



Macmillan/McGraw-Hill

Grade Span Expectations in Science
Grade 4

Vermont



SCIENCE

A CLOSER LOOK

Grade 4

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STANDARDS	PAGE REFERENCES
Life Science	
LS1 - All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).	
LS1 (K-4) - INQ+POC –1 <i>Sort/classify different living things using similar and different characteristics. Describe why organisms belong to each group or cite evidence about how they are alike or not alike.</i>	
LS1 (3-4) –1 Students demonstrate an understanding of classification of organisms by ...	
1a <u>citing evidence to distinguish</u> between living and non-living things.	Student Edition: 22-23 <i>Explore: Inquiry Activity 21</i> <i>Quick Check 23</i> <i>Read a Table 23</i> Teacher Wraparound Edition: ASP 20; DMI 22 Leveled Readers: Grade 4 Approaching Level Reader: <i>Scientists and Cells</i> Teacher’s Resources: <i>Presentation Toolkit CD-ROM</i> <i>PuzzleMaker Toolkit CD-ROM</i> <i>Reading and Writing 3-5</i> <i>Visual Literacy 1</i>

STANDARDS	PAGE REFERENCES
<p>1b identifying, sorting and <u>comparing</u> based on similar and/or different external features.</p>	<p>Student Edition: 34-39, 46-47 <i>Explore: Inquiry Activity</i> 33, 45 <i>Focus on Skills: Skill Builder</i> 86-87 <i>Quick Check</i> 39 <i>Read a Chart</i> 35</p> <p>Teacher Wraparound Edition: AE 45; APK 32; DIF 35, 39, 47; ELL 78; WU 32, 76</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>What on Earth is a Platypus?</i> Grade 4 English Learner Level Reader: <i>What on Earth is a Platypus?</i> Grade 4 On Level Reader: <i>What's New on Earth?</i> Grade 4 English Learner Level Reader: <i>What's New on Earth?</i> Grade 4 Approaching Level Reader: <i>Which is Which?</i></p> <p>Teacher's Resources: <i>Activity Flipchart</i> 4, 8, 9 <i>Activity Lab Book</i> 11-13, 14, 27-29, 31-33 <i>Instructional Navigator CD-ROM</i> <i>Reading and Writing</i> 7-9, 13-15 <i>Science Activity DVD</i> <i>Science Quest: Classification</i> <i>Visual Literacy</i> 3</p>

STANDARDS	PAGE REFERENCES
<p>1c recording and <u>analyzing</u> observations/data about external features (e.g., within a grouping, which characteristics are the same and which are different).</p>	<p>Student Edition: 34-39, 46-47 <i>Explore: Inquiry Activity</i> 33, 45 <i>Focus on Skills: Skill Builder</i> 86-87 <i>Read a Chart</i> 35</p> <p>Teacher Wraparound Edition: AE 45; APK 32; DIF 39, 47; ELL 78; WU 32, 76</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>What on Earth is a Platypus?</i> Grade 4 English Learner Level Reader: <i>What on Earth is a Platypus?</i> Grade 4 Approaching Level Reader: <i>Which is Which?</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 4, 8, 9 <i>Activity Lab Book</i> 11-13, 14, 27-29, 31-33 <i>Instructional Navigator CD-ROM</i> <i>Reading and Writing</i> 7-9, 13-15 <i>Science Activity DVD</i> <i>Science Quest: Classification</i> <i>Visual Literacy</i> 3</p>
<p>1d <u>citing evidence</u> (e.g., prior knowledge, data) <u>to draw conclusions explaining why organisms are grouped/not grouped together</u> (e.g. mammal, bird, and fish).</p>	<p>Student Edition: 36-37, 38-39, 46-47, 90-91 <i>Explore</i> 77 <i>Focus on Skills: Skill Builder</i> 86-87 <i>Quick Check</i> 39, 47, 91</p> <p>Teacher Wraparound Edition: APK 76, 88; DIF 47; DMI 38, 46; UV 37, 79, 91</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>What on Earth is a Platypus?</i> Grade 4 English Learner Reader: <i>What on Earth is a Platypus?</i> Grade 4 Approaching Level Reader: <i>Which is Which?</i></p> <p>Teacher’s Resources: <i>Activity Lab Book</i> v-vi <i>Reading and Writing</i> 26-28, 30-32 <i>Science Quest: Classification</i> <i>Visual Literacy</i> 9, 11</p>

STANDARDS	PAGE REFERENCES
<p>LS1 (K-4) SAE -2 <i>Identify the basic needs of plants and animals in order to stay alive. (i.e., water, air, food, space).</i></p>	
<p>LS1 (3-4)-2 Students demonstrate understanding of structure and function-survival requirements by...</p>	
<p>2a observing that plants need water, air, food, light and <u>space</u> to grow <u>and reproduce</u>; observing that animals need water, air, food, and shelter/space to grow <u>and reproduce</u>.</p>	<p>Student Edition: 22-23, 48-51, 62-65, 131 <i>Explore</i> 59 <i>Quick Check</i> 51, 131 <i>Quick Lab</i> 131 <i>Read a Table</i> 23</p> <p>Teacher Wraparound Edition: DMI 48, 50</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>Hidden Food Webs</i> Grade 4 English Learner Reader: <i>Hidden Food Webs2</i> Grade 4 Beyond Level Reader: <i>How Can We Save Them?</i> Grade 4 Approaching Level Reader: <i>Rain Forests, Coral Reefs, and Deserts</i></p> <p>Teacher's Resources: <i>Presentation Toolkit CD-ROM</i> <i>Reading and Writing</i> 3-5 <i>Visual Literacy</i> 1, 5</p>

STANDARDS	PAGE REFERENCES
<p>LS1 (K-4) POC –3 <i>Predict, sequence or compare the life stages of organisms – plants and animals (e.g., put images of life stages of an organism in order, predict the next stage in sequence, compare two organisms).</i></p>	
<p>LS1 (3-4)–3 <i>Students demonstrate an understanding of reproduction by ...</i></p>	
<p>3a observing changes and recording data to scientifically <u>draw</u> and label the stages in the life cycle of a familiar plant and animal.</p>	<p>Student Edition: 65, 110-115 <i>Explore: Inquiry Activity 109</i></p> <p>Teacher Wraparound Edition: DIF 65; FA 117; LW 108</p> <p>Teacher’s Resources: <i>Activity Flipchart 13</i> <i>Activity Lab Book 13, 26</i> <i>Presentation Toolkit CD-ROM</i> <i>Science Activity DVD</i></p>
<p>3b sequencing the life cycle of a plant or animal when given a set of <u>data/pictures</u>.</p>	<p>Student Edition: 65, 110-115</p> <p>Teacher Wraparound Edition: DIF 65; UV 113</p> <p>Teacher’s Resources: <i>Presentation Toolkit CD-ROM</i> <i>Visual Literacy 15</i></p>
<p>3c <u>comparing the life cycles of 2 plants or 2 animals when given a set of data/pictures.</u></p>	<p>Student Edition: 110-115 <i>Reading in Science 118-119</i></p> <p>Teacher Wraparound Edition: AR 119; DIF 111</p> <p>Teacher’s Resources: <i>Reading and Writing 44-45</i></p>

STANDARDS	PAGE REFERENCES
<p>LS1 (K-4) FAF –4 <i>Identify and explain how the physical structures of an organism (plants or animals) allow it to survive in its habitat/environment (e.g., roots for water; nose to smell fire).</i></p>	
<p>LS1 (3-4)–4 Students demonstrate understanding of structure and function-survival requirements by...</p>	
<p>4a identifying and explaining <u>how</u> the physical structure/characteristic of an organism allows it to survive and <u>defend itself</u> (e.g. of a characteristic – the coloring of a fiddler crab allows it to camouflage itself in the sand and grasses of its environment so that it will be protected from predators).</p>	<p>Student Edition: 166, 168-169, 178 <i>Explore: Inquiry Activity</i> 165 <i>Focus on Skills: Skill Builder</i> 172-173 <i>Quick Lab</i> 169 <i>Read the Photo</i> 168 <i>Writing Link</i> 171</p> <p>Teacher Wraparound Edition: AE 165; DIF 169; DMI 166, 168; ELL 168LW 164</p> <p>Leveled Readers: Grade 4 Beyond Level Reader: <i>Animal Senses</i> Grade 4 On Level Reader: <i>Caves: A World of Their Own</i> Grade 4 English Learner Level: <i>Caves: A World of Their Own</i> Grade 4 Approaching Level Reader: <i>Desert Animals and Plants</i> Grade 4 Approaching Level Reader: <i>Rain Forests, Coral Reefs, and Deserts</i> Grade 4 On Level Reader: <i>What's New on Earth?</i> Grade 4 English Learner Level: <i>What's New on Earth?</i></p> <p>Teacher's Resources: <i>Activity Flipchart</i> 18 <i>Activity Lab Book</i> 65-67, 68 <i>Presentation Toolkit DVD</i> <i>Science Activity DVD</i> <i>Visual Literacy</i> 24</p>

STANDARDS	PAGE REFERENCES
<p>4b analyzing the structures needed for survival of <u>populations</u> of plants and animals in a <u>particular</u> habitat/environment (e.g. populations of desert plants and animals require structures that enable them to obtain/conserves/ retain water).</p>	<p>Student Edition: 142, 143, 166, 167, 168, 178 <i>Quick Check</i> 169 <i>Read the Photo</i> 167, 168, 178</p> <p>Teacher Wraparound Edition: DIF 167, 169; DMI 178; HA 178UV 167</p> <p>Leveled Readers: Grade 4 Beyond Level Reader: <i>Animal Senses</i> Grade 4 On Level Reader: <i>Caves: A World of Their Own</i> Grade 4 English Learner Level Reader: <i>Caves: A World of Their Own</i> Grade 4 Approaching Level Reader: <i>Desert Animals and Plants</i> Grade 4 Approaching Level Reader: <i>Rain Forests, Coral Reefs, and Deserts</i> Grade 4 On Level Reader: <i>What's New on Earth?</i> Grade 4 English Learner Level Reader: <i>What's New on Earth?</i></p> <p>Teacher's Resources: <i>Activity Lab Book</i> 68 <i>Presentation Toolkit CD-ROM</i> <i>Reading and Writing</i> 69-71 <i>Science in Motion: Adaptations of Desert Plants</i> <i>Visual Literacy</i> 23, 24</p>

STANDARDS	PAGE REFERENCES
LS2 - Matter cycles and energy flows through an ecosystem.	
LS2 (K-4) SAE –5 <i>Recognize that energy is needed for all organisms to stay alive and grow or identify where a plant or animal gets its energy.</i>	
LS2 (3-4) –5 Students demonstrate an understanding of energy flow in an ecosystem by ...	
5a <u>identifying sources of energy for survival of organisms (i.e. light or food).</u>	Student Edition: 50-51, 150-151 <i>Explore: Inquiry Activity 149</i> <i>Quick Check 51, 150</i> <i>Read a Diagram 50</i> Teacher Wraparound Edition: AE 148; DIF 52; DMI 50, 150; LW 148 Leveled Readers: <i>Grade 4 On Level Reader: Hidden Food Webs</i> <i>Grade 4 English Learner Level Reader: Hidden Food Webs</i> <i>Grade 4 Beyond Level Reader: Microorganisms</i> <i>Grade 4 Approaching Level Reader: Rain Forests, Coral Reefs, and Deserts</i> Teacher’s Resources: <i>Activity Lab Book 64</i> <i>Presentation Toolkit CD-ROM</i> <i>Reading and Writing 60-62</i> <i>Science in Motion: Photosynthesis and Respiration Cycles</i> <i>Visual Literacy 5</i>

STANDARDS	PAGE REFERENCES
<p>LS2 (K-4) SAE –6 Describe ways plants and animals depend on each other (e.g., shelter, nesting, food).</p>	
<p>LS2 (3-4)–6 Students demonstrate an understanding of food webs in an ecosystem by ...</p>	
<p>6a <u>demonstrating in a food web that all animals' food begins with the sun.</u></p>	<p>Student Edition: 152-154 <i>Art Link</i> 157</p> <p>Teacher Wraparound Edition: DIF 153, 154; UV 154</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>Hidden Food Webs</i> Grade 4 English Learner Level Reader: <i>Hidden Food Webs</i> Grade 4 Beyond Level Reader: <i>Microorganisms</i> Grade 4 Approaching Level Reader: <i>Rain Forests, Coral Reefs, and Deserts</i></p> <p>Teacher's Resources: <i>Visual Literacy</i> 21, 22</p>
<p>6b using information about organisms to <u>design a habitat and explain how the habitat provides for the needs of the organisms that live there</u></p>	<p>Student Edition: 131 <i>Quick Lab</i> 131</p> <p>Teacher Wraparound Edition: SB 130</p> <p>Teacher's Resources: <i>Activity Lab Book</i> 53</p>

STANDARDS	PAGE REFERENCES
<p>6c <u>explaining the way that plants and animals in that habitat depend on each other.</u></p>	<p>Student Edition: 63, 65, 131, 151 <i>Quick Check</i> 63, 65, 151 <i>Quick Lab</i> 131 <i>Writing in Science</i> 158</p> <p>Teacher Wraparound Edition: DIF 63; IW 158; SB 130; SYL TR 45</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>Caves: A World of Their Own</i> Grade 4 English Learner Level Reader: <i>Caves: A World of Their Own</i> Grade 4 Approaching Level Reader: <i>Desert Animals and Plants</i> Grade 4 On Level Reader: <i>Hidden Food Webs</i> Grade 4 English Learner Level Reader: <i>Hidden Food Webs</i> Grade 4 Beyond Level Reader: <i>How Can We Save Them?</i> Grade 4 Beyond Level Reader: <i>Partners in Nature</i> Grade 4 Approaching Level Reader: <i>Rain Forests, Coral Reefs, and Deserts</i></p> <p>Teacher’s Resources: <i>Activity Lab Book</i> 53 <i>Reading and Writing</i> 64-65</p>

STANDARDS	PAGE REFERENCES
LS3 - Groups of organisms show evidence of change over time (structures, behaviors, and biochemistry).	
LS3 (K-4) SAE –7 <i>Using information (data or scenario), explain how changes in the environment can cause organisms to respond (e.g., survive there and reproduce, move away, die).</i>	
LS3 (3-4) –7 Students demonstrate an understanding of equilibrium in an ecosystem by ...	
7a explaining what plants or animals might do if their environment changes (e.g., changing food supply or habitat due to fire, human impact, sudden weather-related changes).	Student Edition: 132, 184-189 <i>Chapter Review</i> 161 (#12) <i>Explore: Inquiry Activity</i> 183 <i>Literature</i> 125 <i>Math in Science</i> 159 <i>Quick Check</i> 132, 185 <i>Reading in Science</i> 146-147, 192-193 Teacher Wraparound Edition: AE 183; AR 125; DIF 125, 187; DMI 132, 184, 186, 188; DR 147; SYP TR47 Leveled Readers: Grade 4 Beyond Level Reader: <i>El Nino</i> Grade 4 Beyond Level Reader: <i>How Can We Save Them?</i> Teacher’s Resources: <i>Activity Flipchart</i> 21 <i>Activity Lab Book</i> 76-78, 79 <i>Reading and Writing</i> 48, 58-59, 79-81, 83-84 <i>Science Activity DVD</i> <i>Visual Literacy</i> 27, 28

STANDARDS	PAGE REFERENCES
<p>7b <u>explaining how the balance of the ecosystem can be disturbed (e.g., how does overpopulation of a species affect the rest of the ecosystem).</u></p>	<p>Student Edition: 132, 184-189 <i>Chapter Review</i> 161 (#12) <i>Explore: Inquiry Activity</i> 183 <i>Literature</i> 125 <i>Math in Science</i> 159 <i>Quick Check</i> 132, 185 <i>Reading in Science</i> 146-147, 192-193</p> <p>Teacher Wraparound Edition: AE 183; AR 125; DIF 125, 187; DMI 132, 184, 186, 188; DR 147; SYP TR47</p> <p>Leveled Readers: Grade 4 Beyond Level Reader: <i>How Can We Save Them?</i></p> <p>Teacher's Resources: <i>Activity Flipchart</i> 21 <i>Activity Lab Book</i> 76-78, 79 <i>Reading and Writing</i> 48, 58-59, 79-81, 83-84 <i>Science Activity DVD</i> <i>Visual Literacy</i> 27, 28</p>
<p>LS 4 - Humans are similar to other species in many ways, and yet are unique among Earth's life forms.</p>	
<p>LS4 (K-4) FAF -8 <i>Identify what the physical structures of humans do (e.g., sense organs – eyes, ears, skin, etc.) or compare physical structures of humans to similar structures of animals.</i></p>	
<p>LS4 (3-4)-8 Students demonstrate an understanding of human body systems by ...</p>	
<p>8a <u>showing connections between external and internal body structures (i.e., organs and systems) and how they help humans survive.</u></p>	<p>Student Edition: <i>Health Handbook: Human Body Systems</i> R14-R23</p> <p>Teacher Wraparound Edition: APK R16; DIF R14, R17; DMI R14, R16, R17, R18</p> <p>Leveled Readers: Grade 4 Beyond Level Reader: <i>Microorganisms</i></p>

STANDARDS	PAGE REFERENCES
<p>8b <u>comparing and analyzing external features and characteristics</u> of humans and other animals.</p>	<p>Student Edition: 100-104 <i>Be a Scientist: Inquiry Investigation</i> 107 <i>Health Handbook: Human Body Systems</i> R14-R23</p> <p>Teacher Wraparound Edition: APK R16; DIF 103; R14, R17; DMI R14, R16, R17, R18; SB 102</p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 11 <i>Activity Lab Book</i> 38-40 <i>Science Activity DVD</i></p>
<p>LS4 (K-4) POC -9 <i>Distinguish between characteristics of humans that are inherited from parents (i.e., hair color, height, skin color, eye color) and others that are learned (e.g., riding a bike, singing a song, playing a game, reading)</i></p>	
<p>LS4 (3-4) –9 Students demonstrate an understanding of human heredity by ...</p>	
<p>9a <u>identifying similarities that are inherited from a biological parent.</u></p>	<p>Student Edition: 114-116 <i>Quick Check</i> 116 <i>Quick Lab</i> 116</p> <p>Teacher Wraparound Edition: SYP TR 41, TR43</p> <p>Teacher’s Resources: <i>Presentation Toolkit CD-ROM</i> <i>Visual Literacy</i> 16</p>
<p>9b <u>identifying that some behaviors are learned and some behaviors are instinctive.</u></p>	<p>Student Edition: 116 <i>Lesson Review</i> 117 (#4) <i>Quick Check</i> 116 <i>Quick Lab</i> 116</p> <p>Teacher Wraparound Edition: DMI 116; DV 116; SYP TR46</p>

STANDARDS	PAGE REFERENCES
Earth & Space Science	
ESS1 - The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.	
ESS1 (K-4) INQ –1 <i>Given certain earth materials (soils, rocks or minerals) use physical properties to sort, classify, and describe them.</i>	
ESS1 (3-4) –1 Students demonstrate an understanding of earth materials by ...	
1a describing, comparing, and sorting rocks, soils, and minerals by similar or different physical properties (e.g., size, shape, color, texture, smell, weight, <u>temperature</u> , <u>hardness</u> , <u>composition</u>).	Student Edition: 252-253, 266, 268 <i>Be A Scientist: Inquiry Investigation</i> 270-271 <i>Explore: Inquiry Activity</i> 251 <i>Lesson Review</i> 269 (#1) <i>Read a Table</i> 253 Teacher Wraparound Edition: DIF 253; HA 268; SYP TR50; UV 253, 266 Leveled Readers: Grade 4 Approaching Level Reader: <i>Diamonds</i> Grade 4 Beyond Level Reader: <i>Gold</i> Grade 4 On Level Reader: <i>Rocks</i> Grade 4 English Learner Level Reader: <i>Rocks</i> Teacher’s Resources: <i>Activity Lab Book</i> 113 <i>Reading and Writing</i> 112-114 <i>Presentation Toolkit CD-ROM</i> <i>Science Quest: Rocks and Minerals</i> 252 <i>Visual Literacy</i> 37, 40

STANDARDS	PAGE REFERENCES
<p>1b recording and <u>analyzing</u> observations/data about physical properties (e.g., <u>within a grouping</u>, which characteristics are the same and which are different).</p>	<p>Student Edition: 252-253, 266, 268 <i>Be A Scientist: Inquiry Investigation</i> 270-271 <i>Explore: Inquiry Activity</i> 251 <i>Lesson Review</i> 269 (#1) <i>Read a Table</i> 253</p> <p>Teacher Wraparound Edition: DIF 253; HA 268; SYP TR50; UV 253, 266</p> <p>Leveled Readers: Grade 4 Approaching Level Reader: <i>Diamonds</i> Grade 4 Beyond Level Reader: <i>Gold</i> Grade 4 On Level Reader: <i>Rocks</i> Grade 4 English Learner Level Reader: <i>Rocks</i></p> <p>Teacher’s Resources: <i>Activity Lab Book</i> 113 <i>Reading and Writing</i> 112-114 <i>Presentation Toolkit CD-ROM</i> <i>Science Quest: Rocks and Minerals</i> <i>Visual Literacy</i> 40</p>
<p>1c <u>citing evidence</u> (e.g., <u>prior knowledge, data</u>) to <u>support</u> why rocks, soils, <u>or minerals</u> are <u>classified/not classified</u> together.</p>	<p>Student Edition: 252-253, 266, 268 <i>Be A Scientist: Inquiry Investigation</i> 270-271 <i>Explore: Inquiry Activity</i> 251 <i>Lesson Review</i> 269 (#1) <i>Read a Table</i> 253</p> <p>Teacher Wraparound Edition: DIF 253; HA 268; SYP TR50; UV 253, 266</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>Rocks</i> Grade 4 English Learner Level Reader: <i>Rocks</i></p> <p>Teacher’s Resources: <i>Activity Lab Book</i> 113 <i>Reading and Writing</i> 112-114 <i>Presentation Toolkit CD-ROM</i> <i>Science Quest: Rocks and Minerals</i> <i>Visual Literacy</i> 40</p>

STANDARDS	PAGE REFERENCES
<p>1d <u>identifying the four basic materials of the earth (water, soil, rocks, air).</u></p>	<p>Student Edition: 254-257, 314-315, 324-327 <i>Explore: Inquiry Activity</i> 322 <i>Focus on Skills: Skill Builder</i> 332-333 <i>Quick Check</i> 257 <i>Read a Diagram</i> 257, 326</p> <p>Teacher Wraparound Edition: DMI 314, 326; ELL 254; SYB TR48; UV 315</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>Rocks</i> Grade 4 English Learner Level Reader: <i>Rocks</i> Grade 4 Approaching Level Reader: <i>Why Does It Rain</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 37 <i>Activity Lab Book</i> 106, 138-140 <i>Presentation Toolkit CD-ROM</i> <i>Reading and Writing</i> 140-142 <i>Visual Literacy</i> 47, 49</p>

STANDARDS	PAGE REFERENCES
<p>ESS1 (K-4) INQ –2 <i>Use results from an experiment to draw conclusions about how water interacts with earth materials (e.g., percolation, erosion, frost heaves).</i></p>	
<p>ESS1 (3-4)–2 Students demonstrate an understanding of processes and change over time within earth systems by ...</p>	
<p>2a <u>conducting investigations and using observational data to describe how water moves rocks and soils.</u></p>	<p>Student Edition: 227, 228-231, 238 <i>Be a Scientist: Inquiry Investigation</i> 244-245 <i>Explore: Inquiry Activity</i> 255, 285 <i>Quick Lab</i> 267 <i>Read a Diagram</i> 231 <i>Read a Photo</i> 229</p> <p>Teacher Wraparound Edition: AE 225, 285; DIF 229</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>Barrier Islands</i> Grade 4 English Learner Level Reader: <i>Barrier Islands</i> Grade 4 On Level Reader: <i>Caves: A World of Their Own</i> Grade 4 English Learner Level Reader: <i>Caves: A World of Their Own</i> Grade 4 Approaching Level Reader: <i>Glaciers</i> Grade 4 Beyond Level Reader: <i>The Grand Canyon</i> Grade 4 On Level Reader: <i>Rocks</i> Grade 4 English Learner Level Reader: <i>Rocks</i> Grade 4 On Level Reader: <i>What Is Happening to the Beach?</i> Grade 4 English Learner Level Reader: <i>What Is Happening to the Beach?</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 25, 27, 34 <i>Activity Lab Book</i> 91-93, 99-102, 113, 126-128 <i>Instructional Navigator CD-ROM</i> <i>Science Activity DVD</i></p>

STANDARDS	PAGE REFERENCES
<p>ESS 1 (K-4) NOS –3 Explain how the use of scientific tools helps to extend senses and gather data about weather. (i.e., weather/wind vane: direction; wind sock: wind intensity; anemometer: speed; thermometer: temperature; meter sticks/rulers: snow depth; rain gauges: rain amount in inches).</p>	
<p>ESS 1(3-4) –3 Students demonstrate an understanding of how the use of scientific tools helps to extend senses and gather data by...</p>	
<p>3a <u>explaining</u> how the use of scientific tools helps to extend senses and gather data about weather (i.e., weather/wind vane: direction; wind sock: wind intensity; anemometer: speed; thermometer: temperature; meter sticks/rulers: snow depth; rain gauges: rain amount in inches).</p>	<p>Student Edition: 6, 218-219, 318 <i>Quick Check</i> 318 <i>Reading in Science</i> 342-343 Teacher Wraparound Edition: DMI 318; ELL 342; FA 319; HA 318 Teacher’s Resources: <i>Key Concept Cards</i> 47-48</p>
<p>3b <u>selecting</u> appropriate tools for a given task and <u>describing</u> the information they will provide</p>	<p>The following references can be used to meet this objective. Student Edition: 7, 318 <i>Explore: Inquiry Activity</i> 313 <i>Focus on Skills: Skill Builder</i> 210-211 <i>Science Handbook</i> R4-R7 <i>Writing in Science</i> 320 Teacher Wraparound Edition: FA 319; HA 318; IM 13; IW 14 Leveled Readers: Grade 4 Approaching Level Reader: <i>The Galileo Mission to Jupiter</i> Teacher’s Resources: <i>Activity Flipchart</i> 23 <i>Activity Lab Book</i> 84-86 <i>Reading and Writing</i> 144-145</p>

STANDARDS	PAGE REFERENCES
<p>ESS1 (K-4) INQ+SAE –4 <i>Explain how wind, water, or ice shape and reshape the earth.</i></p>	
<p>ESS1 (3-4) –4 <i>Students demonstrate an understanding of processes and change over time within earth systems by ...</i></p>	
<p>4a <u>investigating local landforms and how wind, water, or ice have shaped and reshaped them (e.g. severe weather).</u></p>	<p>Student Edition: 204-205, 228-231 <i>Explore: Inquiry Lab 225</i> <i>Quick Lab 231</i> <i>Read a Map 205</i> <i>Read a Photo 229</i> <i>Writing Link 209</i></p> <p>Teacher Wraparound Edition: DIF 205; DMI 204</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>Barrier Islands</i> Grade 4 English Learner Level Reader: <i>Barrier Islands</i> Grade 4 On Level Reader: <i>Caves: A World of Their Own</i> Grade 4 English Learner Level Reader: <i>Caves: A World of Their Own</i> Grade 4 Approaching Level Reader: <i>Glaciers</i> Grade 4 Beyond Level Reader: <i>The Grand Canyon</i> Grade 4 On Level Reader: <i>Rocks</i> Grade 4 English Learner Level Reader: <i>Rocks</i> Grade 4 On Level Reader: <i>What Is Happening to the Beach?</i> Grade 4 English Learner Level Reader: <i>What Is Happening to the Beach?</i></p> <p>Teacher’s Resources: <i>Activity Flipchart 25</i> <i>Activity Lab Book 91-93, 94</i> <i>Reading and Writing 89-91</i> <i>Science Quest: Changing Landforms</i> <i>Visual Literacy 29, 33, 34</i></p>

STANDARDS	PAGE REFERENCES
<p>4b <u>using or building models to simulate the effects of how wind and water shape and reshape the land</u> (e.g., erosion, sedimentation, deposition, glaciation).</p>	<p>Student Edition: <i>Be a Scientist: Inquiry Investigation</i> 244-245 <i>Explore: Inquiry Activity</i> 225, 237 <i>Quick Lab</i> 207, 231, 241</p> <p>Teacher Wraparound Edition: IM 210</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>Barrier Islands</i> Grade 4 English Learner Level Reader: <i>Barrier Islands</i> Grade 4 On Level Reader: <i>Caves: A World of Their Own</i> Grade 4 English Learner Level Reader: <i>Caves: A World of Their Own</i> Grade 4 Approaching Level Reader: <i>Glaciers</i> Grade 4 Beyond Level Reader: <i>The Grand Canyon</i> Grade 4 On Level Reader: <i>Rocks</i> Grade 4 English Learner Level Reader: <i>Rocks</i> Grade 4 On Level Reader: <i>What Is Happening to the Beach?</i> Grade 4 English Learner Level Reader: <i>What Is Happening to the Beach?</i></p> <p>Teacher’s Resources: <i>Activity Lab Book</i> 83, 94, 95-97, 98, 99-102</p>

STANDARDS	PAGE REFERENCES
<p>4c <u>identifying sudden and gradual changes that affect the Earth (e.g. sudden change = flood; gradual change = erosion caused by oceans).</u></p>	<p>Student Edition: 205-207, 214-215, 220, 226-231 <i>Explore: Inquiry Activity</i> 213 <i>Focus on Skills: Skill Builder</i> 210-211 <i>Math in Science</i> 235 <i>Quick Check</i> 220 <i>Read a Diagram</i> 231 <i>Writing in Science</i> 234</p> <p>Teacher Wraparound Edition: DIF 215; SB 205</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>Barrier Islands</i> Grade 4 English Learner Level Reader: <i>Barrier Islands</i> Grade 4 On Level Reader: <i>Caves: A World of Their Own</i> Grade 4 English Learner Level Reader: <i>Caves: A World of Their Own</i> Grade 4 Approaching Level Reader: <i>Glaciers</i> Grade 4 Beyond Level Reader: <i>The Grand Canyon</i> Grade 4 On Level Reader: <i>Rocks</i> Grade 4 English Learner Level Reader: <i>Rocks</i> Grade 4 On Level Reader: <i>What Is Happening to the Beach?</i> Grade 4 English Learner Level Reader: <i>What Is Happening to the Beach?</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 23, 24 <i>Activity Lab Book</i> 84-86, 87-89 <i>Math</i> 9-10 <i>Reading and Writing</i> 103-104</p>

STANDARDS	PAGE REFERENCES
<p>ESS1 (K-4) POC –5 <i>Based on data collected from daily weather observations, describe weather changes or weather patterns.</i></p>	
<p>ESS1 (3-4) –5 <i>Students demonstrate an understanding of processes and change over time within earth systems by ...</i></p>	
<p>5a <u>observing, recording, comparing, and analyzing weather data to describe weather changes or weather patterns.</u></p>	<p>Student Edition: 336-339 <i>Be a Scientist: Inquiry Investigation</i> 352-353 <i>Explore: Inquiry Activity</i> 345 <i>Math in Science</i> 321 <i>Quick Check</i> 337, 339 <i>Quick Lab</i> 339 <i>Writing in Science</i> 321</p> <p>Teacher Wraparound Edition: DIF 338; HA 330; IM 321</p> <p>Leveled Readers: Grade 4 Beyond Level Reader: <i>El Nino</i> Grade 4 Approaching Level Reader: <i>Glaciers</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 40, 41 <i>Activity Lab Book</i> 149-151, 153-156 <i>Instructional Navigator CD-ROM</i></p>
<p>5b <u>describing water as it changes into vapor in the air and reappears as a liquid when it’s cooled.</u></p>	<p>Student Edition: 324-327 <i>Explore: Inquiry Activity</i> 323, 335 <i>Focus on Skills: Skill Builder</i> 332-333 <i>Quick Check</i> 325 <i>Quick Lab</i> 317, 328</p> <p>Teacher Wraparound Edition: AE 335; DIF 325; DMI 324, 326</p> <p>Leveled Readers: Grade 4 Approaching Level Reader: <i>Why Does It Rain</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 37, 39 <i>Activity Lab Book</i> 138-140, 145-147 <i>Reading and Writing</i> 146-148 <i>Science Activity DVD</i></p>

STANDARDS	PAGE REFERENCES
<p>5c <u>explaining how this cycle of water relates to weather and the formation of clouds.</u></p>	<p>Student Edition: 326, 328-330 <i>Quick Lab</i> 328 <i>Lesson Review</i> 331 (#3)</p> <p>Teacher Wraparound Edition: DIF 326; DMI 330</p> <p>Leveled Readers: Grade 4 Approaching Level Reader: <i>Why Does It Rain?</i></p> <p>Teacher’s Resources: <i>Activity Lab Book</i> 141 <i>Presentation Toolkit CD-ROM</i></p>
<p>ESS1 (K-4) FAF -6 <i>Given information about earth materials explain how their characteristics lend themselves to specific uses</i></p>	
<p>ESS1 (3-4)-6 Students demonstrate an understanding of properties of earth materials by...</p>	
<p>6a <u>determining and supporting explanations of their uses (e.g., <u>best</u> soils to grow plants, <u>best</u> building material for a specific purpose, <u>determining</u> which rock size will best prevent erosion).</u></p>	<p>Student Edition: 258, 266-268 <i>Be a Scientist: Inquiry Investigation</i> 270-271 <i>Focus on Skills: Skill Builder</i> 211 <i>Quick Check</i> 267, 268</p> <p>Teacher Wraparound Edition: HA 259; UV 258, 268</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>Barrier Islands</i> Grade 4 English Learner Level Reader: <i>Barrier Islands</i> Grade 4 On Level Reader: <i>The Story of Alloys</i> Grade 4 English Learner Level Reader: <i>The Story of Alloys</i> Grade 4 On Level Reader: <i>What Is Happening to the Beach?</i> Grade 4 English Learner Level Reader: <i>What Is Happening to the Beach?</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 23, 31 <i>Activity Lab Book</i> 84-86, 114-117</p>

STANDARDS	PAGE REFERENCES
<p>ESS2 - The earth is part of a solar system, made up of distinct parts that have temporal and spatial interrelationships.</p>	
<p>ESS2 (3-4)-7 Students demonstrate an understanding of temporal or positional relationships between or among the Earth, sun, and moon by ...</p>	
<p>7a observing that the sun, moon, <u>and stars</u> appear to move slowly across the sky.</p>	<p>Student Edition: 361, 364, 373, 396 <i>Be a Scientist: Inquiry Investigation</i> 400-401 <i>Quick Check</i> 365</p> <p>Teacher Wraparound Edition: SYP TR54</p> <p>Leveled Readers: Grade 4 Beyond Level Reader: <i>Constellations</i></p>
<p>7b observing that the moon looks slightly different from day to day, <u>but looks the same again in about 4 weeks.</u></p>	<p>Student Edition: 372-373 <i>Focus on Skills: Skill Builder</i> 376-377 <i>Quick Check</i> 373</p> <p>Teacher Wraparound Edition: DIF 372; IW 376</p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 44 <i>Activity Lab Book</i> 165-167 <i>Instructional Navigator CD-ROM</i> <i>Presentation Toolkit CD-ROM</i> <i>Visual Literacy</i> 57</p>
<p>7c recognizing that the rotation of the Earth on its axis every 24 hours produces the day/night cycle.</p>	<p>Student Edition: 360-361 <i>Explore: Inquiry Activity</i> 359 <i>Quick Check</i> 361</p> <p>Teacher Wraparound Edition: DMI 360</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>Lights and White Nights</i> Grade 4 English Learner Level Reader: <i>Lights and White Nights</i></p> <p>Teacher’s Resources: <i>Presentation Toolkit CD-ROM</i> <i>Reading and Writing</i> 163-165 <i>Visual Literacy</i> 55</p>

STANDARDS	PAGE REFERENCES
<p>ESS2 (3-4)-8 Students demonstrate an understanding of characteristics of the solar system by ...</p>	
<p>8a <u>recognizing that: the sun is the center of our solar system; the Earth is one of several planets that orbits the sun; and the moon orbits the Earth.</u></p>	<p>Student Edition: 372-373, 380-381, 384-387 <i>Quick Lab</i> 373, 384</p> <p>Teacher Wraparound Edition: DMI 372, 380; SYP TR54-TR55; WU 358, 378</p> <p>Leveled Readers: Grade 4 Beyond Level Reader: <i>Constellations</i> Grade 4 Approaching Level Reader: <i>The Galileo Mission to Jupiter</i> Grade 4 On Level Reader: <i>Lights and White Nights</i> Grade 4 English Learner Level Reader: <i>Lights and White Nights</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 45 <i>Activity Lab Book</i> 164, 168-170, 171 <i>Presentation Toolkit CD-ROM</i> <i>Reading and Writing</i> 173-175 <i>Visual Literacy</i> 57, 59</p>

STANDARDS	PAGE REFERENCES
<p>8b <u>recognizing that it takes approximately 365 days for the Earth to orbit the sun.</u></p>	<p>Student Edition: 362-363</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>Lights and White Nights</i> Grade 4 English Learner Level Reader: <i>Lights and White Nights</i></p> <p>Teacher’s Resources: <i>Activity Lab Book</i> 160 <i>Presentation Toolkit CD-ROM</i> <i>Visual Literacy</i> 56</p>
<p>ESS3 - The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time</p>	
<p>ESS3 (3-4)-9 Students demonstrate understanding of processes and change over time within the system of the universe (Scale, Distances, Star Formation, Theories, Instrumentation) by...</p>	
<p>9a <u>recognizing that throughout history people have identified patterns of stars that we call constellations.</u></p>	<p>Student Edition: 396-397 <i>Chapter Review</i> 403 (#1-#4) <i>Lesson Review</i> 399 (#2) <i>Quick Lab</i> 397 <i>Read a Diagram</i> 396</p> <p>Teacher Wraparound Edition: APK 392; DIF 396; DMI 396; ELL 397; FA 399; IW 400; WU 329</p> <p>Leveled Readers: Grade 4 Beyond Level Reader: <i>Constellations</i></p> <p>Teacher’s Resources: <i>Activity Lab Book</i> 175 <i>Visual Literacy</i> 62 <i>Presentation Toolkit CD-ROM</i></p>

STANDARDS	PAGE REFERENCES
Physical Science	
PS1 - All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).	
PS1 (K-4) INQ –1 <i>Collect and organize data about physical properties in order to classify objects or draw conclusions about objects and their characteristic properties (e.g., temperature, color, size, shape, weight, texture, flexibility).</i>	
PS1 (3-4)–1 Students demonstrate an understanding of characteristic properties of matter by ...	
1a identifying, comparing, and sorting objects by similar or different physical properties (e.g., size, shape, color, texture, smell, weight, <u>temperature</u> , <u>flexibility</u>).	Student Edition: 412, 433 <i>Explore: Inquiry Activity</i> 411, 421, 431 <i>Focus on Skills: Skill Builder</i> 428 <i>Quick Lab</i> 424, 435 <i>Writing Link</i> 427 Teacher Wraparound Edition: AE 411, 421; APK 410, 430; DIF 413; WU 430 Leveled Readers: Grade 4 Approaching Level Reader: <i>All About Elements</i> Grade 4 On Level Reader: <i>The Story of Alloys</i> Grade 4 English Learner Level Reader: <i>The Story of Alloys -14</i> Grade 4 On Level Reader: <i>What's the Matter?</i> Grade 4 English Learner Level Reader: <i>What's the Matter?</i> Teacher's Resources: <i>Activity Flipchart</i> 48, 50, 51 <i>Activity Lab Book</i> 180-182, 188-190, 191-193 <i>Science Activity DVD</i>

STANDARDS	PAGE REFERENCES
<p>1b <u>citing evidence (e.g., prior knowledge, data) to support conclusions about why objects are grouped/not grouped together</u></p>	<p>Student Edition: 433, 533 <i>Art Link</i> 471 <i>Explore: Inquiry Activity</i> 431 <i>Quick Lab</i> 470</p> <p>Teacher Wraparound Edition: AE 411; APK 430; OI 431; SB 432</p> <p>Leveled Readers: <i>Grade 4 Approaching Level Reader: All About Elements</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 51 <i>Activity Lab Book</i> 191-193 <i>Science Activity DVD</i></p>
<p>Students demonstrate an understanding of physical changes by ...</p>	
<p>1c <u>observing and describing physical changes (e.g. freezing, thawing, torn piece of paper).</u></p>	<p>Student Edition: 446-449 <i>Explore: Inquiry Activity</i> 445 <i>Quick Check</i> 447</p> <p>Teacher Wraparound Edition: AE 445; APK 445; DIF 447; DMI 446; EMI 447; WU 445</p> <p>Leveled Readers: <i>Grade 4 Beyond Level Reader: Gold</i> <i>Grade 4 On Level Reader: Rocks</i> <i>Grade 4 English Learner Level Reader: Rocks</i> <i>Grade 4 On Level Reader: What's the Matter?</i> <i>Grade 4 English Learner Level Reader: What's the Matter?</i> <i>Grade 4 Approaching Level Reader: Why Does It Rain</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 52 <i>Activity Lab Book</i> 195-197 <i>Reading and Writing</i> 206-208 <i>Science Activity DVD</i></p>

STANDARDS	PAGE REFERENCES
<p>PS1 (K-4) POC –2 <i>Make a prediction about what might happen to the state of common materials when heated or cooled or categorize materials as solid, liquid, or gas.</i></p>	
<p>PS1 (3-4) –2 Students demonstrate an understanding of states of matter by ...</p>	
<p>2a describing properties of solids, liquids, <u>and</u> <u>gases</u>.</p>	<p>Student Edition: 414-415 <i>Lesson Review 417 (#3)</i> <i>Quick Check 415</i> <i>Quick Lab 415</i></p> <p>Teacher Wraparound Edition: DMI 414; ELL 415; FA 417; FCT 415</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>What's the Matter?</i> Grade 4 English Learner Level Reader: <i>What's the Matter?</i></p> <p>Teacher's Resources: <i>Activity Lab Book 183</i> <i>Presentation Toolkit CD-ROM</i></p>
<p>2b identifying and comparing solids, liquids, <u>and</u> <u>gases</u>.</p>	<p>Student Edition: 414-415 <i>Lesson Review 417 (#3)</i> <i>Quick Check 415</i> <i>Quick Lab 415</i></p> <p>Teacher Wraparound Edition: DMI 414; ELL 415; FA 417; FCT 415</p> <p>Leveled Readers: Grade 4 Approaching Level Reader: <i>All About Elements</i> Grade 4 On Level Reader: <i>What's the Matter?</i> Grade 4 English Learner Level Reader: <i>What's the Matter?</i></p> <p>Teacher's Resources: <i>Activity Lab Book 183</i> <i>Presentation Toolkit CD-ROM</i></p>

STANDARDS	PAGE REFERENCES
<p>2c making logical predictions about the changes in the state of matter when adding or taking away heat (e.g., ice melting, <u>water boiling</u> or freezing, <u>condensation/evaporation</u>).</p>	<p>Student Edition: 448-449 <i>Focus on Skills: Skill Builder</i> 464-465 <i>Quick Check</i> 449 <i>Quick Lab</i> 449 <i>Read a Diagram</i> 449</p> <p>Teacher Wraparound Edition: DIF 449; DMI 448</p> <p>Leveled Readers: Grade 4 Approaching Level Reader: <i>Why Does It Rain</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 54 <i>Activity Lab Book</i> 198, 203-205 <i>Instructional Navigator CD-ROM</i> <i>Presentation Toolkit CD-ROM</i> <i>Visual Literacy</i> 69</p>
<p>PS1 (K-4) SAE –3 <i>Use measures of weight (data) to demonstrate that the whole equals the sum of its parts.</i></p>	
<p>PS1 (3-4)–3 Students demonstrate an understanding of conservation of matter by ...</p>	
<p>3a <u>measuring the weight of objects to prove that all matter has weight.</u></p>	<p>The following references can be used to meet this standard.</p> <p>Student Edition: 412-413, 426 <i>Focus on Skills: Skill Builder</i> 428-429 <i>Quick Check</i> 413 <i>Science Handbook</i> R6</p> <p>Teacher Wraparound Edition: DMI 426</p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 50 <i>Activity Lab Book</i> 188-190 <i>Instructional Navigator CD-ROM</i></p>

STANDARDS	PAGE REFERENCES
<p>3b <u>using measures of weight to prove that the whole equals the sum of its parts.</u></p>	<p>The following references can be used to meet this standard.</p> <p>Student Edition: 412-413, 426 <i>Explore: Inquiry Activity</i> 445 <i>Focus on Skills: Skill Builder</i> 428-429 <i>Quick Check</i> 413 <i>Science Handbook</i> R6</p> <p>Teacher Wraparound Edition: DMI 426</p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 50 <i>Activity Lab Book</i> 188-190 <i>Instructional Navigator CD-ROM</i></p>
<p>3c <u>showing that the weight of an object remains the same despite a change in its shape.</u></p>	<p>The following references can be used to meet this standard.</p> <p>Student Edition: 412-413, 426 <i>Focus on Skills: Skill Builder</i> 428-429 <i>Quick Check</i> 413 <i>Science Handbook</i> R6</p> <p>Teacher Wraparound Edition: DMI 426</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>What’s the Matter?</i> Grade 4 English Learner Level Reader: <i>What’s the Matter?</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 50 <i>Activity Lab Book</i> 188-190 <i>Instructional Navigator CD-ROM</i></p>

STANDARDS	PAGE REFERENCES
<p>PS 2 - Energy is necessary for change to occur in matter. Energy can be stored, transferred, and transformed, but cannot be destroyed.</p>	
<p>PS2 (K-4) SAE -4 <i>Given a specific example or illustration (e.g., simple closed circuit, rubbing hands together), predict the observable effects of energy (i.e., light bulb lights, a bell rings, hands warm up (e.g., a test item might ask, “what will happen when...?”).</i></p>	
<p>PS2 (3-4)-4 Students demonstrate an understanding of energy by...</p>	
<p>4a <u>experimenting to identify and classify different pitches and volumes of sounds produced by different objects.</u></p>	<p>Student Edition: 544-545 <i>Explore: Inquiry Activity 539</i> <i>Look and Wonder 539</i> <i>Quick Check 545</i> <i>Quick Lab 544</i> Teacher Wraparound Edition: AE 539; GI 539; OI 539 Teacher’s Resources: <i>Activity Flipchart 65</i> <i>Activity Lab Book 244-246, 247</i> <i>Science Activity DVD</i></p>
<p>4b <u>using data to explain what causes sound to have different pitch or volume</u></p>	<p>Student Edition: <i>Explore: Inquiry Activity 539</i> <i>Look and Wonder 538</i> <i>Quick Check 545</i> <i>Quick Lab 544</i> Teacher Wraparound Edition: AE 539; GI 539; OI 539 Teacher’s Resources: <i>Activity Flipchart 65</i> <i>Activity Lab Book 244-246, 247</i> <i>Science Activity DVD</i></p>

STANDARDS	PAGE REFERENCES
<p>4c <u>describing or showing that heat can be produced in many ways (e.g. electricity, friction, burning).</u></p>	<p>Student Edition: 451, 534 <i>Read a Diagram</i> 451</p> <p>Teacher Wraparound Edition: APK 528; UV 531</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>It's Electric</i> Grade 4 English Learner Level Reader: <i>It's Electric</i> Grade 4 Approaching Level Reader: <i>Sources of Energy</i></p>
<p>4d <u>drawing, diagramming, building, and explaining a complete electrical circuit.</u></p>	<p>Student Edition: 566-569 <i>Art Link</i> 571 <i>Quick Lab</i> 569 <i>Read a Diagram</i> 567, 569</p> <p>Teacher Wraparound Edition: DIF 567, 568; EMI 567</p> <p>Leveled Readers: Grade 4 On Level Reader: <i>It's Electric</i> Grade 4 English Learner Level Reader: <i>It's Electric</i></p> <p>Teacher's Resources: <i>Activity Lab Book</i> 259 <i>Science Quest: Electricity</i> <i>Visual Literacy</i> 89, 90</p>
<p>4e <u>using experimental data to classify a variety of materials as conductors or insulators</u></p>	<p>Student Edition: 533 <i>Explore: Inquiry Activity</i> 529 <i>Focus on Skills: Skill Builder</i> 536-537 <i>Lesson Review</i> 535 (#5)</p> <p>Teacher Wraparound Edition: AE 529</p> <p>Teacher's Resources: <i>Activity Flipchart</i> 64 <i>Activity Lab Book</i> 241-243 <i>Instructional Navigator CD-ROM</i> <i>Presentation Toolkit CD-ROM</i></p>

STANDARDS	PAGE REFERENCES
<p>PS2 (K-4) SAE – 5 <i>Use observations of light in relation to other objects/substances to describe the properties of light (can be reflected, refracted, or absorbed).</i></p>	
<p>PS2 (3-4)-5 Students demonstrate an understanding of energy by...</p>	
<p>5a investigating <u>observable effects of light</u> using a variety of light sources (e.g., light travels in a straight line until it interacts with an object, blocked light rays produce shadows).</p>	<p>Student Edition: 552-554, 556-558 <i>Be a Scientist: Inquiry Investigation</i> 560-561 <i>Explore: Inquiry Activity</i> 551 <i>Quick Check</i> 555, 558 <i>Quick Lab</i> 557</p> <p>Teacher Wraparound Edition: AE 551; DIF 554; DMI 554, 556; GI 551; HA 558I OI 551</p> <p>Leveled Readers: Grade 4 Approaching Level Reader: <i>Diamonds</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 66, 67 <i>Activity Lab Book</i> 248-250, 251, 252-255 <i>Instructional Navigator CD-ROM</i> <i>Presentation Toolkit CD-ROM</i> <i>Science Activity DVD</i></p>
<p>5b <u>predicting, describing, and investigating how light rays are reflected, refracted, or absorbed</u></p>	<p>Student Edition: 552, 554, 556-558 <i>Be a Scientist: Inquiry Investigation</i> 560-561 <i>Explore: Inquiry Activity</i> 551 <i>Quick Lab</i> 557</p> <p>Teacher Wraparound Edition: AE 550; DIF 551, 557; DMI 556, 558; IM 561; WU 550</p> <p>Leveled Readers: Grade 4 Approaching Level Reader: <i>Diamonds</i></p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 66, 67 <i>Activity Lab Book</i> 248-250, 251, 252-255 <i>Instructional Navigator CD-ROM</i> <i>Presentation Toolkit CD-ROM</i> <i>Science Activity DVD</i></p>

STANDARDS	PAGE REFERENCES
<p>PS2 (K-4) SAE+INQ – 6 <i>Experiment, observe, or predict how heat might move from one object to another.</i></p>	
<p>PS2 (3-4)–6 Students demonstrate an understanding of energy by...</p>	
<p>6a describing <u>how heat moves from warm objects to cold objects until both objects are the same temperature.</u></p>	<p>Student Edition: 530-531 <i>Lesson Review 535 (#4)</i> <i>Quick Check 531</i></p> <p>Teacher Wraparound Edition: DMI 530; FA 535; FCT 532; SYP TR62</p> <p>Teacher’s Resources: <i>Presentation Toolkit CD-ROM</i> <i>Reading and Writing 247-249</i> <i>Visual Literacy 83</i></p>
<p>6b showing that heat moves from one object to another causing temperature change (e.g., when land heats up it warms the air).</p>	<p>Student Edition: 530-533 <i>Quick Check 531</i></p> <p>Teacher Wraparound Edition: DIF 532; FA 535</p>
<p>PS 3 - The motion of an object is affected by forces.</p>	
<p>PS3 (K-4)-INQ+SAE –7 <i>Use data to predict how a change in force (greater/less) might affect the position, direction of motion, or speed of an object (e.g., ramps and balls).</i></p>	
<p>PS3 (3-4)–7 Students demonstrate an understanding of motion by...</p>	
<p>7a predicting the direction <u>and describing the motion</u> of objects (<u>of different weights, shapes, sizes, etc.</u>) if a force is applied to it.</p>	<p>Student Edition: 484-487, 494-495, 498 <i>Explore: Inquiry Activity 483, 493, 503</i> <i>Focus on Skills: Skill Builder 490-491</i> <i>Quick Check 485, 495</i> <i>Quick Lab 498</i></p> <p>Teacher Wraparound Edition: AE 483, 493; APK 482; DMI 484, 486, 494; GI 503</p> <p>Teacher’s Resources: <i>Activity Flipchart 58, 59, 60</i> <i>Activity Lab Book 214-216, 218-220, 221-223, 225-227</i> <i>Instructional Navigator DVD</i> <i>Science Activity DVD</i></p>

STANDARDS	PAGE REFERENCES
<p>7b <u>describing change in position relative to other objects or background.</u></p>	<p>Student Edition: 484 <i>Explore: Inquiry Activity</i> 483 <i>Lesson Review</i> 489 (#1) <i>Quick Check</i> 484</p> <p>Teacher Wraparound Edition: DMI 485</p> <p>Teacher’s Resources: <i>Presentation Toolkit CD-ROM</i></p>
<p>Students demonstrate an understanding of force (e.g., push-pull, gravitational) by...</p>	
<p>7c <u>investigating and describing that different amounts of force can change direction/speed of an object in motion.</u></p>	<p>Student Edition: 486-488, 494-495, 498 <i>Explore: Inquiry Activity</i> 493, 503 <i>Focus on Skills: Skill Builder</i> 490-491 <i>Lesson Review</i> 489 (#4) <i>Math in Science</i> 501 <i>Quick Check</i> 487 <i>Quick Lab</i> 487, 498</p> <p>Teacher Wraparound Edition: AE 493; DIF 487; DMI 486; EMI 495; FA 489; WU 492</p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 58, 59 <i>Activity Lab Book</i> 217, 218-220, 221-223 <i>Math</i> 19-20 <i>Presentation Toolkit CD-ROM</i></p>
<p>7d <u>conducting experiments to demonstrate that different objects fall to earth unless something is holding them up</u></p>	<p>Student Edition: 488 <i>Focus on Skills : Skill Builder</i> 490-491 <i>Read a Diagram</i> 488</p> <p>Teacher Wraparound Edition: HA 488; WU 492</p> <p>Teacher’s Resources: <i>Activity Flipchart</i> 58 <i>Activity Lab Book</i> 218-220 <i>Instructional Navigator CD-ROM</i></p>

STANDARDS	PAGE REFERENCES
<p>PS3 (K-4) INQ+ SAE –8 <i>Use observations of magnets in relation to other objects to describe the properties of magnetism (i.e., attract or repel certain objects or has no effect)</i></p>	
<p>PS3 (3-4)–8 Students demonstrate an understanding of (magnetic) force by ...</p>	
<p>8a <u>using prior knowledge and investigating to predict whether or not an object will be attracted to a magnet.</u></p>	<p>Student Edition: 461, 576-577, 579 <i>Chapter Review 289 (#10)</i> <i>Quick Lab 461</i></p> <p>Teacher Wraparound Edition: APK 574; GI 493</p> <p>Teacher’s Resources: <i>Activity Lab Book 202</i></p>
<p>8b <u>describing what happens when like and opposite poles of a magnet are placed near each other.</u></p>	<p>Student Edition: 576-577 <i>Explore: Inquiry Activity 575</i> <i>Quick Check 577</i></p> <p>Teacher Wraparound Edition: DIF 577; WU 574</p> <p>Teacher’s Resources: <i>Activity Flipchart 70</i> <i>Activity Lab Book 264-266</i> <i>Science Activity DVD</i> <i>Science Quest: Magnetism and Electricity</i></p>
<p>8c <u>exploring relative strength of magnets (e.g., size of magnets, number of magnets, properties of materials).</u></p>	<p>Student Edition: 576-581 <i>Explore: Inquiry Activity 493, 575</i> <i>Quick Check 581</i> <i>Quick Lab 580</i></p> <p>Teacher Wraparound Edition: EMI 576; GI 493; OI 575</p> <p>Leveled Readers: <i>Grade 4 Beyond Level Reader: Maglev Trains</i></p> <p>Teacher’s Resources: <i>Activity Lab Book 267</i> <i>Science Quest: Magnetism and Electricity</i></p>