



Life Science

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STANDARDS	PAGE REFERENCES
<p>Science As Inquiry requires students to combine processes and scientific knowledge with scientific reasoning and critical thinking to develop their understanding of science.</p>	
<p>8.2.1 By the end of eighth grade, students will develop the abilities needed to do scientific inquiry.</p>	
<ul style="list-style-type: none"> Identify questions and form hypotheses that can be examined through scientific investigations. 	<p>Student Edition: 7, 8 <i>Lab: Design Your Own</i> 28-29, 200-201, 292-293, 418-419, 702-703 <i>Science Skill Handbook</i> 802, 805 Teacher Wraparound Edition: AIL 28, 86, 200; QD 8; TTPK 6</p>
<ul style="list-style-type: none"> Design and conduct a scientific investigation. 	<p>Student Edition: 7-10 <i>Lab: Design Your Own</i> 28-29, 200-201, 292-293, 418-419, 702-703 <i>Science Skill Handbook</i> 802, 805-810 Teacher Wraparound Edition: AIL 28, 86, 200</p>

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<ul style="list-style-type: none"> Use appropriate tools and techniques to gather, analyze, and interpret data. 	<p>Student Edition: 12-13 <i>Lab 46, 310, 530-531, 730-731, 787</i> <i>Lab: Design Your Own 56-57, 418-419, 672-673</i></p> <p>Teacher Wraparound Edition: AIL 28, 86, 200; AS 46</p>
<ul style="list-style-type: none"> Given evidence, develop descriptions, explanations, predictions, and models. 	<p>Student Edition: 9 <i>Applying Science 11, 157, 439, 580</i> <i>Lab 530-531, 730-731, 787</i> <i>Lab: Design Your Own 418-419, 702-703</i> <i>Lab: Use the Internet 502-503</i> <i>MiniLab 171</i> <i>Science Skill Handbook 810</i></p> <p>Teacher Wraparound Edition: IL 160; QD 625</p>
<ul style="list-style-type: none"> Show the relationship between evidence and explanations. 	<p>Student Edition: 9 <i>Lab 86-87, 730-731, 787</i> <i>Lab: Design Your Own 292-293, 418-419, 558-559</i> <i>Science Skill Handbook 809-810</i> <i>Section Review 13 (#6)</i></p>
<ul style="list-style-type: none"> Recognize and analyze alternative explanations and predictions. 	<p>The following pages can be incorporated to meet this standard.</p> <p>Student Edition: 21, 160-161 <i>Lab: Design Your Own 28-29, 200-201, 702-703</i> <i>National Geographic 20</i> <i>Section Review 161 (#3)</i></p>
<ul style="list-style-type: none"> Communicate scientific procedures and explanations. 	<p>Student Edition: 10 <i>Lab: Design Your Own 28-29, 174-175, 418-419</i> <i>Lab: Use the Internet 446-447, 502-503</i> <i>Science Skill Handbook 810</i></p> <p>Teacher Wraparound Edition: CYD 29, 175, 419, 447, 503</p>

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<ul style="list-style-type: none"> Use mathematics in scientific inquiry. 	<p>Student Edition: <i>Applying Math</i> 72, 290, 347 <i>Lab</i> 133, 501, 642-643, 730-731 <i>Lab: Design Your Own</i> 174-175 <i>Lab: Use the Internet</i> 446-447 <i>Math Skill Handbook</i> 832-845 <i>MiniLab</i> 136, 247, 572</p>
<p>Life Science focuses on science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.</p>	
<p>8.4.1 By the end of eighth grade, students will develop an understanding of the structure and function in living systems.</p>	
<ul style="list-style-type: none"> Investigate and describe the levels of organizations: cells, tissues, organs, organ systems, whole organisms, and ecosystems. 	<p>Student Edition: 14, 45, 252-255, 330, 684-687 <i>Chapter Review</i> 61 (#24) <i>Integrate Health</i> 255 <i>Section Review</i> 45 (#3), 687 (#1) Teacher Wraparound Edition: CFU 687; TC 36; TTPK 38</p>
<ul style="list-style-type: none"> Investigate and demonstrate that all living things are composed of cells. 	<p>Student Edition: 14, 38, 51 <i>Lab</i> 46 <i>Section Review</i> 18 (#3), 51 (#2) Teacher Wraparound Edition: QD 39; TC 36</p>
<ul style="list-style-type: none"> Investigate and explain how cells sustain life through functions (e.g., growth and nutrition). 	<p>Student Edition: 42-44, 74-78, 81-85, 96-100 <i>Integrate Health</i> 77 <i>National Geographic</i> 79 Teacher Wraparound Edition: TTPK 38; UAA 82</p>
<ul style="list-style-type: none"> Investigate and describe the specialized function performed by specialized cells (e.g., muscular and skeletal) in multicellular organisms. 	<p>Student Edition: 38, 253, 255, 486, 493, 551, 595, 654 <i>Section Review</i> 555 (#4), 602 (#6) Teacher Wraparound Edition: AC 596; MAM 551</p>

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<ul style="list-style-type: none"> Investigate and describe the human body systems and how they interact. 	<p>Student Edition: 484-487, 490-491, 496-498, 523, 525-529, 540-545, 550-551, 568-572, 577-580, 594-595, 597-599, 622-623, 626, 627 <i>National Geographic</i> 596, 624-625</p> <p>Teacher Wraparound Edition: TTPK 568; TFYI 623</p>
<ul style="list-style-type: none"> Investigate and explain how disease affects the structure and/or function of an organism. 	<p>Student Edition: 489, 547, 555, 557, 574-576, 581, 652-656, 662-663, 666-671 <i>National Geographic</i> 546 <i>Science Online</i> 547 <i>Section Review</i> 582 (#2), 671 (#3)</p> <p>Teacher Wraparound Edition: LD 547; VA 546</p>
<p>8.4.2 By the end of eighth grade, students will develop an understanding of reproduction and heredity.</p>	
<ul style="list-style-type: none"> Investigate and describe how all organisms reproduce through sexual or asexual reproduction. 	<p>Student Edition: 17, 101-102, 104-105, 273, 330 <i>MiniLab</i> 273 <i>Section Review</i> 102 (#2), 109 (#1, #4)</p> <p>Teacher Wraparound Edition: IL 102; LD 100</p>
<ul style="list-style-type: none"> Investigate and describe that in many species, offspring receive hereditary information from the female (eggs) and male (sperm). 	<p>Student Edition: 104-105, 126-127, 272, 273, 338, 401, 627-629, 633 <i>Section Review</i> 109 (#1)</p> <p>Teacher Wraparound Edition: VL 127</p>
<ul style="list-style-type: none"> Investigate and explain that chromosomes contain genes which influence heredity. 	<p>Student Edition: 98, 105-107, 112, 126, 128 <i>Chapter Review</i> 149 (#17)</p>
<ul style="list-style-type: none"> Investigate and describe the effects of inherited traits and environmental influences on an organism's characteristics. 	<p>Student Edition: 126-128, 130, 134-136 <i>Launch Lab</i> 125 <i>MiniLab</i> 128, 136 <i>National Geographic</i> 129</p> <p>Teacher Wraparound Edition: TTPK 126, 134</p>

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<p>8.4.3 By the end of eighth grade, students will develop an understanding of regulation and behavior.</p>	
<ul style="list-style-type: none"> Investigate and explain how organisms' behaviors enhance their abilities to obtain and use resources, grow, and reproduce. 	<p>Student Edition: 15, 456-461, 462-466, 468-470 <i>Lab</i> 471 <i>MiniLab</i> 460</p> <p>Teacher Wraparound Edition: AS 471; DI 463, 464; IM 466; LD 458; TC 454</p>
<ul style="list-style-type: none"> Investigate and examine how an organism senses change in its internal or external environment and responds to keep conditions within a required range. 	<p>Student Edition: 15, 458-461, 468-470, 498, 545, 594-595, 622, 626 <i>Lab</i> 471 <i>National Geographic</i> 596, 624-625 <i>Science Online</i> 15, 468</p> <p>Teacher Wraparound Edition: QD 625; TC 454; UAA 15</p>
<ul style="list-style-type: none"> Investigate and explain how behavior is a response to internal and external stimuli determined by heredity and experience. 	<p>Student Edition: 456-461, 462-464, 468-470</p> <p>Teacher Wraparound Edition: LD 458; QD 458; TC 454; UAA 464</p>
<ul style="list-style-type: none"> Investigate and explain how an organism's behavior evolves through environmental adaptation. 	<p>Student Edition: 158, 333, 457-461, 462-464, 468-470 <i>Section Review</i> 470 (#1, #2)</p> <p>Teacher Wraparound Edition: DI 464; LD 458</p>
<p>8.4.4 By the end of eighth grade, students will develop an understanding of populations and ecosystems.</p>	
<ul style="list-style-type: none"> Investigate and describe that a population consists of all individuals of a species at a given place and time. 	<p>Student Edition: 686</p> <p>Teacher Wraparound Edition: DIF 686; IM 686</p>
<ul style="list-style-type: none"> Investigate and analyze the living and nonliving factors that determine the number of organisms an ecosystem can support. 	<p>Student Edition: 688, 690-692, 712-718 <i>Lab</i> 719 <i>Lab: Design Your Own</i> 702-703 <i>MiniLab</i> 688 <i>National Geographic</i> 694</p> <p>Teacher Wraparound Edition: RT 718; TTPK 712</p>

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<ul style="list-style-type: none"> Describe an organism by the function it serves in an ecosystem (e.g., producer, consumer, and decomposer). 	<p>Student Edition: 696-697, 700, 727</p> <p>Teacher Wraparound Edition: AS 700; DIF 727</p>
<ul style="list-style-type: none"> Investigate and explain how energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis, and that energy then passes from organism to organism in food webs. 	<p>Student Edition: 82-83, 696-697, 726-729</p> <p>Teacher Wraparound Edition: DI 727; DIF 727; IC 697; UAA 82; VL 728</p>
<p>8.4.5 By the end of eighth grade, students will develop an understanding of diversity and adaptations of organisms.</p>	
<ul style="list-style-type: none"> Explain how internal structures, similarity of chemical processes, (e.g., photosynthesis and respiration) and evidence of common ancestry demonstrate unity among organisms. 	<p>Student Edition: 14-17, 22-23, 167-169</p> <p><i>Lab: Use the Internet</i> 502-503</p> <p><i>Section Review</i> 169 (#3)</p> <p>Teacher Wraparound Edition: IL 23; TFYI 167</p>
<ul style="list-style-type: none"> Investigate and explain how organisms adapt to living and nonliving factors in a biome. 	<p>Student Edition: 155-161</p> <p><i>Lab</i> 162</p> <p><i>Launch Lab</i> 153</p> <p><i>MiniLab</i> 171</p> <p><i>Science Online</i> 156</p> <p>Teacher Wraparound Edition: AC 156; AS 162; DI 156; IL 160</p>
<ul style="list-style-type: none"> Investigate and explain how environmental changes created by nature and by humans may cause species extinction. 	<p>Student Edition: 417, 778-786</p> <p><i>Integrate History</i> 417</p> <p>Teacher Wraparound Edition: CB 30</p>