategy 1-30

**Standard 1: Nature of Science****SC.O.7.1.11 Students will construct and use charts, graphs, and tables to organize, display, interpret, analyze and explain data.**

**Life Science Lab Teacher's Handbook:** Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103

**Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

**Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 6, *Making Sound*, pages 97-99

**Classroom Resource CD-ROM:** Writing Strategy 16, 21, 22, 24, 26, 27, 29

**Standard 1: Nature of Science****SC.O.7.1.12 Students will use inferential reasoning to make logical conclusions from collected data.**

**Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103

**Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

**Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.01 Students will demonstrate an understanding of the interrelationships among physics, chemistry, biology, earth/environmental science, and astronomy.</b>
<p><b>Life 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, 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>Life 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, 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>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, 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, 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, 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, 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 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, 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, 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, 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>Standard 2: Content of Science</b>
<b>SC.O.7.2.02 Students will identify and describe disease causing organisms (such as bacteria, viruses, protozoa, fungi) and the diseases they cause.</b>
<p><b>Life Science Lab, Level A:</b> Cards 11, 12, 13, 14, 48, 49, 51</p> <p><b>Life Science Lab, Level B:</b> Cards 11, 12, 13, 14, 48, 49, 51</p> <p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 2, <i>Culturing Bacteria</i>, pages 81-83</p>

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.03 Students will explain how skeletal, muscular, and integumentary systems work together in the human body.</b>
<p><b>Life Science Lab, Level A:</b> Cards 53, 55, 56</p> <p><b>Life Science Lab, Level B:</b> Cards 53, 55, 56</p>



<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.04 Students will compare the level of organization of cells, tissues, and organs in living things.</b>
<b>Life Science Lab, Level A:</b> Cards 5, 6, 7, 8, 9, 10, 44, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58
<b>Life Science Lab, Level B:</b> Cards 5, 6, 7, 8, 9, 10, 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>Standard 2: Content of Science</b>
<b>SC.O.7.2.05 Students will construct simple keys to differentiate among living things with similar characteristics.</b>
<b>Life Science Lab, Level A:</b> Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40
<b>Life Science Lab, Level B:</b> Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40
<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

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.06 Students will use pictures to show cyclical processes in nature (e.g., water cycle, nitrogen cycle, or carbon cycle).</b>
<b>Life Science Lab, Level A:</b> Cards 42, 76, 78, 79
<b>Life Science Lab, Level B:</b> Cards 42, 76, 78, 79
<b>Earth Science Lab, Level A:</b> Cards 9, 47, 62, 64, 65, 66
<b>Earth Science Lab, Level B:</b> Cards 9, 47, 62, 64, 65, 66

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.07 Students will evaluate how the different adaptations and life cycles of plants and animals help them survive in different niches and environments (e.g., inherited and acquired adaptations).</b>
<b>Life Science Lab, Level A:</b> Cards 23, 24, 36, 41, 43, 83
<b>Life Science Lab, Level B:</b> Cards 23, 24, 36, 41, 43, 83

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.08 Students will analyze how changes in the environment have led to reproductive adaptations through natural selection.</b>
<b>Life Science Lab, Level A:</b> Cards 65, 66, 67, 68
<b>Life Science Lab, Level B:</b> Cards 65, 66, 67, 68

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.09 Students will explain how an organism’s behavior response is a combination of heredity and the environment.</b>
<b>Life Science Lab, Level A:</b> Cards 24, 36, 43, 83
<b>Life Science Lab, Level B:</b> Cards 24, 36, 43, 83

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.10 Students will analyze the differences in the growth, development, and reproduction in flowering and non-flowering plants.</b>
<b>Life Science Lab, Level A:</b> Cards 18, 19, 20, 21, 22
<b>Life Science Lab, Level B:</b> Cards 18, 19, 20, 21, 22

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.11 Students will predict the trends of interdependent populations if one of the limiting factors is changed.</b>
<b>Life Science Lab, Level A:</b> Cards 72, 73, 74, 75, 76, 77
<b>Life Science Lab, Level B:</b> Cards 72, 73, 74, 75, 76, 77

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.12 Students will evaluate the consequences of the introduction of chemicals into the ecosystem (e.g., environmental consequences, human health risks, or mutations).</b>
<b>Life Science Lab, Level A:</b> Cards 87, 88, 89, 90
<b>Life Science Lab, Level B:</b> Cards 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 37, 42, 59, 60, 61, 86
<b>Earth Science Lab, Level B:</b> Cards 37, 42, 59, 60, 61, 86
<b>Earth Science Lab Teacher's Handbook:</b> Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.13 Students will compare differences among elements, compounds, homogeneous and heterogeneous mixtures.</b>
<b>Physical Science Lab, Level A:</b> Cards 10, 11, 12, 13
<b>Physical Science Lab, Level B:</b> Cards 10, 11, 12, 13

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.14 Students will examine the differences in types of solutions (e.g., solutes and solvents, relative concentrations, conductivity, pH).</b>
<b>Physical Science Lab, Level A:</b> Cards 13, 14, 15, 16
<b>Physical Science Lab, Level B:</b> Cards 13, 14, 15, 16

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.15 Students will examine chemical reactions involving acids and bases by monitoring color changes of indicator(s) and identifying that salt formed in the neutralization reaction.</b>
<b>Physical Science Lab, Level A:</b> Cards 9, 27, 28, 29, 30
<b>Physical Science Lab, Level B:</b> Cards 9, 27, 28, 29, 30
<b>Physical Science Lab Teacher's Handbook:</b> Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.16 Students will write word equations to describe chemical reactions.</b>
<b>Physical Science Lab, Level A:</b> Cards 9, 27, 28, 29, 30
<b>Physical Science Lab, Level B:</b> Cards 9, 27, 28, 29, 30
<b>Physical Science Lab Teacher's Handbook:</b> Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.17 Students will describe the movement of individual particles and verify the conservation of matter during the phase changes (e.g., melting, boiling, or freezing).</b>
<b>Physical Science Lab, Level A:</b> Cards 5, 6, 7, 8, 42
<b>Physical Science Lab, Level B:</b> Cards 5, 6, 7, 8, 42

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.18 Students will identify the characteristics of sound waves and describe how sound is perceived by the ear.</b>
Physical Science Lab, Level A: Cards 77, 78, 79, 80, 81 Physical Science Lab, Level B: Cards 77, 78, 79, 80, 81 Physical Science Lab Teacher's Handbook: Hands-On Activity 6, <i>Making Sound</i> , pages 97-99

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.19 Students will define the absorption and reflection of light as translucent, opaque, and transparent.</b>
Physical Science Lab, Level A: Cards 85, 86, 88 Physical Science Lab, Level B: Cards 85, 86, 88

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.20 Students will interpret and illustrate changes in waves as they encounter various mediums (e.g., mirrors or lenses).</b>
Physical Science Lab, Level A: Cards 79, 86, 87, 88, 89 Physical Science Lab, Level B: Cards 79, 86, 87, 88, 89

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.21 Students will investigate absorption and reflection of light by an object.</b>
Physical Science Lab, Level A: Cards 85, 86 Physical Science Lab, Level B: Cards 85, 86

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.22 Students will characterize series and parallel circuits: AC and DC currents.</b>
Physical Science Lab, Level A: Card 68 Physical Science Lab, Level B: Card 68

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.23 Students will explain conservation of matter and energy and investigate the different forms of energy (e.g., mechanical, potential, kinetic, or gravitational).</b>
Physical Science Lab, Level A: Cards 34, 36, 37, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 76, 77, 78, 79, 82, 83 Physical Science Lab, Level B: Cards 34, 36, 37, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 76, 77, 78, 79, 82, 83 Physical Science Lab Teacher's Handbook: Hands-On Activity 3, <i>Energy Conversion</i> , pages 85-87; 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>Standard 2: Content of Science</b>
<b>SC.O.7.2.24 Students will perform experiments with simple machines to demonstrate the relationship between forces and distance; use vectors to represent motion.</b>
Physical Science Lab, Level A: Cards 63, 64 Physical Science Lab, Level B: Cards 63, 64

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.25 Students will explain the effect of gravity on falling objects (e.g., <math>g=9.8\text{m/s}^2</math>, object dropped on earth and on moon).</b>
Physical Science Lab, Level A: Cards 57, 59 Physical Science Lab, Level B: Cards 57, 59

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.26 Students will describe and compare the causes of tides, surfs, and currents.</b>
Earth Science Lab, Level A: Cards 66, 87, 90 Earth Science Lab, Level B: Cards 66, 87, 90
Physical Science Lab, Level A: Card 48 Physical Science Lab, Level B: Card 48

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.27 Students will examine the effects of the sun’s energy on oceans and weather (e.g., air masses, or convection currents).</b>
Earth Science Lab, Level A: Cards 37, 38, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 50, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 87 Earth Science Lab, Level B: Cards 37, 38, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 50, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 87 Earth Science Lab Teacher’s Handbook: Hands-On Activity 6, <i>Modeling a Tornado</i> , pages 93-95

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.28 Students will interpret GIS maps and create and interpret topographical maps.</b>
Earth Science Lab, Level A: Cards 18, 19, 20 Earth Science Lab, Level B: Cards 18, 19, 20 Earth Science Lab Teacher’s Handbook: Hands-On Activity 3, <i>Interpreting a Topographic Map</i> , pages 81-83

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.29 Students will describe rock formations (e.g., rock cycle).</b>
Earth Science Lab, Level A: Cards 6, 7, 8, 9 Earth Science Lab, Level B: Cards 6, 7, 8, 9

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.30 Students will classify rocks (e.g., crystal/particle size, or mineral composition and uses).</b>
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>Standard 2: Content of Science</b>
<b>SC.O.7.2.31 Students will determine the relevant age of rock layers using index fossils and the law of superposition.</b>
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 7, 9, 30, 33, 34 Earth Science Lab, Level B: Cards 7, 9, 30, 33, 34

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.32 Students will examine how changing latitude affects climate.</b>
Earth Science Lab, Level A: Cards 56, 57, 58 Earth Science Lab, Level B: Cards 56, 57, 58

<b>Standard 2: Content of Science</b>
<b>SC.O.7.2.33 Students will trace the life cycle of a star.</b>
<b>Earth Science Lab, Level A:</b> Cards 75, 76
<b>Earth Science Lab, Level B:</b> Cards 75, 76

<b>Standard 3: Application of Science</b>
<b>SC.O.7.3.01 Students will explore the relationship between the parts of a system to the whole system.</b>
<b>Life Science Lab, Level A:</b> Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 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
<b>Life Science Lab, Level B:</b> Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 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
<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; 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, Level A:</b> Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 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, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
<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, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 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, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
<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 6, <i>Modeling a Tornado</i> , pages 93-95; Hands-On Activity 8, <i>Temperature, Salinity, and Water Density</i> , pages 101-103
<b>Physical Science Lab, Level A:</b> Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 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
<b>Physical Science Lab, Level B:</b> Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 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
<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>Standard 3: Application of Science</b>
<b>SC.O.7.3.02 Students will construct a variety of useful models of an object, event, or process.</b>
<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
<b>Earth Science Lab Teacher's Handbook:</b> 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; Hands-On Activity 7, <i>Sizes in the Solar System</i> , pages 97-99
<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>Standard 3: Application of Science</b>
<b>SC.O.7.3.03 Students will compare and contrast changes that occur in an object or a system to its original state.</b>
<p><b>Life Science Lab, Level A:</b> Cards 8, 9, 10, 17, 42, 48, 50, 51, 52, 76, 77, 80, 86, 87, 88, 89, 90</p> <p><b>Life Science Lab, Level B:</b> Cards 8, 9, 10, 17, 42, 48, 50, 51, 52, 76, 77, 80, 86, 87, 88, 89, 90</p> <p><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 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 9, 10, 11, 12, 13, 14, 15, 16, 17, 22, 24, 25, 26, 27, 28, 29, 40, 41, 42, 47, 48, 59, 60, 61, 65, 66, 76, 86, 88</p> <p><b>Earth Science Lab, Level B:</b> Cards 9, 10, 11, 12, 13, 14, 15, 16, 17, 22, 24, 25, 26, 27, 28, 29, 40, 41, 42, 47, 48, 59, 60, 61, 65, 66, 76, 86, 88</p> <p><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 5, <i>What is in the Air?</i>, pages 89-91; Hands-On Activity 6, <i>Modeling a Tornado</i>, pages 93-95</p> <p><b>Physical Science Lab, Level A:</b> Cards 5, 6, 7, 8, 11, 12, 13, 27, 28, 29, 30, 37, 42, 43, 44</p> <p><b>Physical Science Lab, Level B:</b> Cards 5, 6, 7, 8, 11, 12, 13, 27, 28, 29, 30, 37, 42, 43, 44</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; 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>Standard 3: Application of Science</b>
<b>SC.O.7.3.04 Students will compare and contrast the influence that a variation in scale will have on the way an object or system works (e.g., cooling rates of different-sized containers of water, strengthen of different-sized constructions from the same material, or flight characteristics of different-sized model airplanes).</b>
<p><b>Life Science Lab, Level A:</b> Cards 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 44, 48, 60, 61, 62, 63, 64</p> <p><b>Life Science Lab, Level B:</b> Cards 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 44, 48, 60, 61, 62, 63, 64</p> <p><b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 1, <i>Examining Cells</i>, pages 77-79</p> <p><b>Earth Science Lab, Level A:</b> Cards 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 45, 46, 52, 53, 54, 59, 60, 61, 68, 74, 77, 89</p> <p><b>Earth Science Lab, Level B:</b> Cards 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 45, 46, 52, 53, 54, 59, 60, 61, 68, 74, 77, 89</p> <p><b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 3, <i>Interpreting a Topographic Map</i>, pages 81-83; Hands-On Activity 7, <i>Sizes in the Solar System</i>, pages 97-99</p> <p><b>Physical Science Lab, Level A:</b> Cards 3, 4, 6, 7, 10, 11, 21, 34, 42, 54, 55, 57, 4, 76, 78, 80, 83</p> <p><b>Physical Science Lab, Level B:</b> Cards 3, 4, 6, 7, 10, 11, 21, 34, 42, 54, 55, 57, 4, 76, 78, 80, 83</p>

<b>Standard 3: Application of Science</b>
<b>SC.O.7.3.05 Students will research everyday applications and interactions of science and technology.</b>
<p><b>Life Science Lab, Level A:</b> Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90</p> <p><b>Life Science Lab, Level B:</b> Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90</p> <p><b>Earth Science Lab, Level A:</b> Cards 16, 20, 31, 37, 42, 51, 54, 59, 60, 61, 70, 79, 80, 81, 85, 86, 88</p> <p><b>Earth Science Lab, Level B:</b> Cards 16, 20, 31, 37, 42, 51, 54, 59, 60, 61, 70, 79, 80, 81, 85, 86, 88</p> <p><b>Physical Science Lab, Level A:</b> Cards 33, 35, 46, 47, 48, 49, 68, 69, 70, 71, 72, 73, 76, 81, 84, 90</p> <p><b>Physical Science Lab, Level B:</b> Cards 33, 35, 46, 47, 48, 49, 68, 69, 70, 71, 72, 73, 76, 81, 84, 90</p>

<b>Standard 3: Application of Science</b>
<b>SC.O.7.3.06 Students will evaluate and critically analyze mass media reports of scientific developments and events.</b>
<b>SC.O.7.3.07 Students will explore the connections between science, technology, society, and career opportunities.</b>
This concept is not covered at this level.

***SRA Life, Earth, and Physical Science Laboratories***  
**correlation to**  
**West Virginia Science Content Standards and Objectives**  
**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.

**Standard 1: Nature of Science**

**SC.O.8.1.01 Students will formulate scientific explanations based on historical observations and experimental evidence, accounting for variability in experimental results.**

**Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103

**Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

**Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

**Standard 1: Nature of Science**

**SC.O.8.1.02 Students will demonstrate how a testable methodology is employed to seek solutions for personal and societal issues (e.g., "scientific method").**

**Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103

**Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

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<b>Standard 1: Nature of Science</b>
<b>SC.O.8.1.03 Students will relate societal, cultural and economic issues to key scientific innovations.</b>
This concept is not covered at this level.

<b>Standard 1: Nature of Science</b>
<b>SC.O.8.1.04 Students will conduct and/or design investigations that incorporate the skills and attitudes and/or values of scientific inquiry (e.g., established research protocol, accurate record keeping, replication of results and peer review, objectivity, openness, skepticism, fairness, or creativity and logic).</b>
<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>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>Standard 1: Nature of Science</b>
<b>SC.O.8.1.05 Students will implement safe procedures and practices when manipulating equipment, materials, organisms, and models.</b>
<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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**Standard 1: Nature of Science**

**SC.O.8.1.06 Students will use appropriate technology solutions within a problem solving setting to measure and collect data; interpret data; analyze and/or report data; interact with simulations; conduct research; and present and communicate conclusions.**

**Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103

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**Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

**Standard 1: Nature of Science**

**SC.O.8.1.07 Students will design, conduct, evaluate and revise experiments (e.g., compose a question to be investigated, design a controlled investigation that produces numeric data, evaluate the data in the context of scientific laws and principles, construct a conclusion based on findings, purpose revisions to investigations based on manipulation of variables and/or analysis of error, or communicate and defend the results and conclusions).**

**Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103

**Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

**Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

**Classroom Resource CD-ROM:** Writing Strategy 15

<b>Standard 1: Nature of Science</b>
<b>SC.O.8.1.08 Students will draw conclusions from a variety of data sources to analyze and interpret systems and models (e.g., use graphs and equations to measure and apply variables such as rate and scale, evaluate changes in trends and cycles, predict the influence of external variances such as potential sources of error, or interpret maps).</b>
<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 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>Standard 2: Content of Science</b>
<b>SC.O.8.2.01 Students will demonstrate an understanding of the interrelationships among physics, chemistry, biology, earth/environmental science, and astronomy.</b>
<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>Standard 2: Content of Science</b>
<b>SC.O.8.2.02 Students will examine and describe the structures and functions of cell organelles.</b>
<b>Life Science Lab, Level A:</b> Card 9
<b>Life Science Lab, Level B:</b> Card 9

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.03 Students will explain how the circulatory, respiratory and reproductive systems work together in the human body.</b>
<b>Life Science Lab, Level A:</b> Cards 47, 51, 58
<b>Life Science Lab, Level B:</b> Cards 47, 51, 58

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.04 Students will compare the variations in cells, tissues and organs of the circulatory, respiratory and reproductive systems of different organisms.</b>
<b>Life Science Lab, Level A:</b> Cards 47, 48, 51, 58
<b>Life Science Lab, Level B:</b> Cards 47, 48, 51, 58

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.05 Students will discuss how living cells obtain the essentials of life through chemical reactions of fermentation, respiration and photosynthesis.</b>
<b>Life Science Lab, Level A:</b> Cards 7, 9, 16, 17
<b>Life Science Lab, Level B:</b> Cards 7, 9, 16, 17

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.06 Students will analyze how behaviors of organisms lead to species continuity (e.g., reproductive/mating behaviors, or seed dispersal).</b>
<b>Life Science Lab, Level A:</b> Cards 20, 23, 24, 36, 41, 43, 73, 83
<b>Life Science Lab, Level B:</b> Cards 20, 23, 24, 36, 41, 43, 73, 83

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.07 Students will demonstrate the basic principles of genetics: introduce Mendel’s law, monohybrid crosses, production of body and sex cells (mitosis/meiosis), genes, chromosomes, and inherited traits.</b>
<b>Life Science Lab, Level A:</b> Cards 10, 58, 60, 61, 62, 63
<b>Life Science Lab, Level B:</b> Cards 10, 58, 60, 61, 62, 63

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.08 Students will compare patterns of human development to other vertebrates.</b>
<b>Life Science Lab, Level A:</b> Card 68
<b>Life Science Lab, Level B:</b> Card 68

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.09 Students will organize groups of unknown organisms based on observable characteristics (e.g., create dichotomous keys).</b>
<b>Life Science Lab, Level A:</b> Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40
<b>Life Science Lab, Level B:</b> Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40
<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

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.10 Students will trace matter and energy flow in a food web as it flows from sunlight to producers and consumers, design an environment in which the chemical and energy needs for the growth, reproduction, and development of plants are met (e.g., food pyramids, decomposition).</b>
<b>Life Science Lab, Level A:</b> Cards 7, 9, 13, 16, 17, 76, 77
<b>Life Science Lab, Level B:</b> Cards 7, 9, 13, 16, 17, 76, 77
<b>Life Science Lab Teacher’s Handbook:</b> Hands-On Activity 6, <i>How Much Does Energy Cost?</i> , pages 97-99

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.11 Students will use the periodic table to locate and classify elements as metallic, non-metallic or metalloid.</b>
Physical Science Lab, Level A: Cards 17, 18, 19, 20
Physical Science Lab, Level B: Cards 17, 18, 19, 20

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.12 Students will reconstruct development models of the atom (e.g., Crookes, Thompson, Becquerel, Rutherford, or Bohr).</b>
Physical Science Lab, Level A: Cards 3, 4, 21
Physical Science Lab, Level B: Cards 3, 4, 21

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.13 Students will calculate the number of protons, neutrons, and electrons and use the information to construct a Bohr model of the atom.</b>
Physical Science Lab, Level A: Card 21
Physical Science Lab, Level B: Card 21

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.14 Students will classify elements into their families based upon their valence electrons.</b>
Physical Science Lab, Level A: Card 22
Physical Science Lab, Level B: Card 22

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.15 Students will evaluate the variations in diffusion rates and examine the effect of changing temperature.</b>
This concept is not covered at this level.

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.16 Students will conduct and classify chemical reactions by reaction type (e.g., synthesis, decomposition, single replacement or double replacement); energy type (e.g., endothermic and exothermic); and write word equations for the chemical reactions.</b>
Physical Science Lab, Level A: Cards 9, 27, 28, 29, 30
Physical Science Lab, Level B: Cards 9, 27, 28, 29, 30
Physical Science Lab Teacher's Handbook: Hands-On Activity

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.17 Students will identify and describe factors that affect chemical reaction rates, including catalysts, temperature changes, light energies and particle size.</b>
Physical Science Lab, Level A: Cards 9, 27, 28, 29, 30
Physical Science Lab, Level B: Cards 9, 27, 28, 29, 30
Physical Science Lab Teacher's Handbook: Hands-On Activity 2, <i>Chemical Reaction Rates</i> , pages 81-83

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.18 Students will examine the various sources of energy (e.g., fossil fuels, wind, solar, geothermal, nuclear, biomass).</b>
Earth Science Lab, Level A: Cards 35, 90 Earth Science Lab, Level B: Cards 35, 90
Physical Science Lab, Level A: Cards 34, 38, 41, 42, 45, 46, 47, 48, 76 Physical Science Lab, Level B: Cards 34, 38, 41, 42, 45, 46, 47, 48, 76

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.19 Students will explain the Doppler effect (e.g., sound).</b>
Earth Science Lab, Level A: Card 51 Earth Science Lab, Level B: Card 51
Physical Science Lab, Level A: Card 79 Physical Science Lab, Level B: Card 79

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.20 Students will quantitatively represent wavelength, frequency and velocity (e.g., <math>v=\lambda f</math>).</b>
Physical Science Lab, Level A: Cards 77, 78, 79 Physical Science Lab, Level B: Cards 77, 78, 79

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.21 Students will relate the conservation of energy theory to energy transformations (e.g., electrical/heat, or mechanical/heat).</b>
Physical Science Lab, Level A: Cards 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 70, 76, 77, 78, 79, 80, 82, 83 Physical Science Lab, Level B: Cards 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 70, 76, 77, 78, 79, 80, 82, 83 Physical Science Lab Teacher's Handbook: 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 6, <i>Modeling a Tornado</i> , pages 93-95

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.22 Students will quantitatively represent work, power, pressure (e.g., <math>\text{Work} = \text{Force} \times \text{distance}</math>, <math>\text{Power} = \text{Work}/\text{time}</math>, or <math>\text{pressure} = \text{force}/\text{area}</math>) from collected data.</b>
Physical Science Lab, Level A: Cards 60, 62, 65 Physical Science Lab, Level B: Cards 60, 62, 65

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.23 Students will graph and interpret the relationships of distance versus time, speed versus time, and acceleration versus time.</b>
Physical Science Lab, Level A: Cards 50, 51, 52 Physical Science Lab, Level B: Cards 50, 51, 52

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.24 Students will describe Newton's Laws of Motion; identify examples, illustrate qualitatively and quantitatively drawing vector examples.</b>
Physical Science Lab, Level A: Cards 55, 56, 57, 58, 59 Physical Science Lab, Level B: Cards 55, 56, 57, 58, 59 Physical Science Lab Teacher's Handbook: Hands-On Activity 4, <i>Reducing Friction</i> , pages 89-91

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.25 Students will illustrate and calculate the mechanical advantage of simple machines.</b>
Physical Science Lab, Level A: Cards 63, 64 Physical Science Lab, Level B: Cards 63, 64

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.26 Students will research and draw conclusions related to the quality and quantity of surface and ground water.</b>
Earth Science Lab, Level A: Cards 82, 83, 84, 85, 86 Earth Science Lab, Level B: Cards 82, 83, 84, 85, 86

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.27 Students will identify and explain the principle forces of plate tectonics and related geological events (e.g., earthquakes, volcanoes, or landforms).</b>
Earth Science Lab, Level A: Cards 2, 10, 11, 12, 13, 14, 15, 16, 17, 21 Earth Science Lab, Level B: Cards 2, 10, 11, 12, 13, 14, 15, 16, 17, 21 Earth Science Lab Teacher's Handbook: Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.28 Students will determine the impact of oceans on weather and climate; relate global patterns of atmospheric movement on local weather.</b>
Earth Science Lab, Level A: Cards 38, 39, 40, 41, 45, 46, 54, 55, 56, 57, 58, 59, 60, 61, 87 Earth Science Lab, Level B: Cards 38, 39, 40, 41, 45, 46, 54, 55, 56, 57, 58, 59, 60, 61, 87

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.29 Students will analyze the forces of tectonics, weathering and erosion that have shaped the earth's surface.</b>
Earth Science Lab, Level A: Cards 2, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 24, 25, 26, 27, 28 Earth Science Lab, Level B: Cards 2, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 24, 25, 26, 27, 28 Earth Science Lab Teacher's Handbook: Hands-On Activity 2, <i>Plate Boundaries in Action</i> , pages 77-79

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.30 Students will model processes of soil formation and suggest methods of soil preservation and conservation.</b>
Life Science Lab, Level A: Card 13 Life Science Lab, Level B: Card 13  Earth Science Lab, Level A: Cards 23, 29 Earth Science Lab, Level B: Cards 23, 29

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.31 Students will research and recognize the societal concerns of exploration and colonization of space.</b>
Earth Science Lab, Level A: Cards 70, 79, 80, 81 Earth Science Lab, Level B: Cards 70, 79, 80, 81

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.32 Students will explain phenomena associated with motions in sun-earth-moon system (e.g., eclipses, tides, or seasons).</b>
Earth Science Lab, Level A: Cards 62, 64, 65, 66 Earth Science Lab, Level B: Cards 62, 64, 65, 66

<b>Standard 2: Content of Science</b>
<b>SC.O.8.2.33 Students will describe the origin and orbits of comets, asteroids, and meteoroids.</b>
<b>Earth Science Lab, Level A:</b> Cards 73, 78
<b>Earth Science Lab, Level B:</b> Cards 73, 78

<b>Standard 3: Application of Science</b>
<b>SC.O.8.3.01 Students will synthesize concepts across various science disciplines to better understand the natural world (e.g., form and function, systems, or change over time).</b>
<b>Life 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, 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
<b>Life 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, 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
<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, 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, 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
<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, 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, 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
<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, 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, 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
<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, 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
<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

<b>Standard 3: Application of Science</b>
<b>SC.O.8.3.02 Students will investigate, compare and design scientific and technological solutions to personal and societal problems.</b>
<b>SC.O.8.3.03 Students will communicate experimental designs, results and conclusions using advanced technology tools.</b>
This concept is not covered at this level.

<b>Standard 3: Application of Science</b>
<b>SC.O.8.3.04 Students will collaborate to present research on current environmental and technological issues to predict possible solutions.</b>
<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 29, 35, 37, 42, 59, 60, 61, 86 <b>Earth Science Lab, Level B:</b> Cards 29, 35, 37, 42, 59, 60, 61, 86 <b>Earth Science Lab Teacher’s Handbook:</b> Hands-On Activity 5, <i>What is in the Air?</i> , pages 89-91

<b>Standard 3: Application of Science</b>
<b>SC.O.8.3.05 Students will explore occupational opportunities in science, engineering and technology and evaluate the required academic preparation.</b>
This concept is not covered at this level.

<b>Standard 3: Application of Science</b>
<b>SC.O.8.3.06 Students will given a current science-technology-societal issue, construct and defend potential solutions.</b>
<b>Life Science Lab, Level A:</b> Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90 <b>Life Science Lab, Level B:</b> Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90  <b>Earth Science Lab, Level A:</b> Cards 16, 20, 31, 37, 42, 51, 54, 59, 60, 61, 70, 79, 80, 81, 85, 86, 88 <b>Earth Science Lab, Level B:</b> Cards 16, 20, 31, 37, 42, 51, 54, 59, 60, 61, 70, 79, 80, 81, 85, 86, 88  <b>Physical Science Lab, Level A:</b> Cards 33, 35, 46, 47, 48, 49, 68, 69, 70, 71, 72, 73, 76, 81, 84, 90 <b>Physical Science Lab, Level B:</b> Cards 33, 35, 46, 47, 48, 49, 68, 69, 70, 71, 72, 73, 76, 81, 84, 90