OHIO
Academic Content Standards – Science Grade 6
Science Level Red © 2008

OBJECTIVES	PAGE REFERENCES
Earth and Space Sciences	
Earth Systems	
1. Describe the rock cycle and explain that there are sedimentary, igneous and metamorphic rocks that have distinct properties (e.g., color, texture) and are formed in different ways.	SE: 265-276, 281 *National Geographic* 268 *MiniLab* 270 TWE: A 268, 273 AS 271, 277 CC 269 CU 271 D 266, 273 DI 274 LD 266 MM 269 QD 267, 274 R 276, 271 SJ 267, 273 TFYI 270, 275 TPK 272 VL 263, 275
2. Explain that rocks are made of one or more minerals.	SE: 256-258, 261, 281 *Lab* 277, 278-279 TWE: D 262 DI 260 TFYI 262, 275 VL 263
3. Identify minerals by their characteristic properties.	SE: 256-264 *MiniLab* 261 TWE: AS 261 CU 264 QD 260 R 264 SJ 262

OBJECTIVES	PAGE REFERENCES
Life Sciences	
Characteristics and Structure of Life	
1. Explain that many of the basic functions of organisms are carried out by or within cells and are similar in all organisms.	SE: 476-481 *Integrate Chemistry* 479 *Lab* 482 *Science Online* 478 TWE: A 478 AS 481 DI 479 MM 478 UA 479
2. Explain that multicellular organisms have a variety of specialized cells, tissues, organs and organ systems that perform specialized functions.	SE: 483-484, 487 *Applying Math* 485 *MiniLab* 484 *National Geographic* 486 TWE: A 487 CU 487 DI 485 IL 486 IM 486 QD 485 R 487 SJ 484 TPK 483 VL 484
3. Identify how plant cells differ from animal cells (e.g., cell wall and chloroplasts).	SE: 477, 479, 481, 484 *Lab* 482, 488 *MiniLab* 480 TWE: A 478 DI 485 QD 485
Heredity	
4. Recognize that an individual organism does not live forever; therefore reproduction is necessary for the continuation of every species and traits are passed on to the next generation through reproduction.	SE: 590-597, 599-602 *National Geographic* 596 TWE: QD 592 VL 592
5. Describe that in asexual reproduction all the inherited traits come from a single parent.	SE: 593-594 *MiniLab* 593 *Section Review* 597 #3 TWE: D 594 DI 593 R 597
6. Describe that in sexual reproduction an egg and sperm unite and some traits come from each parent, so the offspring is never identical to either of its parents.	SE: 594-597 *National Geographic* 596 TWE: LD 594 VL 595

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7. Recognize that likenesses between parents and offspring (e.g., eye color, flower color) are inherited. Other likenesses, such as table manners are learned.	SE: 599-605, 608 *Lab* 606-607 TWE: A 608 CU 605 D 608 DI 602 IM 602 TFYI 603
Diversity and Interdependence of Life	
8. Describe how organisms may interact with one another.	SE: 618-620 *National Geographic* 621 TWE: A 619 CC 619 TFYI 620 UA 620 VL 619
Physical Sciences	
Nature of Matter	
1. Explain that equal volumes of different substances usually have different masses.	SE: 72-73 *MIniLab* 73 TWE: VL 73
2. Describe that in a chemical change new substances are formed with different properties than the original substance (e.g., rusting, burning).	SE: 80-84 *MiniLab* 84 TWE: A 83 D 84 DI 83 QD 82 R 86 TFYI 81 TPK 80 UA 82
3. Describe that in a physical change (e.g., state, shape and size) the chemical properties of a substance remain unchanged.	SE: 71, 74-75, 83 TWE: CC 74 DI 83 QD 71
4. Describe that chemical and physical changes occur all around us (e.g., in the human body, cooking and industry).	SE: 71, 82-83, 81 *Integrate Health* 81 *Lab* 88-89 TWE: AIL 88 DI 83 QD 82 TFYI 81
Nature of Energy	
5. Explain that the energy found in nonrenewable resources such as fossil fuels (e.g., oil, coal and natural gas) originally came from the sun and may renew slowly over millions of years.	SE: 651-652 TWE: CU 653 R 653
6. Explain that energy derived from renewable resources such as wind and water is assumed to be available indefinitely.	SE: 651 TWE: D 651

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7. Describe how electric energy can be produced from a variety of sources (e.g., sun, wind and coal).	SE: 168, 651 TWE: AP 644
8. Describe how renewable and nonrenewable energy resources can be managed (e.g., fossil fuels, trees and water).	SE: 653 *Lab* 688-689 TWE: D 653
Science and Technology	
Understanding Technology	
1. Explain how technology influences the quality of life.	SE: 11, 243, 362, 417, 429 *Integrate Physics* 230, 577 TWE: AS 363 CU 422 D 417
2. Explain how decisions about the use of products and systems can result in desirable or undesirable consequences (e.g., social and environmental).	SE: 646-653, 655-667 *MiniLab* 650 *Applying Science* 665 *Lab* 668-669 *Science and Society* 670 TWE: A 657 AIL 668 CC 652 QD 8, 661, 666
3. Describe how automation (e.g., robots) has changed manufacturing including manual labor being replaced by highly-skilled jobs.	SE: *National Geographic* 126-127
4. Explain how the usefulness of manufactured parts of an object depend on how well their properties allow them to fit and interact with other materials.	SE: 411 *National Geographic* 206 TWE: D 651 NG 127
Abilities To Do Technological Design	
5. Design and build a product or create a solution to a problem given one constraint (e.g., limits of cost and time for design and production, supply of materials and environmental effects).	SE: 650-651 *MiniLab* 650 TWE: CD 651 D 651
Scientific Inquiry	
Doing Scientific Inquiry	
1. Explain that there are not fixed procedures for guiding scientific investigations; however, the nature of an investigation determines the procedures needed.	SE: 28-29, 33 *Lab* 31, 32 TWE: A 28 D 28 VL 13
2. Choose the appropriate tools or instruments and use relevant safety procedures to complete scientific investigations.	SE: 19-20 *Lab* 60-61, 118-119, 364-365, 580-581, 636-637 TWE: CC 19 D 19 VL 19
3. Distinguish between observation and inference.	SE: 16, 27-29 TWE: DI 16 TFYI 16

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4. Explain that a single example can never prove that something is always correct, but sometimes a single example can disprove something.	SE: 16 *Figure 2* 7 TWE: VL 7
Scientific Ways of Knowing	
Nature of Science	
1. Identify that hypotheses are valuable even when they are not supported.	SE: 16 TWE: IM 15
Ethical Practices	
2. Describe why it is important to keep clear, thorough and accurate records.	SE: 15, 44-45 TWE: D 15 DI 17 R 30
Science and Society	
3. Identify ways scientific thinking is helpful in a variety of everyday settings.	SE: 11, 23, 30 *Lab* 32-33, 152-153, 363 TWE: D 18 CU 30 QD R 11 UA 22
4. Describe how the pursuit of scientific knowledge is beneficial for any career and for daily life.	SE: 11, 564-566 Lab 32-33 *Applying Science* 392, 510, 570 *Integrate Physics* 577 TWE: AIL 32 AS 33 D 651 DI 10, 24, 564
5. Research how men and women of all countries and cultures have contributed to the development of science.	SE: *Time* 34, 120, 582 TWE: D 34, 120, 582 HS 34, 120, 582

Codes Used for TWE Pages

A	Activity
AS	Assesment
AIL	Alternative Inquiry Lab
AP	About the Photo
CC	Curriculum Connection
CD	Cultural Diversity
CU	Check for Understanding
D	Discussion
DI	Differentiated Instruction
HS	Historical Significance
IL	Inquiry Lab
IM	Identifying Misconceptions
LD	Lab Demonstration
MM	Make a Model
NG	National Geographic
QD	Quick Demo
R	Reteach
SJ	Science Journal
TFYI	Teacher FYI
TPK	Tie to Prior Knowledge
UA	Use an Analogy
VL	Visual Learning