



SCIENCE

A CLOSER LOOK

Grade 3

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STANDARDS	PAGE REFERENCES
<p>STANDARD 1: Students apply the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.</p>	
<p>1. design, plan and conduct a variety of simple investigations (<i>for example: formulate a testable question, state a hypothesis, make systematic observations, develop and communicate logical conclusions based on evidence</i>)</p>	<p>Student Edition: 4-11 <i>Be a Scientist</i> 144-145, 268-269, 334-335, 422-423 <i>Explore</i> 107, 119, 133, 151, 161, 173, 203, 213, 227, 249, 259, 289, 303, 347, 383, 397, 417, 443, 453, 463, 499, 511 <i>Focus on Skills</i> 12-13, 116-117, 246-247, 404-405, 460-461, 486-487 <i>Quick Lab</i> 114 Teacher Wraparound Edition: DV 4; HA 10; SB 4</p>
<p>2. select and use appropriate tools and technology to gather and display (<i>for example: graphs, charts, diagrams</i>) quantitative and qualitative data related to an investigation (<i>for example: length, volume, and mass measuring instruments, thermometers, watches, magnifiers, microscopes, calculators, and computers</i>)</p>	<p>Student Edition: 374-377, R2-R13 <i>Be a Scientist</i> 450-451 <i>Explore</i> 161, 317, 397, 443 <i>Focus on Skills</i> 286-287, 380-381 <i>Integrate Reading</i> 422 <i>Quick LAB</i> 127, 339, 377, 438, 457, 469 Teacher Wraparound Edition: DI 251, 283, 339, 375, 455, 493; HA 244, 284, 368, 420; IM 158, 450</p>

STANDARDS	PAGE REFERENCES
<p>STANDARD 2: Physical Science: Students know and understand common properties, forms, and changes in matter and energy. (Focus: Physics and Chemistry)</p>	
<p>Physical Properties</p>	
<p>1. objects have physical properties that can be measured (<i>for example: length, mass, volume and temperature</i>)</p>	<p>Student Edition: 364-365, 374-378 <i>Explore</i> 363, 373, 397 <i>Focus on Skills</i> 380 <i>Integrate Math</i> 380 <i>Quick Lab</i> 377, 481</p> <p>Teacher Wraparound Edition: DI 365, 375, 376; ELLS 377; HA 378; SB 364, 374; TR56; WU 372</p>
<p>2. measurable physical properties can be compared before and after effecting a change to verify a change has occurred and used to predict its outcome in similar circumstances</p>	<p>Student Edition: 408-409, 418-420 <i>Be a Scientist</i> 422-423 <i>Explore</i> 397, 407, 417 <i>Quick Lab</i> 419, 481</p> <p>Teacher Wraparound Edition: AE 407, 417; HA 420; SB 418; TR58-TR59</p>
<p>3. matter is made up of parts that are too small to be seen</p>	<p>Student Edition: 26, 368</p> <p>Teacher Wraparound Edition: TR56</p>
<p>4. matter exists in physical states (solid, liquid, gas) and can change from one state to another</p>	<p>Student Edition: 384-388, 398-402 <i>Explore</i> 383, 397 <i>Focus on Skills</i> 404-405 <i>Integrate Reading</i> 404 <i>Quick Lab</i> 387, 401</p> <p>Teacher Wraparound Edition: AE 383, 397; DI 385, 399, 400; ELLS 387; HA 388, 402; SB 398; TR56-TR57; WU 382, 396</p>

STANDARDS	PAGE REFERENCES
<u>Transfer of Energy</u>	
5. there are different types and sources of energy <i>(for example: light, heat, motion)</i>	Student Edition: 456-458, 480-482, 490-491, 500, 514 <i>Focus on Skills</i> 460-461 <i>Integrate Reading</i> 460 <i>Quick Lab</i> 457 Teacher Wraparound Edition: DI 457; ELLS 482; HA 459; TR62-TR63
6. electricity in circuits can produce light, heat, sound and magnetic effects	Student Edition: 481, 514-515 <i>Explore</i> 511 Teacher Wraparound Edition: AE 511; DI 515; WU 510
<u>Forces and Motion</u>	
7. there are different types of forces <i>(for example: gravity and magnetism)</i>	Student Edition: 446-447 <i>Be a Scientist</i> 450-451 <i>Quick LAB</i> 447 Teacher Wraparound Edition: DI 447; ELLS 446
8. changes in speed or direction of motion are caused by forces	Student Edition: 444-448 <i>Explore</i> 443 Teacher Wraparound Edition: DMI 444; HA 449; LW 442; SB 444; TR60; WU 442

STANDARDS	PAGE REFERENCES
<p>STANDARD 3: Life Science: Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment. (Focus: Biology-- Anatomy, Physiology, Botany, Zoology, Ecology)</p>	
<p>Structure and Function in Living Systems</p>	
<p>1. each plant or animal has different structures and behaviors that serve different functions in growth, survival, and reproduction</p>	<p>Student Edition: 22-23, 34-38, 54-60, 134-142 <i>Be a Scientist</i> 144-145 <i>Explore</i> 43 <i>Focus on Skills</i> 50-51 <i>Quick Lab</i> 35, 47 Teacher Wraparound Edition: DI 23, 33, 35, 57; DV 46; HA 38; SB 22, 32, 134; TR40; WU 68</p>
<p>2. green plants need energy from sunlight and various raw materials to live, and animals consume plants and other organisms to live</p>	<p>Student Edition: 24-25, 34-37, 46-47 <i>Be a Scientist</i> 40-41 Teacher Wraparound Edition: DI 37, 47; DV 37; ELLS 47; TR50; UV 37</p>
<p>3. human body systems have basic structures, functions and needs (for example: digestive, respiratory, circulatory, skeletal, muscular)</p>	<p>Student Edition: R14-R25 Teacher Wraparound Edition: DI R15, R17, R19, R20, R23; ELLS R18; SB R15, R16, R21, R22, R25; TR40</p>
<p>Life Cycles of Organisms</p>	
<p>4. there is interaction and interdependence between and among nonliving and living components of ecosystems (for example: food webs, symbiotic and parasitic relationships, dependence on rainfall, pollination)</p>	<p>Student Edition: 108-114, 120-128 <i>Explore</i> 107 <i>Focus on Skills</i> 116-117 <i>Quick Lab</i> 114 Teacher Wraparound Edition: DI 109, 111, 112, 121; DV 109; ELLS 113; SB 108, 120; TR44</p>

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5. life cycles vary from organism to organism (<i>for example: frog, chicken, butterfly, radish, bean plant</i>)	Student Edition: 70-76, 82-86 <i>Explore</i> 69, 81 <i>Math in Science</i> 89 <i>Quick Lab</i> 73, 85 Teacher Wraparound Edition: AE 69, 81; DI 71, 72, 74, 75, 84; ELLS 73; HA 76, 86; SB 82; TR42-TR43; WU 80
Diversity and Adaptations of Organisms	
6. fossils can be compared to one another and to living organisms according to their similarities and differences	Student Edition: 174-178 <i>Explore</i> 173 <i>Reading in Science</i> 180-181 <i>Quick Lab</i> 177 Teacher Wraparound Edition: DI 177; TR47
7. there are similarities and differences in appearance among individuals of the same population (<i>for example: size, color, shape</i>)	Student Edition: 32-38, 44-48, 56-60 <i>Explore</i> 31 <i>Writing in Science</i> 62 Teacher Wraparound Edition: AE 31; AM 45; DI 59; HA 38, 60; SB 44; WU 30
8. there are similarities and differences between organisms (<i>for example: plants vs. animals, vertebrate vs. invertebrate</i>)	Student Edition: 22-26, 32-33, 44-45, 54-55 <i>Explore</i> 53 <i>Quick Lab</i> 55 Teacher Wraparound Edition: DI 45, 55, 59; DV 55; HA 26, 60; SB 22, 54, 58; TR40-TR41; WU 42

STANDARDS	PAGE REFERENCES
<p>STANDARD 4: Earth and Space Science: Students know and understand the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space. <i>(Focus: Geology, Meteorology, Astronomy, Oceanography)</i></p>	
<p><u>Earth's Composition, Processes and History</u></p>	
<p>1. fossils are evidence of past life</p>	<p>Student Edition: 174-177, 250-251 <i>Explore</i> 173, 249 <i>Reading in Science</i> 180-181 Teacher Wraparound Edition: AE 173; DI 177; HA 178; SB 174, 250; TR47, TR50; WU 172</p>
<p>2. natural processes change Earth's surface (<i>for example: weathering, erosion, mountain building, volcanic activity, earthquakes and floods</i>)</p>	<p>Student Edition: 204-208; 214-216 <i>Explore</i> 203, 213 <i>Reading in Science</i> 210-211 <i>Quick Lab</i> 207 Teacher Wraparound Edition: DI 205, 207, 215; HA 208; SB 204, 214; TR48-TR49; UV 205; WU 202</p>
<p>3. many of the Earth's resources can be conserved, recycled and depleted</p>	<p>Student Edition: 156, 252-253, 264-266 <i>Reading in Science</i> 256-257 Teacher Wraparound Edition: DI 253; ELLS 252; HA 156; TR50-TR51</p>
<p><u>Weather and Water</u></p>	
<p>4. weather is different from climate</p>	<p>Student Edition: 120, 280-284, 304-307 <i>Explore</i> 303 <i>Focus on Skills</i> 286-287 <i>Integrate Reading</i> 286 <i>Quick Lab</i> 283, 307 Teacher Wraparound Edition: AE 303; DI 281, 305, 307; ELLS 282; SB 280; TR52-TR53</p>

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5. most of the Earth's surface is covered by water, that most of the water is salt water in the oceans, and that fresh water is found in rivers, lakes, underground sources and glaciers	Student Edition: 192-197, 261-262 <i>Explore</i> 191 Teacher Wraparound Edition: DI 193, 262; SB 192; TR48; WU 190
6. water exists on Earth in different states (<i>solid, liquid, gas</i>) and changes from one state to another (<i>for example: evaporation, condensation and precipitation</i>)	Student Edition: 290-295 <i>Explore</i> 289 <i>Quick Lab</i> 293 Teacher Wraparound Edition: AE 289; DI 293, 295; ELLS 292; TR 52; WU 288
Solar System	
7. there are basic components of the solar system (<i>for example: Sun, planets, moons</i>)	Student Edition: 322, 338-342 <i>Explore</i> 337 <i>Focus on Skills</i> 344-345 <i>Integrate Reading</i> 344 <i>Quick Lab</i> 339 Teacher Wraparound Edition: DI 339; HA 342; SB 338; TR54-TR55; WU 336
8. the Earth and Sun provide a diversity of resources (<i>for example: soils, fuels, minerals, medicines and food</i>)	Student Edition: 24-25, 34-37, 46-47, 234, 240-241, 244, 252-254, 260, 322 <i>Reading in Science</i> 256-257 Teacher Wraparound Edition: DI 37, 253; TR50-TR51
9. the rotation of the Earth on its axis, in relation to the Sun, produces the day-and-night cycle and the orbit of the Earth around the Sun completes one year	Student Edition: 318-321 <i>Explore</i> 317 Teacher Wraparound Edition: DI 319, 320; SB 318; TR54
STANDARD 5: Students understand that the nature of science involves a particular way of building knowledge and making meaning of the natural world.	
1. when a science experiment is repeated with the same conditions, the experiment generally works the same way	Student Edition: 7 Teacher Wraparound Edition: SB 4

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<p>2. models are used to represent events and objects <i>(for example: comparing a map of the school to the actual school; a model of the Earth to the Earth itself)</i></p>	<p>Student Edition: <i>Explore</i> 203, 213, 249, 259 <i>Focus on Skills</i> 12, 200-201 <i>Quick Lab</i> 155, 195, 207, 217, 251, 293, 319, 349</p> <p>Teacher Wraparound Edition: AE 203, 249, 317, 373; DMI 6; DI 233, 305; HA 342; SB 9; WU 212, 288</p>