

GLENCOE CORRELATION
SCIENCE LEVEL RED
SOUTH DAKOTA
Science Standards
Sixth Grade

| STANDARDS | PAGE REFERENCES |
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| SIXTH GRADE NATURE OF SCIENCE STANDARDS | |
| STUDENTS WILL: | |
| 1. explain how scientific knowledge and processes have evolved over time. | SE: 19-21, 22-23, 38-39, 60 <i>Oops! Accidents in Science</i> 204-205 TWE: ACT 364 VL 20 C 43 IS 284 CC 482 |
| 2. base conclusions on scientific evidence obtained from a variety of sources. | SE: <i>Use the Internet</i> 140-141 <i>Model and Invent</i> 202-203 <i>Activity</i> 74-75, 290 <i>Skill Builder Activities</i> 201 TWE: C 328 ACT 106, 353 CON 459, 485 |
| 3. understand the need for continual re-evaluation of scientific knowledge. | SE: 10, 19-21 <i>Science and Society</i> 30-31 TWE: TFYI 21, 685 E 186 VL 63 |
| 4. discuss the limitations of scientific study. | SE: 10-11, 103, 119 <i>Physics Integration</i> 423 TWE: CB 204 IM 415 |
| 5. examine the scientific contributions of various cultures. | SE: 19-21, 22-23, 60, 380, 571, 637 TWE: CD 41, 168, 571 IS 502 |
| 6. describe the limits of accuracy inherent in a particular measuring device or measurement procedure. | SE: 39 <i>Model and Invent</i> 330-331 TWE: A 44, 420 TFYI 597 |
| 7. manipulate one variable over time with many repeated trials to test an hypothesis. | SE: <i>Design Your Own Experiment</i> 172-173, 234-235, 300-301 <i>MiniLAB</i> 662 <i>Activity</i> 222, 643 TWE: ACT 31, 575 QD 533 E 655 |

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| 8. construct and interpret graphs from data to make predictions. | SE: <i>Field Activity</i> 686 <i>Design Your Own Experiment</i> 300-301 <i>Activity</i> 420, 428-429, 644-645 <i>Skill Builder Activities</i> 595 TWE: CC 95, 246 ACT 476 A 227 |
| 9. use research methods to investigate practical and/or personal scientific problems and questions. | SE: <i>Design Your Own Experiment</i> 28-29, 234-235, 300-301, 482-483 <i>Model and Invent</i> 362-363 TWE: E 474 C 317 IS 478 A 483 ACT 628 |
| 10. use appropriate scientific equipment for investigations. | SE: <i>Activity</i> 44, 610, 643, 644-645 <i>Design Your Own Experiment</i> 482-483 TWE: QD 12, 286, 501 A 37 ACT 628 |
| 11. use proper safety procedures in all investigations. | SE: 13 <i>Reference Handbook A</i> 723 <i>Activity</i> 610, 670 <i>Design Your Own Experiment</i> 300 <i>MiniLAB</i> 469 TWE: QD 529 C 642 E 394 ACT 409 |
| SIXTH GRADE PHYSICAL SCIENCE STANDARDS | |
| 1. understand that all matter is made up of atoms containing electrons, protons, and neutrons. | SE: 537-538, 624, 656 TWE: D 538 E 543 |
| 2. classify materials as elements, compounds, or mixtures. | SE: 537-539 TWE: ACT 537 D 538 CC 538 |
| 3. analyze the relationship among mass, weight, volume, and density. | SE: 530-531 <i>Activity</i> 547 <i>Chapter Assessment</i> 553 TWE: R 539 IM 530 LD 530 |
| 4. compare and contrast mixtures, compounds, and elements. | SE: 537-539 <i>Section Assessment</i> 539 TWE: D 537, 538 CC 538 |

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| 5. investigate and describe how matter can change. | SE: 529, 531-533, 540-543 <i>MiniLAB</i> 544 <i>Design Your Own Experiment</i> 548-549 TWE: A 539 QD 529, 533, 542 SJ 543 |
| 6. describe how push/pull forces acting on objects can either reinforce, oppose, or have no effect on each other. | SE: 563 <i>Activity</i> 577 TWE: QD 563 AR 563 |
| 7. demonstrate how all forces have magnitude and direction. | SE: 562-569, 570-572 TWE: QD 563 AR 563 D 572 |
| 8. describe and graphically represent motion of objects in terms of direction and/or position in relation to time. | SE: 556-561 <i>Skill Builder Activities</i> 561 <i>Activity</i> 420, 577 <i>Use the Internet</i> 578-579 TWE: VL 559 SJ 558 ACT 559 A 561 E 557 |
| 9. investigate and describe types and sources of energy. (example: potential/kinetic, mechanical, heat, electrical/nuclear) | SE: 244-245, 249-256, 588-594, 596-603, 604-607 TWE: ACT 590 MM 605 E 606 QD 597 SJ 255 |
| 10. identify types of energy transformations. (example: mechanical to electrical, chemical to light) | SE: 244, 589, 593-594, 633 <i>Explore Activity</i> 587 <i>Life Science Integration</i> 590 <i>Activity</i> 609 TWE: A 587, 595 LD 633 |
| 11. explain basic concepts of electricity. (example: sources, relationship to magnetism, types of current and circuits, and ways to measure electricity) | SE: 624-642, 661-669 <i>Explore Activity</i> 623 <i>Activity</i> 643, 644-645, 670-671 TWE: A 630, 642 MM 640 QD 667 |
| 12. explain how electric circuits are a means of transferring energy. | SE: 631-632, 636-639 <i>MiniLAB</i> 638 <i>Activity</i> 643, 644-645 TWE: MM 637, 640 A 642 VL 638 |

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| SIXTH GRADE LIFE SCIENCE STANDARDS | |
| 1. describe basic cell structures and related functions. | SE: 40-43, 119 <i>MiniLAB</i> 42, 46 <i>Skill Builder Activities</i> 43 <i>Activity</i> 44 TWE: MM 40 QD 94 E 41 |
| 2. describe structure and function of the human skeletal, muscular, digestive, respiratory, circulatory, and reproductive systems. | SE: 49 <i>Section Assessment</i> 49 <i>National Geographic</i> 626 <i>Health Integration</i> 133 TWE: C 49 ACT 626 |
| 3. identify basic parts of plant and animal cells. (example: nucleus, cytoplasm, chloroplast, cell membrane, cell wall) | SE: 40-43, 119 <i>MiniLAB</i> 42, 46 <i>Skill Builder Activities</i> 43 <i>Activity</i> 44 TWE: MM 40 QD 94 E 41 |
| 4. understand that cells are the building blocks of living things. | SE: 14, 36, 38-39, 45-49, 119 <i>Chapter Study Guide</i> 54 TWE: QD 47 R 49 |
| 5. identify the basic life processes that occur in cells. (example: growth, energy, reproduction, waste elimination). | SE: 40-43, 119 TWE: LD 42 UA 41 |
| 6. describe the difference between a hybrid and a purebred organism. | See <i>Glencoe Science Level Blue</i> page 330. |
| 7. describe the reproduction process for various organisms and its importance to the survival of given species. | SE: 17, 62, 88, 101-103, 154-155, 188-189, 198-200 TWE: C 18 MM 62 VL 155 |
| 8. investigate how variation in each species is due to the exchange and interaction of genetic information as it is passed from parent to offspring. | SE: 62, 88, 101 |
| 9. investigate how the fossil record that has occurred over time provides evidence of changes in the kinds of plants and animals in the environment. | SE: 106, 119, 127 |
| 10. investigate the process of energy transformation in photosynthesis. | SE: 43, 343, 606 |
| 11. analyze how organisms depend on other organisms and on the nonliving components of the environment. | SE: 216-221, 223-227, 228-233, 357-361 <i>Design Your Own Experiment</i> 234-235 TWE: E 359 ACT 225 SJ 218, 226 QD 217 |

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| 12. describe the roles of producers, consumers and decomposers in a system. | SE: 107, 228, 357 <i>Chapter Assessment</i> 241, 369 <i>Skill Builder Activities</i> 233 TWE: LD 230 A 233 ACT 357 R 361 |
| 13. analyze energy use in food webs and food pyramids. | SE: 228-231, 358-359 <i>Problem-Solving Activity</i> 230 <i>Chapter Assessment</i> 240-241, 369 TWE: ACT 230, 231, 359 A 233 R 233 |
| 14. model cycles in ecosystems. (example: water, carbon dioxide/oxygen, nitrogen) | SE: 232-233, 293, 360-361 <i>Skill Builder Activities</i> 233 <i>Chapter Assessment</i> 241 TWE: R 294 VL 360 SJ 293 A 232 |
| SIXTH GRADE EARTH/SPACE SCIENCE STANDARDS | |
| 1. describe the spheres of Earth and their composition. (example: lithosphere, hydrosphere, atmosphere) | SE: 282-289, 293-294, 310-317, 340-344, 385-391, 417 TWE: R 289, 317 VL 283 CC 417 |
| 2. explain how the resources of Earth support a variety of life. | SE: 14-18, 216-221, 228-233, 355-361, 501 <i>National Geographic</i> 166-167, 185 TWE: CC 225 IS 358 SJ 218 |
| 3. analyze the role of water in all three states in shaping Earth. | SE: 354, 466-467, 479-481 <i>Model and Invent</i> 362-363 <i>Design Your Own Experiment</i> 482-483 <i>Explore Activity</i> 465 <i>Problem-Solving Activity</i> 479 TWE: MM 479 E 474 UA 467 |
| 4. investigate and describe major geologic processes that have shaped the South Dakota landscape. | SE: 438-440, 442 TWE: C 443 E 452 |
| 5. understand the organization of the solar system and the relationships among the various bodies that comprise it. (example: sun, moon, Earth, other planets, and their moons, meteors, asteroids, and comets) | SE: 492-496, 498-505 <i>Skill Builder Activities</i> 505 <i>Astronomy Integration</i> 47 <i>Design Your Own Experiment</i> 514-515 TWE: ACT 500 R 505 TPK 492 UA 494 A 496 |

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| 6. describe how Earth's motions and tilt on its axis lead to daily and seasonal changes. | SE: 492-493 <i>Section Assessment</i> 496 <i>Chapter Assessment</i> 521 TWE: R 496 IM 493 TPK 492 |
| 7. analyze the mechanics of day and night and the phases of the moon. | SE: 492, 494 <i>Activity</i> 497 <i>Chapter Assessment</i> 521 TWE: ACT 494 VL 494 |
| 8. relate the lunar orbit to the phases of the moon and to the gravitational effects it produces on Earth. | SE: 353, 494 <i>Activity</i> 497 <i>Astronomy Integration</i> 159 TWE: VL 494 ACT 353 |
| 9. compare revolution and rotation of other planets to Earth's. | SE: 500-504 <i>Skill Builder Activities</i> 505 <i>Chapter Assessment</i> 520 TWE: R 505 IM 503 |
| SIXTH GRADE SCIENCE, TECHNOLOGY, ENVIRONMENT, AND SOCIETY STANDARDS | |
| 1. discuss science issues. (example: cloning, aging, farming, mining, timber) | SE: 265-267 <i>Problem-Solving Activity</i> 126 <i>Life Science Integration</i> 500 <i>Science Online</i> 137 <i>Science and Society</i> 332-333 <i>Science and History</i> 484-485 TWE: SJ 266 D 245, 382 ACT 31 |
| 2. determine how science helps drive research and provides knowledge for better understanding. | SE: 68, 72-73, 107, 288-289, 513 <i>Environmental Science Integration</i> 106 TWE: ACT 76 A 505 E 323 C 419 |
| 3. investigate how cultural backgrounds and beliefs of different groups can affect scientific thinking. | SE: <i>Use the Internet</i> 140-141 <i>National Geographic</i> 621 TWE: AE 143 ACT 205 |
| 4. explain how society and need can affect the direction taken by science. | SE: 68, 249-256 <i>Science and Society</i> 52-53, 332-333 <i>Activity</i> 345 <i>National Geographic</i> 85 <i>Do the Math</i> 431 TWE: SJ 255, 668 |
| 5. determine scientific advancements that have had an impact on the environment. | SE: 68, 246, 253, 259, 288-289 <i>Life Science Integration</i> 600 <i>Skill Builder Activities</i> 267 TWE: MM 253, 288 IM 259 |

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| 6. determine the importance of public access to scientific discoveries. | SE: 425-427 <i>Science and Society</i> 52-53, 110-111 <i>Environmental Science Integration</i> 106 <i>Career Connection</i> 517 TWE: D 53 CD 424 SJ 92 A 669 E 323 |
| 7. identify ways that medical technologies have affected life. (example: X-rays, vaccines, stethoscopes) | SE: 73, 107 <i>Science and Society</i> 52-53 TWE: D 53 A 73 |
| 8. investigate the possible consequences of various alternative decisions for technological-related issues. | SE: 246-248, 249-256, 265-267 <i>Section Assessment</i> 256 TWE: MM 253 R 256, 261 INV 333 CYD 269 |
| 9. discuss a solution for a problem or a need. | SE: <i>Skill Builder Activities</i> 256, 267 <i>Science Connection</i> 213 <i>Design Your Own Experiment</i> 268-269 <i>Problem-Solving Activity</i> 162 TWE: E 252 ACT 264 C 427, 608 R 261 |
| 10. describe the role of technology in developing natural resources. | SE: 244-248, 249-256, 260, 264-267 TWE: SJ 253, 255 E 250, 264 C 267 |

Codes Used for TWE Pages

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| A | Assessment | IM | Identifying Misconceptions |
| ACT | Activity | INV | Investigate the Issue |
| AE | Analyze the Event | IS | Inclusion Strategies |
| AR | Active Reading | LD | Lab Demonstration |
| C | Challenge | MM | Make a Model |
| CB | Content Background | QD | Quick Demo |
| CC | Curriculum Connection | R | Reteach |
| CD | Cultural Diversity | SJ | Science Journal |
| CON | Connections | TFYI | Teacher FYI |
| CYD | Communicating Your Data | TPK | Tie to Prior Knowledge |
| D | Discussion | UA | Use an Analogy |
| E | Extension | VL | Visual Learning |