



Earth 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: 8-11 <i>MiniLab</i> 11 <i>Lab</i> 24-25, 67, 80-81, 136, 260-261 <i>Design Your Own Lab</i> 52-53, 200-201, 228-229, 350-351, 444-445</p> <p>Teacher Wraparound Edition: A 221, 261; R 14</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: <i>Lab</i> 24-25, 45, 67, 80-81, 110-111, 136, 260-261, 504-505, 608 <i>Design Your Own Lab</i> 52-53, 200-201, 228-229, 444-445, 616-617</p>
<p>3. critically review, communicate and defend results of investigations.</p>	<p>Student Edition: 8-11 <i>Lab</i> 24-25, 80-81, 136, 171, 221, 260-261, 344 <i>Design Your Own Lab</i> 52-53, 200-201, 350-351 <i>Communicating Your Data</i> 67, 229 <i>Model and Invent Lab</i> 142-143, 172-173</p>

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<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: <i>MiniLab</i> 91, 211 <i>Launch Lab</i> 209, 299 <i>Lab</i> 221, 260-261, 407 <i>Design Your Own Lab</i> 228-229, 444-445 Teacher Wraparound Edition: IL 253, 374; IM 180F; MM 123, 198, 288</p>
<p>5. identify strengths and weakness in an investigation design.</p>	<p>Student Edition: <i>Model and Invent Lab</i> 142-143, 172-173, 382-383, 474-475, 714-715 <i>Design Your Own Lab</i> 228-229 <i>Use the Internet Lab</i> 290-291, 650-651 Teacher Wraparound Edition: A 351, 531, 533; ACT 559; AIL 110; CYD 259; EA 25</p>
<p>Content Standard 4—Students demonstrate knowledge of the composition, structures, processes and interactions of Earth’s systems and other objects in space, and demonstrate thinking skills associated with this knowledge.</p>	
<p>1. model and explain the internal structure of the earth and describe the formation and composition of earth’s external features in terms of the rock cycle and plate tectonics.</p>	<p>Student Edition: 90-93, 157-159, 280-289, 300-303, 309-311, 330-335 <i>National Geographic</i> 92 <i>Science Online</i> 282 Teacher Wraparound Edition: A 289; ACT 92; CC 287; CFU 92, 311; SCB 88E-F; 270E-F</p>
<p>2. differentiate between both rock types and mineral types and classify both by how they are formed and the utilization by humans. (e.g., arrowheads, cooking tools)</p>	<p>Student Edition: 62-66, 68-72, 73-79, 90-93, 94-97, 99-102, 103-109, 137-141 <i>Launch Lab</i> 61, 89 <i>Lab</i> 67, 80-81 <i>MiniLab</i> 72 Teacher Wraparound Edition: AIL 110; IM 60F</p>

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<p>3. explain scientific theories about how fossils are used as evidence of changes over time.</p>	<p>Student Edition: 273-274, 362-369, 387 #25 <i>MiniLab</i> 274 <i>Launch Lab</i> 361 <i>Integrate Life Science</i> 368 <i>Science Online</i> 374 <i>Use the Internet Lab</i> 414-415 Teacher Wraparound Edition: DI 363, 368, 371; DIS 366; SJ 367; TFYI 274; VL 368</p>
<p>4. describe the water cycle, the composition and structure of the atmosphere and the impact of oceans on large scale weather patterns.</p>	<p>Student Edition: 426-433, 435-438, 468, 484-487, 493-495 <i>Science Online</i> 428 <i>Integrate Earth Science</i> 446, 534 <i>Integrate Environment</i> 468 <i>MiniLab</i> 493 Teacher Wraparound Edition: A 438; CFU 433; IM 428; R 438; VL 427</p>
<p>5. describe and model the motion and tilt of earth in relation to the sun, and explain the concepts of day, night, seasons, year, and climatic changes.</p>	<p>Student Edition: 492-493, 660-665, 685 #18, 687 #16, 719 #21 <i>Launch Lab</i> 659 <i>Science Online</i> 665 <i>Lab</i> 680-681 Teacher Wraparound Edition: ACT 663; AIL 680; IM 482F; QD 664; R 665</p>
<p>6. describe the earth, moon, planets and other objects in space in terms of size, structure, and movement in relation to the sun.</p>	<p>Student Edition: 666-673, 690-694, 696-701, 702-709, 710-713 <i>Science Online</i> 663, 691 <i>MiniLab</i> 667, 704 <i>Lab</i> 675 <i>Model and Invent Lab</i> 714-715 Teacher Wraparound Edition: ACT 703; DI 692; IM 658F; QD 698</p>
<p>7. identify scientific theories about the origin and evolution of the earth and solar system.</p>	<p>Student Edition: 692, 721 #25 <i>Integrate Physics</i> 692 <i>National Geographic</i> 693 Teacher Wraparound Edition: V 693</p>

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Content Standard 5—Students understand how scientific knowledge and technological developments impact today’s societies and cultures.	
1. describe the specific fields of science and technology as they relate to occupations within those fields.	Student Edition: 16-17 <i>Integrate Health</i> 37 <i>Integrate Career</i> 106, 197, 287, 315, 522, 550, 604, 638, 671 <i>Science Online</i> 168 Teacher Wraparound Edition: DI 9, 166; UP 151
2. apply scientific knowledge and process skills to understand issues and everyday events.	Student Edition: 6-14 <i>Lab</i> 23 <i>MiniLab</i> 139, 613 <i>Model and Invent Lab</i> 142-143 <i>Science Online</i> 554 Teacher Wraparound Edition: ACT 133, 606; DIS 69; IL 9, 464, 497, 515; SJ 35, 641
3. simulate collaborative problem solving and give examples of how scientific knowledge and technology are shared with other scientists and the public.	Student Edition: 6-14, 15-22 <i>Model and Invent Lab</i> 142-143, 172-173 <i>Design Your Own Lab</i> 532-533 Teacher Wraparound Edition: ACT 106, 241; CB 82; MM 580, 645; R 170; UP 269
4. use scientific knowledge to investigate problems and their proposed solutions and evaluate those solutions while considering environmental impacts.	Student Edition: 120-129, 130-135, 196-199, 499-502, 557-561, 578-584, 586-589, 600-607, 609-615 <i>Science and Society</i> 112 <i>Science Online</i> 197 Teacher Wraparound Edition: ACT 133; LD 124; R 199; V 126
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.	Student Edition: 15-19, 272-275, 276-277, 280-289, 381, 673, 676-679, 690-694, 745

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<p>2. identify major milestones in science that have impacted science, technology, and society.</p>	<p>Student Edition: 272-275, 276-277, 280-289, 394-399, 635-642, 643-649, 690-694 <i>National Geographic</i> 13 <i>Science and History</i> 82, 618 Teacher Wraparound Edition: ACT 13; CC 466; DI 277; R 401; SJ 281</p>
<p>3. describe and explain science as a human endeavor.</p>	<p>Student Edition: 6-14, 15-22 <i>Science and Language Arts</i> 26, 202, 292, 446, 534 <i>Science and History</i> 82 <i>Integrate Health</i> 223 Teacher Wraparound Edition: CD 16; DIS 82; TPK 6; UP 3</p>