



**COLORADO**  
**Science Content Standards Grades 5-8**  
*Introduction to Physical Science* © 2005, *Life Science* © 2005, *Earth Science* © 2005

CONTENT STANDARDS	PAGE REFERENCES		
	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<b>STANDARD 1:</b> <b>Students understand the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.</b> As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>identifying and evaluating alternative explanations and procedures;</li> </ul>	SE: 27-29 <i>LAB</i> 31, 124-125, 396-397 <i>Communicating Your Data</i> 151, 301 TWE: DI 16 IL 226 EA 451, 481	SE: 7-11 <i>Lab: Design Your Own</i> 28-29, 292-293, 418-419, 702-703 TWE: EA 29, 293, 418, 703	SE: <i>Communicating Your Data</i> 53, 201, 259, 475 <i>LAB</i> 142-143, 228-229 <i>MiniLAB</i> 209 <i>Science Online</i> 224 TWE: ACT 133 D 134
<ul style="list-style-type: none"> <li>using examples to demonstrate that scientific ideas are used to explain previous observations and to predict future events (for example, plate tectonics and future earthquake activity);</li> </ul>	SE: 6-7, 74-79, 312-315, 316-320, 323-328 <i>LAB</i> 86 <i>MiniLAB</i> 119 <i>Applying Math</i> 121 <i>National Geographic</i> 532 TWE: LD 14 D 320	SE: 7-11, 130-132, 154-161, 167-169, 740-741, 743 <i>Lab</i> 133, 162 <i>National Geographic</i> 742 TWE: VL 742	SE: 6-7, 15-19, 154-159, 182-187, 210-214, 255-258, 280-289 <i>LAB</i> 200-201, 290-291, 320-321

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	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<ul style="list-style-type: none"> <li>asking questions and stating hypotheses that lead to different types of scientific investigations (for example, experimentation, collecting specimens, constructing models, researching scientific literature);</li> </ul>	SE: 6-7, 12-15 <i>MiniLAB</i> 14 <i>LAB</i> 149, 179, 180-181, 208-209, 396-397 TWE: IM 15 AIL 241	SE: <i>Lab: Design Your Own</i> 28-29, 292-293, 418-419 <i>Lab</i> 86-87, 318-319 <i>Lab: Model and Invent</i> 230-231, 792-793 <i>Lab: Use the Internet</i> 262-263, 446-447	SE: <i>MiniLAB</i> 11 <i>LAB</i> 136, 142-143, 260-261, 382-383 TWE: IL 9 DI 140 R 199 ACT 213 A 221
<ul style="list-style-type: none"> <li>creating a written plan for an investigation;</li> </ul>	SE: <i>LAB</i> 60-61, 124-125, 150-151, 330-331, 396-397, 424-425, 450-451 TWE: IL 203, 526	SE: <i>Lab: Design Your Own</i> 28-29, 144-145, 292-293, 418-419, 702-703	SE: <i>LAB</i> 52-53, 382-383, 414-415, 474-475, 532-533, 562-563, 616-617 TWE: ACT 197, 334 IL 515
<ul style="list-style-type: none"> <li>using appropriate tools, technologies, and measurement units to gather and organize data;</li> </ul>	SE: 50-54, 675-676 <i>LAB</i> 33-34, 55, 115, 444 <i>MiniLAB</i> 44, 327 TWE: IL 17, 141	SE: 12, 47 <i>MiniLAB</i> 9, 50, 247 <i>National Geographic</i> 48-49 <i>Lab: Use the Internet</i> 116-117, 446-447 <i>Lab</i> 343, 603, 730-731 <i>Lab: Design Your Own</i> 418-419, 702-703 TWE: QD 12	SE: <i>LAB</i> 24-25, 67, 80-81, 136, 200-201, 228-229, 260-261, 414-415, 444-445 TWE: LD 8
<ul style="list-style-type: none"> <li>interpreting and evaluating data in order to formulate conclusions;</li> </ul>	SE: 16, 28-29, 677-678 <i>LAB</i> 33-34, 207, 300-301, 362-363, 444 <i>MiniLAB</i> 440, 622	SE: 7-10 <i>Lab: Design Your Own</i> 28-29, 292-293, 418-419, 702-703 <i>Lab</i> 318-319, 730-731 <i>Science Skill Handbook</i> 802-810	SE: <i>LAB</i> 67, 200-201, 221, 228-229, 376, 434 <i>MiniLAB</i> 139, 186, 285 TWE: CC 21

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	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<ul style="list-style-type: none"> <li>communicating results of their investigations in appropriate ways (for example, written reports, graphic displays, oral presentations);</li> </ul>	SE: 56-59, 696 <i>Communicating Your Data</i> 55, 301, 355 <i>LAB</i> 60-61, 115, 299, 450-451 TWE: DI 140	SE: 10 <i>Lab: Design Your Own</i> 28-29, 174-175, 418-419 <i>Lab: Use the Internet</i> 446-447 <i>Science Skill Handbook</i> 810 TWE: CYD 419, 447, 703	SE: <i>LAB</i> 23, 24-25, 52-53, 142-143, 200-201 TWE: DI 37, 198, 250 M 269 CC 287
<ul style="list-style-type: none"> <li>using metric units in measuring, calculating, and reporting results;</li> </ul>	SE: 47-49, 50-54 <i>Applying Math</i> 21, 135, 290 <i>MiniLAB</i> 52 <i>LAB</i> 55, 60-61, 355, 444	SE: 12 <i>MiniLAB</i> 9, 187, 247 <i>Lab: Design Your Own</i> 174-175 <i>Lab</i> 501, 642-643, 730-731 <i>Science Skill Handbook</i> 807-808 TWE: AS 9	SE: <i>Launch Lab</i> 5 <i>LAB</i> 24-25, 45, 52-53, 200-201, 228-229, 259, 260-261, 474-475 <i>MiniLAB</i> 250
<ul style="list-style-type: none"> <li>explaining that scientific investigations sometimes result in unexpected findings that lead to new questions and more investigations; and</li> </ul>	SE: 6-7, 16 <i>LAB</i> 31 <i>National Geographic</i> 68-69 <i>Science &amp; History</i> 94 <i>Accidents in Science</i> 126, 574 TWE: VL 7 AE 126	SE: 9 <i>Oops! Accidents in Science</i> 118 <i>Science Skill Handbook</i> 810 TWE: TFYI 10	SE: 272-275, 276-278, 280-289 <i>Accidents in Science</i> 144, 352, 384, 564, 716 <i>Science &amp; Society</i> 476
<ul style="list-style-type: none"> <li>giving examples of how collaboration can be useful in solving scientific problems and sharing findings.</li> </ul>	SE: 17 <i>Communicating Your Data</i> 125, 271 <i>LAB</i> 151, 208-209, 330-331 TWE: IM 10 AIL 208, 241, 330	SE: 10-11, 111 <i>Lab: Design Your Own</i> 28-29, 418-419 <i>Lab: Use the Internet</i> 116-117, 446-447 <i>Time: Science and History</i> 176 TWE: AC 11	SE: 15-22 <i>LAB</i> 22, 350-351, 532-533 <i>Communicating Your Data</i> 383 TWE: DI 143, 516 AR 301 A 433, 461

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	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<b>STANDARD 2:</b> <b>Physical Science: Students know and understand common properties, forms, and changes in matter and energy. (Focus: Physics and Chemistry)</b> <b>2.1 Students know that matter has characteristic properties, which are related to its composition and structure.</b> As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>examining, describing, comparing, measuring, and classifying objects based on common physical and chemical properties (for example, states of matter, mass, volume, electrical charge, temperature, density, boiling points, pH, magnetism, solubility);</li> </ul>	SE: 102-106, 134-138, 139-142 <i>LAB 115, 150-151</i> <i>Launch LAB 133</i> <i>MiniLAB 136</i> TWE: LD 105 QD 135 IL 141	SE: 68-71 <i>Lab: Design Your Own 56-57</i> <i>MiniLAB 779</i> TWE: DIF 69 TFYI 69	SE: 46-51, 68-72 <i>Launch Lab 33</i> <i>LAB 80-81</i> TWE: IL 41 ACT 42, 50 D 47 A 51 LD 70
<ul style="list-style-type: none"> <li>separating mixtures of substances based on their properties (for example, solubility, boiling points, magnetic properties, densities);</li> </ul>	SE: 89-91, 219-220 <i>Applying Science 89</i> <i>LAB 92-93</i> TWE: DI 89, 221 QD 90 AIL 92 VL 219	SE: 69 <i>Lab: Design Your Own 558-559</i> TWE: DIF 69 VL 69	SE: 43-44 TWE: ACT 75 QD 77
<ul style="list-style-type: none"> <li>classifying and describing matter in terms of elements, compounds, mixtures, atoms, and molecules (for example, copper is an element, water is a compound, air is a mixture); and</li> </ul>	SE: 72-79, 80-85, 87-91, 218-223 <i>LAB 86</i> <i>MiniLAB 88</i> TWE: ACT 84 DI 90 TFYI 103 MM 219	SE: 66-71 TWE: DIF 67, 69 AC 70 MAM 72 DIV 73	SE: 34-38, 39-44 <i>MiniLAB 35, 43</i> <i>Integrate Chemistry 97</i> TWE: DI 35, 71 A 43

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	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<ul style="list-style-type: none"> <li>developing simple models to explain observed properties of matter (for example, using a particle model to account for the solubility of a substance).</li> </ul>	SE: 21-26 <i>MiniLAB</i> 173 <i>LAB</i> 179, 180-181 TWE: IL 77, 122 MM 88, 103, 176 ACT 140	TWE: DIF 67 MAM 72	SE: 36 TWE: QD 36 R 38 UAA 41 MAM 43, 123 IL 64
<b>2.2 Students know that energy appears in different forms, and can move (be transferred) and change (be transformed).</b> As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>measuring quantities associated with energy forms (for example, temperature, mass, speed, distance, electrical charge, current, voltage); and</li> </ul>	SE: 284-285, 374-378, 434-446 <i>MiniLAB</i> 285 <i>Applying Math</i> 597 <i>LAB</i> 603 TWE: SJ 319 ACT 376	SE: <i>Lab</i> 787 <i>Lab: Model and Invent</i> 792-793	SE: <i>LAB</i> 136, 444-445, 503, 680-681 <i>MiniLAB</i> 139, 456 TWE: LD 430 IL 464 QD 490
<ul style="list-style-type: none"> <li>describing qualitative and quantitative relationships, using data and observations and graphs, associated with energy transfer or energy transformation (for example, speed of object vs. height of ramp; length of string vs. pitch of sound; electric current vs. volume of gas produced in electrolysis, with length of time kept constant).</li> </ul>	SE: 379-385 <i>LAB</i> 299, 386, 510-511 <i>MiniLAB</i> 381, 504 <i>National Geographic</i> 382 TWE: LD 380, 492	SE: <i>Applying Math</i> 609, 716	SE: <i>LAB</i> 24-25, 680-681 TWE: A 19 LD 132

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	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<b>2.3 Students understand that interactions can produce changes in a system, although the total quantities of matter and energy remain unchanged.</b> As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>identifying and classifying factors causing change within a system (for example, force, light, heat);</li> </ul>	SE: 8-9, <i>MiniLAB</i> 112 <i>LAB</i> 411 <i>National Geographic</i> 421 TWE: IM 109 QD 312 ACT 407	SE: <i>MiniLAB</i> 75 <i>Applying Science</i> 157 <i>Lab</i> 318-319, 730-731, 787 <i>Lab: Design Your Own</i> 418-419 <i>Lab: Model and Invent</i> 792-793	SE: 90-93, 94-95, 99-100, 103-109, 182-187, 210-214, 238-248, 280-289 TWE: SCB 88E-F LD 132
<ul style="list-style-type: none"> <li>identifying and predicting what will change and what will remain unchanged when matter experiences an external force or energy change (for example, boiling a liquid; comparing the force, distance, and work involved in simple machines);</li> </ul>	SE: 318-321, 407-409 <i>National Geographic</i> 110 <i>LAB</i> 411 TWE: IM 109 DI 110 D 111 VL 318 LD 420, 422	SE: <i>National Geographic</i> 492 (levers)	SE: 50-51, 90-93 <i>MiniLAB</i> 19 <i>LAB</i> 24-25, 200-201, 290-291 TWE: A 19 SCB 88E-F V 92
<ul style="list-style-type: none"> <li>observing and gathering data to support the concept of conservation of mass within a closed system (for example, precipitation reaction, forming mixtures, gas production);</li> </ul>	SE: 74, 194-195 <i>MiniLAB</i> 94 TWE: LD 75 VL 194 ACT 195	SE: 69 <i>Lab: Design Your Own</i> 558-559 TWE: VL 69 DIF 69	SE: 93

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	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<ul style="list-style-type: none"> <li>describing, measuring (for example, temperature, mass, volume, melting point of a substance) and calculating quantities before and after a chemical or physical change within a system (for example, temperature change, mass change, specific heat); and</li> </ul>	SE: 143-148 <i>MiniLAB</i> 194 TWE: IM 144, 196 UA 146 VL 194	SE: <i>Lab</i> 530-531, 730-731, 787 <i>Lab: Model and Invent</i> 792-793	SE: 50-51 <i>Launch Lab</i> 33 <i>LAB</i> 200-201, 444-445, 680-681 TWE: SCB 32F
<ul style="list-style-type: none"> <li>describing, measuring (for example, time, distance, mass, force) and calculating quantities that characterize moving objects and their interactions within a system (for example, force, velocity, acceleration, potential energy, kinetic energy).</li> </ul>	SE: 282-287, 288-292, 375-376 <i>Applying Math</i> 284, 290 <i>MiniLAB</i> 285 <i>LAB</i> 299 TWE: ACT 286 LD 296 IL 375	SE: <i>Lab</i> 549, 603	SE: <i>LAB</i> 24-25, 260-261, 279 <i>Applying Math</i> 251 <i>MiniLAB</i> 412, 641, 699 TWE: ACT 243, 244
<b>STANDARD 3:</b> <b>Life Science: Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment. (Focus: Biology-- Anatomy, Physiology, Botany, Zoology, Ecology)</b> <b>3.1 Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment.</b> As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>constructing and using classification systems based on the structure of organisms;</li> </ul>	Concepts of classification SE: 8 <i>National Geographic</i> 82 <i>LaunchLAB</i> 133 <i>MiniLAB</i> 136 TWE: TFYI 81 UA 165	SE: 22-23, 245, 334-335 <i>Launch Lab</i> 5 <i>Lab</i> 27, 261 <i>Lab: Model and Invent</i> 230-231 <i>National Geographic</i> 244 TWE: IL 23 AS 335	SE: <i>MiniLAB</i> 553

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	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<ul style="list-style-type: none"> <li>describing the importance of plant and animal adaptations, including local examples;</li> </ul>	SE: <i>Integrate Life Science</i> 361, 442, 495, 530, 618 TWE: D 268 TFYI 495	SE: 158-159, 242-243, 330-333 <i>MiniLAB</i> 332, 403, 410, 438, 748 TWE: LD 243, 748 VL 333, 715	SE: 394-399, 488-491 <i>Launch Lab</i> 391 TWE: D 395, 396 ACT 396 UAA 489 DI 489 CFU 490 MAM 490
<ul style="list-style-type: none"> <li>creating and interpreting food chains and food webs;</li> </ul>	See Glencoe's <i>Life Science</i> © 2005.	SE: 697, 727-728 TWE: MAM 698 DIF 727 AC 727 VL 728 DIV 729, 751	SE: 550, 567 #20 <i>Section Review</i> 556 TWE: VL 550 MAM 550
<ul style="list-style-type: none"> <li>explaining the interaction and interdependence of nonliving and living components within ecosystems; and</li> </ul>	TWE: QD 8	SE: 685, 696-700, 712-718 TWE: VL 699 AC 713 AS 718	SE: 188-190, 551-556 <i>Integrate Life Science</i> 368 TWE: IL 551 DI 554 CB 564
<ul style="list-style-type: none"> <li>describing how an environment's ability to provide food, water, space, and essential nutrients determines carrying capacity.</li> </ul>	See Glencoe's <i>Life Science</i> © 2005.	SE: 691 <i>Applying Science</i> 691 <i>National Geographic</i> 694 TWE: AC 691	SE: 574-577 TWE: D 575

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	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<b>3.2 Students know and understand interrelationships of matter and energy in living systems.</b>			
As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>describing the basic processes of photosynthesis and respiration and their importance to life (for example, set up a terrarium or aquarium and make changes such as blocking out light);</li> </ul>	TWE: DI 377	SE: 42, 82-85, 305-309 <i>Lab</i> 86-87 <i>MiniLAB</i> 305 TWE: AC 82 VL 85, 308 AS 85 QD 306 UAA 307	SE: 549-551 <i>Section Review</i> 556 TWE: TFYI 551
<ul style="list-style-type: none"> <li>comparing and contrasting food webs within and between different ecosystems (for example, grasslands, tundra, marine) and predicting the consequences of disrupting one of the organisms in a food web;</li> </ul>	See Glencoe's <i>Life Science</i> © 2005.	SE: 697, 727-728 TWE: MAM 698 AC 727 VL 728 DIV 751	SE: 550, 557-561, 621 #24 <i>Science &amp; History</i> 618 TWE: CD 558 QD 558 TFYI 560 D 560
<ul style="list-style-type: none"> <li>describing ways (for example, digestion, transport of nutrients by circulatory system) that multicellular organisms get food and other matter to their cells;</li> </ul>	Availability of nutrients in matter SE: 264-268 <i>LAB</i> 270 TWE: TFYI 266 ACT 267	SE: 252-255, 338, 360, 366, 380, 400, 407-408, 412, 432, 540, 568-569 <i>Integrate Health</i> 255 TWE: IH 255	See Glencoe's <i>Life Science</i> © 2005.
<ul style="list-style-type: none"> <li>explaining the recycling of materials by determining a pathway of a substance that is important for life (for example, trace water through an ecosystem); and</li> </ul>	See Glencoe's <i>Life Science</i> © 2005.	SE: 720-723, 725 <i>National Geographic</i> 724 TWE: SJ 721 DIF 722, 723 AS 725	SE: 437, 502 TWE: R 438

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	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<ul style="list-style-type: none"> <li>describing the role of organisms in the decomposition and recycling of dead organisms (for example, bacteria's role in the decomposition and recycling of matter from a dead animal).</li> </ul>	Rates of decomposition/spoilage SE: <i>Integrate Health</i> 203 <i>Integrate Earth Science</i> 252	SE: 194, 229, 697, 722 <i>Lab: Design Your Own</i> 200-201 <i>National Geographic</i> 724 TWE: VCC 724	See Glencoe's <i>Life Science</i> © 2005.
<b>3.3 Students know and understand how the human body functions, factors that influence its structures and functions, and how these structures and functions compare with those of other organisms.</b> As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>describing the observable components and functions of a cell (for example, cell membrane, nucleus, cytoplasm, chloroplasts; movement of molecules into and out of cells);</li> </ul>	See Glencoe's <i>Life Science</i> © 2005.	SE: 39-44, 74-78 <i>MiniLAB</i> 40 <i>Lab</i> 46, 80 <i>National Geographic</i> 79 TWE: MAM 43 DIV 45 DIF 79	See Glencoe's <i>Life Science</i> © 2005.
<ul style="list-style-type: none"> <li>comparing and contrasting the basic structures and functions of different types of cells (for example, single-celled organisms in pond water, Elodea, onion cell, human cheek cell);</li> </ul>	See Glencoe's <i>Life Science</i> © 2005.	SE: 38-39 <i>Lab</i> 46 TWE: QD 39 DIS 39 VL 41 DIV 45	See Glencoe's <i>Life Science</i> © 2005.
<ul style="list-style-type: none"> <li>describing the growth and development of several organisms (for example, embryonic development of a vertebrate);</li> </ul>	See Glencoe's <i>Life Science</i> © 2005.	SE: 167, 287-288, 290-291, 338, 341, 372, 409, 439, 634-636, 638-641 <i>MiniLAB</i> 372 TWE: IL 286 AC 409 DIV 641	See Glencoe's <i>Life Science</i> © 2005.

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	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<ul style="list-style-type: none"> <li>describing the structures and functions of human body systems; and</li> </ul>	Nerve conduction SE: <i>National Geographic</i> 586 TWE: IL 586	SE: 484, 490, 496, 523, 540, 556, 568, 577, 594, 622, 627, 652	See Glencoe's <i>Life Science</i> © 2005.
<ul style="list-style-type: none"> <li>describing and giving examples of noncommunicable diseases and communicable diseases (for example, heart disease and chicken pox).</li> </ul>	Examples of disease processes SE: 269 TWE: CD 266 AIL 270 IL 586	SE: 489, 547, 555, 557, 574-576, 581, 657-658, 661-663, 666-671 <i>National Geographic</i> 546 <i>Science Online</i> 547 <i>Applying Science</i> 661 <i>Lab</i> 665 TWE: DIF 546 TFYI 661	TWE: TFYI 612 CC 612
<b>3.4 Students know and understand how organisms change over time in terms of biological evolution and genetics.</b> As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>describing the purpose of body cell division and sex cell division;</li> </ul>	See Glencoe's <i>Life Science</i> © 2005.	SE: 96-102, 104-107 <i>Lab</i> 103 TWE: QD 99 LD 100 USW 105	See Glencoe's <i>Life Science</i> © 2005.
<ul style="list-style-type: none"> <li>describing the role of chromosomes and genes in heredity (for example, genes control traits, while chromosomes are made up of many genes); and</li> </ul>	See Glencoe's <i>Life Science</i> © 2005.	SE: 98, 104-105, 112, 126, 128 TWE: USW 105	See Glencoe's <i>Life Science</i> © 2005.
<ul style="list-style-type: none"> <li>describing evidence that reveals changes or constancy in groups of organisms over geologic time.</li> </ul>	See Glencoe's <i>Life Science</i> © 2005.	SE: 154-161, 163, 167-169, 171-173 <i>Science Online</i> 156 <i>Integrate Earth Science</i> 167 TWE: TFYI 167 DIV 169 AS 173	SE: 394-399, 400-406, 408-413 <i>LAB</i> 407, 414-415 TWE: SCB 390E CD 396 VL 397 R 399 IM 404

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	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<b>STANDARD 4:</b> <b>Earth and Space Science: Students know and understand the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space. (Focus: Geology, Meteorology, Astronomy, Oceanography)</b> <b>4.1 Students know and understand the composition of Earth, its history, and the natural processes that shape it.</b> As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>explaining how minerals, rocks, and soils form;</li> </ul>	SE: 147 <i>Integrate Earth Science 91</i>	SE: 164, 714, 740-741 <i>MiniLAB 714</i> <i>Lab 719</i> TWE: AC 164 LD 714 QD 741	SE: 62-66, 90-93, 94-97, 99-102, 103-109, 188-194 <i>LAB 67, 98</i> <i>MiniLAB 91</i> TWE: SCB 88E-F
<ul style="list-style-type: none"> <li>explaining how fossils are formed and used as evidence to indicate that life has changed through time;</li> </ul>	Fossil fuels are discussed on page SE: 388 See Glencoe's <i>Life Science</i> © 2005.	SE: 163-165, 167, 171-173 <i>Science Online 165</i> <i>Integrate Earth Science 167</i> TWE: MAM 165 DIV 169 DIF 171	SE: 362-369 <i>Launch Lab 361</i> <i>MiniLAB 363</i> <i>LAB 382-383</i> TWE: SCB 360E DI 363 VL 365 QD 366 MAM 367 SJ 367
<ul style="list-style-type: none"> <li>modeling natural processes that shape Earth's surface (for example, weathering, erosion, mountain building, volcanic activity); and</li> </ul>	SE: 147-148 TWE: DI 146 MM 147	SE: 163-165, 785 <i>Integrate Earth Science 727</i> TWE: SJ 164	SE: <i>Launch Lab 181, 209</i> <i>MiniLAB 186, 211</i> <i>LAB 200-201, 221, 260-261</i> TWE: UAA 185 QD 187 MAM 198

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	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<ul style="list-style-type: none"> <li>explaining the distribution and causes of natural events (for example, earthquakes, volcanoes, landslides).</li> </ul>	See Glencoe's <i>Life Science</i> © 2005.	SE: 740, 741 <i>Integrate Earth Science</i> 727 <i>National Geographic</i> 742 TWE: TFYI 718 DIS 741	SE: 210-214, 286-289, 300-303, 330-335 <i>MiniLAB</i> 211 <i>LAB</i> 290-291, 312, 320-321, 350-351 <i>Launch Lab</i> 299
<b>4.2 Students know and understand the general characteristics of the atmosphere and fundamental processes of weather.</b>			
As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>describing the basic composition, properties, and structure of the atmosphere (for example, the range and distribution of temperature and pressure in the troposphere and stratosphere);</li> </ul>	Atmospheric pressure SE: 117-118, 345-347, 530 (ozone) <i>National Geographic</i> 346	SE: 713, 716, 780-781 <i>Applying Math</i> 716 TWE: TFYI 716 DIF 781	SE: 426-433, 435-438 <i>Launch Lab</i> 425 <i>Science Online</i> 428 <i>Applying Science</i> 430 <i>MiniLAB</i> 431 TWE: SCB 424E-F VL 427 LD 430 CFU 433
<ul style="list-style-type: none"> <li>observing, measuring, and recording changes in weather conditions (for example, humidity, temperature, air pressure, cloud types, wind, precipitation);</li> </ul>	SE: <i>LAB</i> 362-363 TWE: AIL 362	SE: 716-717 <i>Science Online</i> 717 TWE: DIS 717 DIF 717	SE: 479 #32 <i>Launch Lab</i> 425 <i>MiniLAB</i> 456, 471 <i>LAB</i> 474-475, 504-505 TWE: QD 429 LD 456 IL 464
<ul style="list-style-type: none"> <li>explaining how atmospheric circulation is driven by solar heating (for example, the transfer of energy by radiation, convection, conduction); and</li> </ul>	SE: 440	SE: 715, 717 TWE: DIF 717	SE: 435-438, 439-443 <i>MiniLAB</i> 437 <i>LAB</i> 444-445 TWE: SCB 424E TPK 435 D 436 USW 436 UAA 436 CFU 437

CONTENT STANDARDS	PAGE REFERENCES		
	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<ul style="list-style-type: none"> <li>describing large-scale and local weather systems (for example, fronts, air masses, storms).</li> </ul>	See Glencoe's <i>Earth Science</i> © 2005.	SE: 717-718 TWE: DIF 717	SE: 462-469, 479#28 TWE: DI 464 CC 464 TFYI 465, 468 QD 466 ACT 468 CFU 469 A 469
<b>4.3 Students know major sources of water, its uses, importance, and cyclic patterns of movement through the environment.</b>			
As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>investigating and comparing the properties and behavior of water in its solid, liquid, and gaseous states;</li> </ul>	SE: 102-106, 109-114 <i>National Geographic Lab</i> 115 TWE: ACT 104, 110	SE: 72-73, 720-721 TWE: DIV 73 QD 721	SE: 50-51 <i>Launch Lab</i> 33 TWE: ACT 50 R 51
<ul style="list-style-type: none"> <li>describing the distribution and circulation of the world's water through oceans, glaciers, rivers, groundwater, and atmosphere; and</li> </ul>	SE: 56	SE: 720-721 TWE: IL 715 IM 721 DIF 758	SE: 215, 220, 238-248, 249-254, 437, 514-517, 518-523 <i>Science Online</i> 246 TWE: R 438 SCB 512E-F
<ul style="list-style-type: none"> <li>describing the composition and physical characteristics of oceans (for example, currents, waves, features of the ocean floor, salinity).</li> </ul>	SE: <i>Applying Science</i> 89 <i>Integrate Environment</i> 225 <i>Science Stats</i> 242 <i>Integrate Earth Science</i> 468	SE: 756-759 <i>Integrate Earth Science</i> 21 TWE: QD 756 AC 756	SE: 514-517, 518-523, 524-530, 542-547 <i>Launch Lab</i> 513 <i>MiniLAB</i> 521 <i>LAB</i> 531 TWE: SCB 512E-F LD 520 CFU 523

CONTENT STANDARDS	PAGE REFERENCES		
	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<b>4.4 Students know the structure of the solar system, composition and interactions of objects in the universe, and how space is explored.</b>			
As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>describing the basic components, composition, size, and theories of origin of the solar system;</li> </ul>	See Glencoe's <i>Earth Science</i> © 2005.	SE: 21	SE: 690-694, 696-701, 702-709, 710-713 <i>LAB</i> 685, 714-715 <i>Science Online</i> 691 TWE: SCB 688E DI 692 V 693
<ul style="list-style-type: none"> <li>explaining the effects of relative motion and positions of the Sun, Earth, and Moon (for example, seasons, eclipses, moon phases, tides);</li> </ul>	SE: 321	SE: 715, 758 TWE: FF 756	SE: 527-530, 663-665, 666-670 <i>Science Online</i> 665 <i>LAB</i> 675 TWE: QD 527, 669 DI 529 ACT 663 LD 670
<ul style="list-style-type: none"> <li>comparing Earth to other planets (for example, size, composition, relative distance from the Sun); and</li> </ul>	See Glencoe's <i>Earth Science</i> © 2005.	SE: 685 TWE: TFYI 72	SE: 438, 690-691, 696-701, 702-709 <i>MiniLAB</i> 699 <i>Applying Math</i> 700 <i>LAB</i> 714-715 TWE: TFYI 697 QD 698 VL 698
<ul style="list-style-type: none"> <li>identifying technology needed to explore space (for example, telescopes, spectrosopes, spacecraft, life support systems).</li> </ul>	SE: 531-533, 568-569 TWE: ACT 532 D 569	SE: <i>Integrate Astronomy</i> 606	SE: 628-633, 635-642, 643-649 <i>LAB</i> 634 <i>Science Online</i> 645, 647 TWE: SCB 626E-F QD 630 SJ 631 R 633

CONTENT STANDARDS	PAGE REFERENCES		
	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<b>STANDARD 5:</b> <b>Students know and understand interrelationships among science, technology, and human activity and how they can affect the world.</b> As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>investigating and describing the extent of human uses of renewable and non-renewable resources (for example, forests, fossil fuels);</li> </ul>	SE: 387-395 <i>Applying Science</i> 390 <i>LAB</i> 396-397 TWE: SJ 388 AR 389 DI 389 CD 392 D 392 AIL 396	SE: 770-776, 785 <i>MiniLAB</i> 772 <i>National Geographic</i> 777 <i>Lab: Model and Invent</i> 792-793 TWE: AC 771 AR 771 IM 777	SE: 120-129, 130-135, 137-141, 578-584 <i>Launch Lab</i> 119 <i>Science Online</i> 125 TWE: SCB 118E-F A 129, 135 DI 134
<ul style="list-style-type: none"> <li>describing advantages and disadvantages that might accompany the introduction of a new technology (for example, mountain bikes, cellular telephones, pagers);</li> </ul>	SE: 11, 205, 389-395, 533-539 <i>National Geographic</i> 234 <i>Applying Science</i> 496 <i>Science and History</i> 542 TWE: ACT 234	SE: 141-143 <i>Integrate Environment</i> 142 <i>Time: Science and Society</i> 294 TWE: TFYI 142 CDIV 142 DIV 143 ISS 773	SE: 12-14, 126, 649 <i>LAB</i> 142-143 TWE: D 12 CFU 14 V 126 DI 134, 638
<ul style="list-style-type: none"> <li>describing how the use of technology can help solve an individual or community problem (for example, using catalytic converters on automobiles to help reduce air pollution); and</li> </ul>	SE: 630-631 <i>Integrate History</i> 205 <i>Integrate Life Science</i> 311 <i>MiniLAB</i> 391 <i>Applying Science</i> 496 TWE: SJ 388 DI 390	SE: 141-143, 773-776, 789-790 <i>Integrate Environment</i> 142 <i>Lab: Model and Invent</i> 792-793 TWE: TFYI 142 ISS 773	SE: 12-14, 15-17, 313-319 <i>Integrate Health</i> 37 TWE: D 12 SJ 12 V 13 CFU 14 A 14 CD 16

CONTENT STANDARDS	PAGE REFERENCES		
	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<ul style="list-style-type: none"> <li>describing how people use science and technology in their professions.</li> </ul>	SE: 9-11 <i>Integrate Career</i> 13, 229, 264, 352, 448, 654 TWE: DI 10, 24 SJ 84	SE: <i>Time: Science and History</i> 58, 176, 560 <i>Integrate Career</i> 83, 97, 137, 228, 634 TWE: AC 7 IM 7 IE 142	SE: <i>Integrate Career</i> 106, 131, 197, 287, 315, 332, 497, 522, 638 TWE: CD 332
<b>STANDARD 6:</b> <b>Students understand that science involves a particular way of knowing and understand common connections among scientific disciplines.</b> As students in grades 5-8 extend their knowledge, what they know and are able to do includes			
<ul style="list-style-type: none"> <li>explaining why a controlled experiment must have comparable results when repeated;</li> </ul>	SE: 18, 28, 674 TWE: QD 18 IM 18 D 29	SE: 9 <i>Science Online</i> 8 <i>Science Skill Handbook</i> 806	SE: 9-11 <i>MiniLAB</i> 11 <i>Section Review</i> 14 TWE: LD 8 CC 11
<ul style="list-style-type: none"> <li>giving examples of how scientific knowledge changes as new knowledge is acquired and previous ideas are modified (for example, through space exploration);</li> </ul>	SE: 73-79, 567-571 <i>Integrate History</i> 73 <i>Science &amp; History</i> 94 <i>National Geographic</i> 532 TWE: CC 73 DI 78, 84	SE: 10, 19, 21, 155-157, 657-658 <i>National Geographic</i> 20 TWE: CC 9 CDIV 10 TFYI 21 IM 155 DIF 659	SE: 15-22, 273-275, 276-278, 280-289, 690-694 <i>Science Online</i> 273
<ul style="list-style-type: none"> <li>describing contributions to the advancement of science made by people in different cultures and at different times in history;</li> </ul>	SE: 73-79 <i>Science &amp; History</i> 94 <i>Science &amp; Society</i> 272 TWE: CC 121, 197, 317, 384 CD 283, 326, 419	SE: 19, 21, 22-23, 127, 155-157 <i>Time: Science and History</i> 58, 560 TWE: TFYI 9 CC 9 CDIV 314	SE: 13, 36 <i>Science &amp; History</i> 82, 618, 682 TWE: DI 12 V 13 ACT 13, 744 SJ 380

CONTENT STANDARDS	PAGE REFERENCES		
	<i>Introduction to Physical Science</i>	<i>Life Science</i>	<i>Earth Science</i>
<ul style="list-style-type: none"> <li>identifying, comparing, and predicting variables and conditions related to change (for example, climate, population, motion);</li> </ul>	SE: 18, 674 <i>LAB</i> 32-33, 208-209, 329, 363, 450-451, 480-481, 603, 604-605	SE: <i>Applying Science</i> 11 <i>Lab: Design Your Own</i> 292-293, 418-419, 702-703 <i>Lab</i> 787	SE: 29 #24 <i>Integrate Life Science</i> 10 <i>LAB</i> 24-25, 228-229, 260-261, 444-445, 503, 590-591, 616-617 <i>Science Skill Handbook</i> 760
<ul style="list-style-type: none"> <li>identifying and illustrating natural cycles within systems (for example, water, planetary motion, geological changes, climate); and</li> </ul>	SE: <i>LAB</i> 115, 362-363	SE: 630-631, 720-723, 724, 740-741, 743 <i>National Geographic</i> 722, 742 TWE: DIV 631 SJ 721	SE: 90-93, 437, 492-502, 527-530, 694 <i>LAB</i> 503, 695 TWE: A 93 R 435 CB 495
<ul style="list-style-type: none"> <li>using a model to predict change (for example, computer simulation, video sequence, stream table).</li> </ul>	SE: <i>Communicating Your Data</i> 33 <i>MiniLAB</i> 119, 145, 291, 422, 441 <i>LAB</i> 149 TWE: ACT 120 LD 205	SE: <i>Lab: Design Your Own</i> 28-29 <i>Lab</i> 133, 787 <i>Launch Lab</i> 769	SE: <i>MiniLAB</i> 211, 334, 493, 545 <i>LAB</i> 221, 228-229, 444-445, 531, 675, 680-681

## Codes Used for TWE Pages

### *Introduction to Physical Science*

ACT	Activity
AE	Analyze the Event
AIL	Alternative Inquiry Lab
AR	Active Reading
CC	Curriculum Connection
CD	Cultural Diversity
D	Discussion
DI	Differentiated Instruction
EA	Error Analysis
IL	Inquiry Lab
IM	Identifying Misconceptions
LD	Lab Demonstration
MM	Make a Model
QD	Quick Demo
SJ	Science Journal
TFYI	Teacher FYI
UA	Use an Analogy
VL	Visual Learning

### *Life Science*

AC	Activity
AR	Active Reading
AS	Assessment
CC	Curriculum Connection
CDIV	Cultural Diversity
CYD	Communicating Your Data
DIF	Differentiated Instruction
DIS	Discussion
DIV	Daily Intervention
EA	Error Analysis
FF	Fun Fact
IE	Integrate Environment
IH	Integrate Health
IL	Inquiry Lab
IM	Identifying Misconceptions
ISS	Integrate Social Studies
LD	Lab Demonstration
MAM	Make a Model
QD	Quick Demo
SJ	Science Journal
TFYI	Teacher FYI
UAA	Use an Analogy
USW	Use Science Words
VCC	Visualizing the Carbon Cycle
VL	Visual Learning

### *Earth Science*

A	Assessment
ACT	Activity
AR	Active Reading
CB	Content Background
CC	Curriculum Connection
CD	Cultural Diversity
CFU	Check for Understanding
D	Discussion
DI	Differentiated Instruction
IL	Inquiry Lab
IM	Identifying Misconceptions
LD	Lab Demonstration
M	Model
MAM	Make a Model
QD	Quick Demo
R	Reteach
SCB	Science Content Background
SJ	Science Journal
TFYI	Teacher FYI
TPK	Tie to Prior Knowledge
UAA	Use an Analogy
USW	Use Science Words
V	Visualizing
VL	Visual Learning