ARIZONA
Life Science Standards Grades 6, 7, and 8
Life Science © 2005

OBJECTIVES	PAGE REFERENCES
Strand 4: Life Science	
Concept 1: Structure and Function in Living Systems Understand the relationships between structures and functions of organisms.	
Grade 6	
PO 1. Explain the importance of water to organisms.	SE: 18, 71-73 *Applying Math* 72 TWE: IM 41 TFYI 71 AS 73
PO 2. Describe the basic structure of a cell, including: • cell wall • cell membrane • nucleus	SE: 39-44 *Lab* 46 TWE: UAA 39
PO 3. Describe the function of each of the following cell parts: • cell wall • cell membrane • nucleus	SE: 39-40 *Lab* 46 TWE: UAA 39
PO 4. Differentiate between plant and animal cells.	SE: 39, 41, 42, 241 *Lab* 46 TWE: VL 41 AS 45 RT 45
PO 5. Explain the hierarchy of cells, tissues, organs, and systems.	SE: 45, 490, 493, 496-497, 556-557 *Reading Check* 45
PO 6. Relate the following structures of living organisms to their functions: Animals • respiration – gills, lungs • digestion – stomach, intestines • circulation – heart, veins, arteries, capillaries • locomotion – muscles, skeleton Plants • transpiration – stomata, roots, xylem, phloem • absorption – roots, xylem, phloem • response to stimulus (phototropism, hydrotropism, geotropism) – roots, xylem, phloem	SE: 254-255, 302-303, 312, 400, 484-486, 490-491, 493-495, 523, 528-529, 540-545, 571 *Lab* 318 *Lab: Design Your Own* 418-419 TWE: SJ 544

OBJECTIVES	PAGE REFERENCES
PO 7. Describe how the various systems of living organisms work together to perform a vital function: • respiratory and circulatory • muscular and skeletal • digestive and excretory	SE: 491, 542-543, 569, 571, 577-578 *National Geographic* 492 TWE: DIF 543 TFYI 578
Grade 7	
No objectives are listed for Grade 7.	
Grade 8	
No objectives are listed for Grade 8.	
Concept 2: Reproduction and Heredity Understand the basic principles of heredity.	
Grade 6	
No objectives are listed for Grade 6.	
Grade 7	
No objectives are listed for Grade 7.	
Grade 8	
PO 1. Explain the purposes of cell division: • growth and repair • reproduction	SE: 96-102, 104-107 Lab 103 TWE: LD 100 CFU 109
PO 2. Explain the basic principles of heredity using the human examples of: • eye color • widow's peak • blood type	SE: 135-136 *Applying Skills* (#6) 140 TWE: DIF 131 FF 135
PO 3. Distinguish between the nature of dominant and recessive traits in humans.	SE: 126, 128 TWE: AS 128 RT 132
Concept 3: Populations of Organisms in an Ecosystem Analyze the relationships among various organisms and their environment.	
Grade 6	
PO 1. Explain that sunlight is the major source of energy for most ecosystems. (See Strand 5 Concept 3 and Strand 6 Concept 2)	SE: 15, 82, 305, 696, 714, 726, 727 TWE: DIF 727
PO 2. Describe how the following environmental conditions affect the quality of life: • water quality • climate • population density • smog	SE: 755, 778-786 *Lab* 787 TWE: UAA 780 CDIV 781 AC 783 SJ 784
Grade 7	
PO 1. Compare food chains in a specified ecosystem and their corresponding food web.	SE: 727-728 TWE: MAM 698 AC 727 VL 728 AS 729 CFU 751

OBJECTIVES	PAGE REFERENCES
PO 2. Explain how organisms obtain and use resources to develop and thrive in: • niches • predator/prey relationships	SE: 697, 699-700 *Applying Math* (#32) 707 *Lab* 701 TWE: AC 694 DI 699 SJ 699 VL 699 RT 700
PO 3. Analyze the interactions of living organisms with their ecosystems: • limiting factors • carrying capacity	SE: 690-691 *Applying Science* 691 *National Geographic* 694 TWE: AC 691 DIF 691 RT 695
PO 4. Evaluate data related to problems associated with population growth (e.g., overgrazing, forest management, invasion of non-native species) and the possible solutions.	SE: 691, 692, 695 *MiniLab* 689 *Lab: Design Your Own* 702-703
PO 5. Predict how environmental factors (e.g., floods, droughts, temperature changes) affect survival rates in living organisms.	SE: 690, 712, 740, 741 *Lab: Design Your Own* 702-703 *Science Online* 717 *National Geographic* 741 TWE: AC 713 AM 732
PO 6. Create a model of the interactions of living organisms within an ecosystem.	SE: *Lab* 701 *MiniLab* 754 TWE: RT 687, 695 MAM 698 IL 758
Grade 8	
Concept 4: Diversity, Adaptation and Behavior Identify structural and behavioral adaptations.	
Grade 6	
No objectives are listed for Grade 6.	
Grade 7	
No objectives are listed for Grade 7.	
Grade 8	
PO 1. Explain how an organism's behavior allows it to survive in an environment.	SE: 158, 457-458, 462-464, 469-471 *Science Online* 468 *Lab* 470 TWE: TC 454 DI 464 AS 471
PO 2. Describe how an organism can maintain a stable internal environment while living in a constantly changing external environment.	SE: 15, 303, 403, 407, 498, 594-595 *Science Online* 15 *MiniLab* 403 TWE: UAA 15
PO 3. Determine characteristics of organisms that could change over several generations.	SE: 156-159, 456, 462 TWE: DIF 156

OBJECTIVES	PAGE REFERENCES
PO 4. Compare the symbiotic and competitive relationships in organisms within an ecosystem (e.g., lichen, mistletoe/tree, clownfish/sea anemone, native/non-native species).	SE: 226, 688, 698 *MiniLab* 689 *Applying Science* 690 TWE: AC 698 DIF 698 UAA 698
PO 5. Analyze the following behavioral cycles of organisms: • hibernation • migration • dormancy (plants)	SE: 468-470 TWE: CC 469 AS 470 CFU 470
PO 6. Describe the following factors that allow for the survival of living organisms: • protective coloration • beak design • seed dispersal • pollination	SE: 156, 288 *Science Online* 156 *Lab* 162 *MiniLab* 288 *National Geographic* 289 TWE: AC 156 AS 162 TFYI 287, 288

Codes Used for TWE Pages

AC	Activity
AM	Applying Math
AS	Assessment
CC	Curriculum Connection
CDIV	Cultural Diversity
CFU	Check for Understanding
DI	Discussion
DIF	Differentiated Instruction
FF	Fun Fact
IL	Inquiry Lab
IM	Identifying Misconceptions
LD	Lab Demonstration
MAM	Make a Model
RT	Reteach
SJ	Science Journal
TC	Theme Connection
TFYI	Teacher FYI
UAA	Using an Analogy
VL	Visual Learning