



Introduction to Physical Science

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STANDARDS

PAGE REFERENCES

Content Standard 1—Students design, conduct, evaluate, and communicate processes and results of scientific investigations, and demonstrate thinking skills associated with this procedural knowledge.

<p>1. identify a question, determine relevant variables, formulate a testable hypothesis, plan and predict the outcome of an investigation, safely conduct scientific investigation, and compare and analyze data.</p>	<p>Student Edition: 12-20, 28-29 <i>Design Your Own LAB</i> 124-125, 208-209, 330-331, 424-425, 450-451, 540-541 <i>Lab</i> 32-33 <i>Mini LAB</i> 23 <i>Science Skill Handbook</i> 670-679 Teacher Wraparound Edition: CC 15; IL 17</p>
<p>2. select and accurately use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations.</p>	<p>Student Edition: 42-49, 50-54, 56-59 <i>Applying Math</i> 17 <i>Design Your Own LAB</i> 60-61, 450-451 <i>Integrate Astronomy</i> 51 <i>Lab</i> 55, 355 <i>Launch Lab</i> 41 <i>Science Skill Handbook</i> 675-677 Teacher Wraparound Edition: A 43; D15; IL 48; LD 57</p>

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<p>3. critically review, communicate and defend results of investigations.</p>	<p>Student Edition: 17, 57-59 <i>Applying Science</i> 89, 390 <i>Communicating Your Data</i> 125, 209, 451 <i>Design Your Own LAB</i> 330-331 <i>LAB</i> 86, 355, 603, 604-605, 648 <i>National Geographic</i> 278-279 <i>Science Skill Handbook</i> 678 Teacher Wraparound Edition: A 19; AYD 125, 209; CYD 451; FYI 82</p>
<p>4. create models to illustrate scientific concepts and use the model to predict change. (e.g., computer simulation, stream table, graphic representation)</p>	<p>Student Edition: 21-26, 74-79 <i>Design Your Own LAB</i> 124-125, 300-301, 330-331 <i>LAB</i> 179, 604-605, 632-633 <i>Model and Invent LAB</i> 180-181 <i>National Geographic</i> 24 <i>Science Skill Handbook</i> 673 Teacher Wraparound Edition: MM 25, 78; R 26</p>
<p>5. identify strengths and weakness in an investigation design.</p>	<p>Student Edition: 12-15, 18, 26 <i>Design Your Own LAB</i> 60-61, 208-209, 300-301, 330-331, 450-451, 540-541 <i>LAB</i> 31, 32-33 Teacher Wraparound Edition: D 29; IM 15; QD 18; VL 13</p>
<p>Content Standard 2—Students demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems, and demonstrate thinking skills associated with this knowledge.</p>	
<p>1. classify, describe, and manipulate physical models of matter in terms of: elements, and compounds, pure substances and mixtures, atoms, and molecules.</p>	<p>Student Edition: 80-85, 87-91, 218-220, 250-260, 262-269 <i>Applying Science</i> 167 <i>Lab</i> 86, 92-93, 179 <i>Launch Lab</i> 133 <i>Science and History</i> 94 Teacher Wraparound Edition: D 89; DI 90; IM 219</p>

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<p>2. examine, describe, compare and classify objects and substances based on common physical properties and simple chemical properties.</p>	<p>Student Edition: 134-138, 139-142 <i>Accidents in Science</i> 126 <i>Applying Science</i> 167 <i>Design Your Own LAB</i> 150-151, 450-451, 540-541 LAB 179 <i>Launch Lab</i> 217 <i>National Geographic</i> 82, 255 <i>Science and History</i> 210 Teacher Wraparound Edition: LD 145; QD 135; TPK 134</p>
<p>3. describe energy and compare and contrast the characteristics of light, heat, motion, magnetism, electricity, sound and mechanical waves.</p>	<p>Student Edition: 374-378, 381-385, 391-395, 434-437, 438-442, 462-471, 490-499, 520-524, 550-554, 591-595, 596-602 Teacher Wraparound Edition: A 376; D 377; IM 463</p>
<p>4. model and explain the states of matter are dependent upon the quantity of energy present in the system and describe what will change and what will remain unchanged at the particulate level when matter experiences an external force or energy change.</p>	<p>Student Edition: 102-106, 107-111, 112-114, 116-120, 136, 144, 437, 438-439 <i>Lab</i> 115 <i>National Geographic</i> 110 Teacher Wraparound Edition: FYI 112, 144; IM 109; LD 105</p>
<p>5. identify, build, describe, measure, and analyze mechanical systems (e.g., simple and complex machines) and describe the forces acting within those systems.</p>	<p>Student Edition: 310-315, 316-322, 356-361, 380-385, 394-395, 412-416, 417-423, 448-449 <i>Design Your Own LAB</i> 424-425 <i>National Geographic</i> 421, 447 Teacher Wraparound Edition: MM 420; QD 312; R 322; VL 318, 381</p>
<p>6. analyze data in simple scientific contexts. (e.g., density)</p>	<p>Student Edition: 28-29, 57-59 <i>Applying Science</i> 229, 390, 617 <i>Design Your Own LAB</i> 60-61, 330-331, 424-425, 450-451 LAB 31, 32-33, 355, 603 <i>Science Skill Handbook</i> 677-678 Teacher Wraparound Edition: D 15, 29</p>

STANDARDS	PAGE REFERENCES
Content Standard 5—Students understand how scientific knowledge and technological developments impact today’s societies and cultures.	
<p>1. describe the specific fields of science and technology as they relate to occupations within those fields.</p>	<p>Student Edition: 9-11, 30, 56-57 <i>Integrate Career</i> 13, 43, 78, 148, 229, 264, 352, 448, 654 <i>Science and History</i> 34 <i>Science and Society</i> 272 Teacher Wraparound Edition: DI 24; FF 22; IM 10; USW 9</p>
<p>2. apply scientific knowledge and process skills to understand issues and everyday events.</p>	<p>Student Edition: 7, 30, 508-509, 601-602, 654-658 <i>Applying Science</i> 111, 496, 651 <i>Integrate Astronomy</i> 51 <i>National Geographic</i> 278-279 <i>Science and Society</i> 606 Teacher Wraparound Edition: FF 30; FYI 29</p>
<p>3. simulate collaborative problem solving and give examples of how scientific knowledge and technology are shared with other scientists and the public.</p>	<p>Student Edition: 17, 27-29, 30, 56-59, 76-79 <i>Design Your Own LAB</i> 330-331, 424-425 <i>LAB</i> 31, 32-33 <i>Science and Society</i> 272, 606 <i>Science Skill Handbook</i> 678 <i>Technology Skill Handbook</i> 696 Teacher Wraparound Edition: A 24; AIL 32; DI 16; FYI 82</p>
<p>4. use scientific knowledge to investigate problems and their proposed solutions and evaluate those solutions while considering environmental impacts.</p>	<p>Student Edition: 388-389 <i>Applying Science</i> 89, 390 <i>Integrate Life Science</i> 443 <i>National Geographic</i> 278-279 <i>Science and History</i> 152 <i>Science and Society</i> 606 <i>Use the Internet LAB</i> 396-397, 660-661 Teacher Wraparound Edition: R 26</p>

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Content Standard 6—Students understand historical developments in science and technology.	
1. trace development that demonstrate scientific knowledge is subject to change as new evidence becomes available.	<p>Student Edition: 26, 74-79, 351-354, 391-395, 477 <i>Integrate History</i> 317 <i>Integrate Physics</i> 557 <i>National Geographic</i> 532 <i>Science and History</i> 94 <i>Science and Society</i> 272, 606 <i>Use the Internet LAB</i> 396-397</p> <p>Teacher Wraparound Edition: DI 84</p>
2. identify major milestones in science that have impacted science, technology, and society.	<p>Student Edition: 26, 50-54, 72-79, 121-122, 262, 312-315, 316-322, 323-324, 525-531, 645-647 <i>Integrate Astronomy</i> 533 <i>Integrate Physics</i> 182 <i>Lab</i> 86 <i>National Geographic</i> 82, 532, 657</p> <p>Teacher Wraparound Edition: CD 18; FF 119; FYI 46, 82, 658</p>
3. describe and explain science as a human endeavor.	<p>Student Edition: 26, 30, 74-79, 501-509, 659 <i>Accidents in Science</i> 574 <i>Integrate Astronomy</i> 51 <i>Integrate History</i> 73 <i>National Geographic</i> 82, 370-371 <i>Science and History</i> 34, 94, 542 <i>Science and Society</i> 272, 332, 426 <i>Use the Internet LAB</i> 396-397</p> <p>Teacher Wraparound Edition: CC 47, 121, 146; CD 18; FF 119; FYI 9, 25, 82, 118, 658</p>