



SCIENCE

A CLOSER LOOK

Grade 3

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STANDARDS	PAGE REFERENCES
<p>Standard 5.2 (Science and Society) All students will develop an understanding of how people of various cultures have contributed to the advancement of science and technology, and how major discoveries and events have advanced science and technology.</p>	
<p><i>Cultural Contributions</i></p>	
<p>Describe how people from different cultures have contributed to science and technology.</p>	<p>Student Edition: <i>Careers in Science</i> 100, 272, 356, 426, 522 <i>Explore</i> 3 <i>Reading in Science</i> 96-97, 130-131, 352-353, 370-371 <i>Time for Kids</i> 186-187, 358-359 Teacher Wraparound Edition: SB 6</p>
<p><i>Historical Perspectives</i></p>	
<p>Hear, read, write and talk about scientists and inventors in historical context.</p>	<p>Student Edition: <i>Reading in Science</i> 180-181, 256-257, 440-441, 508-509 Teacher Wraparound Edition: SB 338, 444, 480</p>

STANDARDS	PAGE REFERENCES
<p>Standard 5.4 (Nature and Process of Technology) All students will understand the interrelationships between science and technology and develop a conceptual understanding of the nature and process of technology.</p>	
<p>Science and Technology</p>	
<p>Distinguish between naturally occurring solutions and those of human design to solve problems.</p>	<p>Student Edition: 254, 262-263 <i>Explore</i> 259 <i>Reading in Science</i> 28-29, 210-211, 300-301 <i>Writing in Science</i> 518 Teacher Wraparound Edition: HA 254</p>
<p>Nature of Technology</p>	
<p>Demonstrate how measuring instruments are used to gather information.</p>	<p>Student Edition: 282-283, 374-377 <i>Be a Scientist</i> 40-41, 144-145 <i>Explore</i> 161 <i>Focus on Skills</i> 380-381 <i>Quick Lab</i> 283, 377 <i>Science Handbook</i> R2-R6 Teacher Wraparound Edition: DI 375, R4, R5; SB R2, R6</p>
<p>Technological Design</p>	
<p>Describe a product or device in terms of its use.</p>	<p>Student Edition: 342, 464-470, 514-516 <i>Explore</i> 463, 489, 511 <i>Focus on Skills</i> 486-487 <i>Quick Lab</i> 382, 469, 516 <i>Writing in Science</i> 472 Teacher Wraparound Edition: AE 203, 463; DI 467, 468; SB 464</p>

STANDARDS	PAGE REFERENCES
<p>Standard 5.5 (Characteristics of Life) All students will gain an understanding of structure, characteristics and basic needs of organisms and will investigate the diversity of Life.</p>	
<p><i>Matter, Energy, and Organization in Living Systems</i></p>	
<p>Differentiate between the needs of plants and those of animals.</p>	<p>Student Edition: 24-25, 32-37, 46-47 <i>Be a Scientist</i> 40-41 <i>Explore</i> 43, 69 Teacher Wraparound Edition: DI 37, 47; GI 41; IM 40; TR40; WU 42</p>
<p>Identify the roles that organisms may serve in a food chain/food web.</p>	<p>Student Edition: 110-114 <i>Explore</i> 107 <i>Focus on Skills</i> 116-117 <i>Quick Lab</i> 114 Teacher Wraparound Edition: DI 111, 112; DV 112; HA 114; TR44; WU 106</p>
<p><i>Diversity and Biological Evolution</i></p>	
<p>Recognize similarities among organisms.</p>	<p>Student Edition: 32-33, 44, 54-55, 92-93 <i>Explore</i> 31, 53, 91 <i>Focus on Skills</i> 50-51 Teacher Wraparound Edition: IR 50; HA 94; SB 92; TR41; WU 30, 90</p>
<p>Develop a simple classification scheme for grouping organisms.</p>	<p>Student Edition: 38, 54-60 <i>Explore</i> 53 <i>Focus on Skills</i> 50-51 Teacher Wraparound Edition: AE 53; DI 55, 57, 59; HA 38, 60; IR 60; SB 54, 58</p>

STANDARDS	PAGE REFERENCES
Reproduction and Heredity	
Identify different stages in the lives of various organisms.	Student Edition: 70-76, 82-86 <i>Explore</i> 81 <i>Focus on Skills</i> 78-79 <i>Math in Science</i> 89 <i>Quick Lab</i> 73, 85 Teacher Wraparound Edition: FI 71, 72, 75, 84; HA 76, 86; SB 70, 82; TR42-TR43; UV 83; WU 80
Standard 5.6 (Physical Science - Chemistry) All students will gain an understanding of the structure and behavior of matter.	
Structure and Properties of Matter	
Sort materials based on physical characteristics that can be seen by using magnification.	Student Edition: <i>Explore</i> 363 Teacher Wraparound Edition: AE 363; GI 363; HA 368; TR56; WU 362
Observe that water can be a liquid a solid or a gas and can change from one form to the other by heating or cooling.	Student Edition: 384-387, 398-402 <i>Explore</i> 383, 397 <i>Focus on Skills</i> 404-405 <i>Quick Lab</i> 387, 401 Teacher Wraparound Edition: DI 385, 399, 400; GI 383; HA 388, 402; OI 397; TR57-TR58; WU 396
Observe that not all materials respond in the same way when exposed to similar conditions.	Student Edition: 366-367 <i>Quick Lab</i> 367 Teacher Wraparound Edition: DI 366; EMI 367; SB 364
Chemical Reactions	
Combine two or more materials and observe that the new material may have properties that are different from the original materials.	Student Edition: 410-412, 418-420 <i>Be a Scientist</i> 422-423 Teacher Wraparound Edition: AE 383; SB 408

STANDARDS	PAGE REFERENCES
<p align="center">Standard 5.7 (Physical Science – Physics) All students will gain an understanding of natural laws as they apply to motion, forces and energy transformations.</p>	
<p><i>Motion and Forces</i></p>	
<p>Identify, predict, measure and compare how force, including balanced and unbalanced forces, an affect an object’s motion, speed and direction.</p>	<p>Student Edition: 444-448 <i>Explore</i> 443 Teacher Wraparound Edition: AE 443; ELLS 445; LW 442; SB 444; TR60; WU 442</p>
<p>Define, observe and identify the invisible forces that affect the movement of an object such as:</p> <p>Magnetism</p> <p>Buoyancy</p> <p>Gravity</p>	<p>Student Edition: 366-367, 446-447 <i>Be a Scientist</i> 450-451 <i>Quick Lab</i> 447 Teacher Wraparound Edition: DI 447; ELLS 446; GI 451</p>
<p><i>Energy Transformation</i></p>	
<p>Define and identify heat energy from a variety of sources.</p>	<p>Student Edition: 480-481</p>
<p>Identify and explain how heat energy is transferred from one place to another.</p>	<p>Student Edition: 480-484 <i>Focus on Skills</i> 486-487 <i>Quick Lab</i> 481 Teacher Wraparound Edition: DI 483; ELLS 482; TR62; UV 481</p>
<p>Explain and give examples of how heat changes objects.</p>	<p>Student Edition: 482-483 <i>Explore</i> 479 Teacher Wraparound Edition: LW 478</p>
<p>Observe light energy from a variety of sources.</p>	<p>Student Edition: 500 <i>Reading in Science</i> 508 Teacher Wraparound Edition: SB 500</p>

STANDARDS	PAGE REFERENCES
Describe how light energy behaves when it strikes different objects: transparent, translucent, or opaque.	Student Edition: 502-503 Teacher Wraparound Edition: DI 503; DV 502; ELLS 502; WU 498
Distinguish how sound is produced by different objects as they vibrate.	Student Edition: 490-491 <i>Be a Scientist</i> 496-497 <i>Explore</i> 489 Teacher Wraparound Edition: DI 491; WU 488
Distinguish between loud and soft volumes , high and low itches.	Student Edition: 492-493 <i>Quick Lab</i> 493 Teacher Wraparound Edition: DI 493; OI 489; SB 490; TR62
Standard 5.8 (Earth Science) All students will gain an understanding of the structure, dynamics, and geophysical systems of the Earth.	
<i>Earth's Properties and Materials</i>	
Observe that most rocks and soils are made of several substances or minerals. Define: rock, soil, fossil, silt.	Student Edition: 174-177, 228-234, 240, 250-251 <i>Explore</i> 239 <i>Quick Lab</i> 231 Teacher Wraparound Edition: DI 231, 233; ELLS 232; SB 174, 228; TR50
Observe that the properties of soils vary from place to place and will affect the soil's ability to support life.	Student Edition: 240-244 <i>Explore</i> 239 <i>Focus on Skills</i> 246-247 <i>Quick Lab</i> 243 Teacher Wraparound Edition: AE 239; DI 241, 243; HA 244; SB 240; TR50; WU 238
<i>Atmosphere and Water</i>	
Recognize that air is a substance that surrounds us, takes up space, and moves around us as wind.	Student Edition: 280-283 <i>Explore</i> 279 <i>Quick Lab</i> 283 Teacher Wraparound Edition: AE 279; DI 281; DV 282; SB 280; TR52

STANDARDS	PAGE REFERENCES
Recognize that most of Earth's surface is covered by water and identify the characteristics of: oceans, seas, rivers, lakes, glaciers and underground water sources .	Student Edition: 192-193, 196-197 <i>Explore</i> 191 Teacher Wraparound Edition: DI 193; TR48
Identify the three states of matter, solid, liquid and gas .	Student Edition: 384-388, 398-401 <i>Explore</i> 383, 397 <i>Quick Lab</i> 387 Teacher Wraparound Edition: DI 385; ELLS 387; HA 388, 402; SB 384, 398; TR58; WU 382
Observe when water evaporates and changes into water vapor, condenses and freezes.	Student Edition: 292-295 <i>Explore</i> 289 <i>Quick Lab</i> 293 Teacher Wraparound Edition: DI 293, 294; DV 292; TR52; UV 294
Observe weather changes and patterns by measurable quantities e.g., temperature, wind speed, wind direction and amounts of precipitation .	Student Edition: 280-284 <i>Focus on Skills</i> 286-287 <i>Quick Lab</i> 283 Teacher Wraparound Edition: DI 281, 283; ELLS 282; FA 285; HA 284; IR 286; TR52
Processes that Shape the Earth	
Recognize that some changes of the Earth's surface are due to slow processes, e.g., erosion and weathering ; and some are due to rapid changes, e.g., landslides, volcanic eruptions, earthquakes .	Student Edition: 204-208, 214-216 <i>Explore</i> 203, 213 <i>Quick Lab</i> 207 <i>Reading in Science</i> 210-211 Teacher Wraparound Edition: DI 205, 207, 215; HA 208; SB 204, 214; TR48-TR49; UV 205; WU 202

STANDARDS	PAGE REFERENCES
Recognize changes to the Earth's surface caused by moving water, wind and ice.	Student Edition: 214-217 <i>Explore</i> 213 <i>Quick Lab</i> 217 <i>Writing in Science</i> 220 Teacher Wraparound Edition: DI 215, 217; ELLS 216; HA 218; SB 214; TR49; UV 216
How We Study the Earth	
Use maps to locate and identify physical features on the Earth.	Student Edition: 192-197 <i>Quick Lab</i> 195 Teacher Wraparound Edition: AE 191; DI 194; SB R10; TR48; UV 194
Standard 5.9 (Astronomy and Space Science) All students will gain an understanding of the origin, evolution and structure of the universe.	
Earth, Moon and Sun Systems	
Understand the tilt of the Earth and rotation on its axis causes day and night.	Student Edition: 318-319 <i>Explore</i> 317 <i>Quick Lab</i> 319 Teacher Wraparound Edition: DI 319; SB 318; TR54
Observe what the moon looks like and describe the various phases .	Student Edition: 328-332 <i>Be a Scientist</i> 334-335 <i>Explore</i> 327 <i>Quick Lab</i> 331 Teacher Wraparound Edition: AE 327; DI 329; HA 332; IW 334; TR54; UV 330

STANDARDS	PAGE REFERENCES
Solar System	
Identify all the planets of the Solar System and their respective orbit around the Sun.	Student Edition: 338-341 <i>Explore</i> 337 <i>Focus on Skills</i> 344-345 <i>Quick Lab</i> 339 Teacher Wraparound Edition: DI 339, 340; HA 342; SB 338; TR55; UV 340; WU 336
Stars	
Observe that stars are different in brightness, size and color.	Student Edition: 348-350 <i>Explore</i> 347 <i>Reading in Science</i> 352-353 Teacher Wraparound Edition: SB 348; TR54; WU 346
Galaxies and Universe	
Recognize that images can be magnified through binoculars and telescopes to enhance details of distant objects.	Student Edition: 342 <i>Reading in Science</i> 352-353 Teacher Wraparound Edition: DV 342
Standard 5.10 (Environmental Studies) All students will develop an understanding of the environment as a system of interdependent components affected by human activity and natural phenomena.	
Natural Systems and Interactions	
Differentiate between natural resources that are renewable and non-renewable .	Student Edition: 244, 253-254, 260, 265-266 <i>Quick Lab</i> 265 <i>Reading in Science</i> 256-257 <i>Writing in Science</i> 518 Teacher Wraparound Edition: DI 253; DV 252; ELLS 252, 256; HA 254; TR51

STANDARDS	PAGE REFERENCES
<i>Human Interactions and Impact</i>	
<p>Explain how meeting human requirements affects the environment.</p>	<p>Student Edition: 154-155, 168, 218, 262-265 <i>Be a Scientist</i> 268-269 <i>Focus on Skills</i> 158-159 <i>Reading in Science</i> 28-29, 210-211, 220 Teacher Wraparound Edition: DI 155, 265; ELLS 264; SB 260; TR46</p>
<p>Define and provide examples of:</p> <p>Conservation</p> <p>Recycle</p> <p>Reduce</p> <p>Reuse</p> <p>Pollution</p>	<p>Student Edition: 156, 264-266 <i>Be a Scientist</i> 268-269 <i>Quick Lab</i> 155 <i>Reading in Science</i> 28-29, 256-257 Teacher Wraparound Edition: DI 265; HA 156; SB 260</p>