



Science

LEVEL BLUE

© 2008

STANDARDS	PAGE REFERENCES
<p>8.1 <u>Structure and Function:</u> Systems and their components function at various levels of complexity.</p>	
<p>8.1P.1 Describe the atomic model and explain how the types and arrangements of atoms determine the physical and chemical properties of elements and compounds.</p>	<p>Student Edition: 405, 407-408, 410-413, 464-465, 468-469 Teacher Wraparound Edition: A 406; DI 438, 444; MM 405, 443; Re 413; TFYI 449; TPK 464; VL 468</p>
<p>8.1P.2 Explain how the Periodic Table is an organization of elements based on their physical and chemical properties.</p>	<p>Student Edition: 435-439, 442-446, 448-450, 466-469 <i>Applying Science</i> 469 Teacher Wraparound Edition: A 468; DI 438, 467; Di 436; IL 446; LD 439; SJ 438; TFYI 442, 449; VL 446</p>
<p>8.1P.3 Explain how the motion and spacing of particles determines states of matter.</p>	<p>Student Edition: <i>National Geographic</i> 478 Teacher Wraparound Edition: NG 478; SCB 606E</p>

STANDARDS	PAGE REFERENCES
8.1L.1 Explain how genetics and anatomical characteristics are used to classify organisms and infer evolutionary relationships.	Student Edition: 38, 46, 52, 277-278 <i>Are these dogs related?</i> 36 <i>Figure 15</i> 52 <i>Integrate Life Science</i> 274 <i>National Geographic</i> 51 Teacher Wraparound Edition: As 279; BI 36; NG 51; TPK 44; VL 52
8.2 Interaction and Change: Systems interact with other systems.	
8.2P.1 Compare and contrast physical and chemical changes and describe how the law of conservation of mass applies to these changes.	Student Edition: 492, 496-497 <i>Figure 4</i> 496 <i>Lab</i> 509 <i>Mini Lab</i> 496 <i>Section 1 Review</i> 501 #3 Teacher Wraparound Edition: DI 497; MM 496; VL 496
8.2P.2 Explain how energy is transferred, transformed, and conserved.	Student Edition: 106, 136-139, 498-499, 611-614, 645 Teacher Wraparound Edition: Di 137, 499; IC 107; QD 138; TFYI 138; TPK 612
8.2L.1 Explain how species change through the process of natural selection. Describe evidence for evolution.	Student Edition: 50, 52 <i>National Geographic</i> 51 <i>Science Online</i> 52 <i>Section 3 Review</i> 53 #2-#3 Teacher Wraparound Edition: As 53; DI 52; IM 50; NG 51; SJ 50
8.2E.1 Explain how gravity is the force that keeps objects in the solar system in regular and predictable motion and describe the resulting phenomena. Explain the interactions that result in Earth's seasons.	Student Edition: 309-311, 336, 557 <i>Figure 4</i> 310 <i>Integrate History</i> 557 <i>Integrate Physics</i> 340 <i>Lab</i> 326-327 <i>Science Online</i> 309 Teacher Wraparound Edition: AIL 326; Di 31; IH 557; QD 310; VL 309

STANDARDS	PAGE REFERENCES
8.2E.2 Describe the processes of Earth's geosphere and the resulting major geological events.	<p>Student Edition: 272-273, 279, 282, 288, 292 <i>Figure 2</i> 273 <i>Figure 18</i> 285 <i>Figure 20</i> 288 <i>Lab</i> 294-295</p> <p>Teacher Wraparound Edition: AIL 294; Di 277, 285; IM 274; SJ 275; TPK 272, 288; VL 273, 289</p>
8.2E.3 Explain the causes of patterns of atmospheric and oceanic movement and the effects on weather and climate.	<p>Student Edition: 127, 154, 614 <i>Figure 7</i> 127 & 614 <i>Integrate Earth Science</i> 128 <i>Science Online</i> 377</p> <p>Teacher Wraparound Edition: CB 142; DI 127; Di 142, 614</p>
8.2E.4 Analyze evidence for geologic, climatic, environmental, and life form changes over time.	<p>Student Edition: 272-278, 281-282, 284, 289-290, 293 <i>Figure 2</i> 273 <i>Figure 8</i> 277 <i>Lab</i> 294-295 <i>National Geographic</i> 283 <i>Science Online</i> 284</p> <p>Teacher Wraparound Edition: AIL 294; As 293; Di 275, 277, 278; NG 283; Re 279; SJ 275; VL 273, 277, 289</p>
	<p>8.3 Scientific Inquiry: Scientific inquiry is the investigation of the natural world based on observations and science principles that includes proposing questions or hypotheses and designing procedures for questioning, collecting, analyzing, and interpreting multiple forms of accurate and relevant data to produce justifiable evidence-based explanations and new explorations.</p>
8.3S.1 Based on observations and science principles propose questions or hypotheses that can be examined through scientific investigation. Design and conduct a scientific investigation that uses appropriate tools, techniques, independent and dependent variables, and controls to collect relevant data.	<p>Student Edition: <i>Design Your Own Lab</i> 82-83, 112-113, 424-425, 510-511, 570-571, 598-599, 624-625</p> <p>Teacher Wraparound Edition: AIL 140, 232, 424, 510; As 83, 511; IL 346, 389, 408, 505</p>

STANDARDS	PAGE REFERENCES
<p>8.3S.2 Organize, display, and analyze relevant data, construct an evidence-based explanation of the results of a scientific investigation, and communicate the conclusions including possible sources of error. Suggest new investigations based on analysis of results.</p>	<p>Student Edition: <i>Communicating Your Data</i> 83, 599 <i>Design Your Own Lab</i> 83, 113, 425, 511, 571, 599, 625 Teacher Wraparound Edition: <i>As</i> 113, 425; <i>CYD</i> 83, 571, 599; <i>EA</i> 113, 599, 625; <i>IL</i> 389</p>
<p>8.3S.3 Explain how scientific explanations and theories evolve as new information becomes available.</p>	<p>Student Edition: 182-185, 405, 407, 434-435, 496 <i>Integrate Physics</i> 340 <i>Science Online</i> 183 <i>Time Science and History</i> 426 Teacher Wraparound Edition: <i>DI</i> 39, 184, 289; <i>I</i> 426; <i>MM</i> 405; <i>VL</i> 496</p>
<p>8.4 Engineering Design: Engineering design is a process of identifying needs, defining problems, identifying design criteria and constraints, developing solutions, and evaluating proposed solutions.</p>	
<p>8.4D.1 Define a problem that addresses a need, and using relevant science principles investigate possible solutions given specified criteria, constraints, priorities, and trade-offs.</p>	<p>Student Edition: <i>Design and Research</i> 626 <i>Design Your Own Lab</i> 540 Teacher Wraparound Edition: <i>AIL</i> 170, 598; <i>DR</i> 626; <i>IL</i> 592</p>
<p>8.4D.2 Design, construct, and test a proposed engineering design solution and collect relevant data. Evaluate a proposed design solution in terms of design and performance criteria, constraints, priorities, and trade-offs. Identify possible design improvements.</p>	<p>Student Edition: <i>Design and Research</i> 626 <i>Design Your Own Lab</i> 540-541 Teacher Wraparound Edition: <i>AIL</i> 598; <i>DR</i> 626; <i>IL</i> 592</p>
<p>8.4D.3 Explain how creating a new technology requires considering societal goals, costs, priorities, and trade-offs.</p>	<p>Student Edition: <i>Integrate Health</i> 452 <i>National Geographic</i> 422 <i>Time Science and Society</i> 56, 172, 572, 600, 626 Teacher Wraparound Edition: <i>CB</i> 572; <i>DI</i> 352; <i>Di</i> 56, 172; <i>DR</i> 626; <i>II</i> 56; <i>NG</i> 422; <i>R</i> 600</p>