Standards for the Arizona 
Dark Skies & Energy Education 
Program

Arizona Science Standard articulated for Grade 6

Strand 1: Inquiry Process
   Concept 1: Observations, Questions and Hypothesis (all 3 POs)
   Concept 2: Scientific Testing (Investigating and Modeling) (all 5 POs)
   Concept 3: Analysis and Conclusions (all 6 POs)
   Concept 4: Communication (all 5 POs)

Strand 2: History and Nature of Science
   Especially Concept 2: Nature of Scientific Knowledge

Strand 3: Science in Personal and Social Perspectives
   Concept 1: Changes in Environment
   Concept 2: Science and Technology in Society (all 4 POs)

Strand 4: Life Science
   Concept 4: Populations of Organisms in an Ecosystem (PO2)

Strand 5: Physical Science
   Concept 3: Transfer of Energy

Arizona Common Core Standards: English Language Arts and Literacy in Science and Technical Subjects for Grades 6-8

I. Reading Standards for Literacy in Science & Technology Subjects (RST)
   a. Standards in Key Ideas and Details
      i. Standards 6-8 RST 1, 2 and 3
   b. Integration of Knowledge and Ideas
      i. Standards 6-8 RST 7, 8 and 9

II. Writing Standards for Literacy in Science & Technology Subjects (WHST)
   a. Text Types and Purposes
      i. Standards 6-8 WHST 1, 2 and 3
   b. Production and Distribution of Writing
      i. Standards 6-8 WHST 4, 5 and 6
   c. Research to Build and Present Knowledge
      i. Standards 6-8 WHST 7, 8 and 9
   d. Range of Writing
      i. Standard 6-8 WHST 10
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The Three Dimensions of the Framework for the New Generation Science Standards

Scientific and Engineering Practices
1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

Crosscutting Concepts
1. Patterns
2. Cause and effect: Mechanism and explanation
3. Scale, proportion, and quantity
4. Systems and system models
5. Energy and matter: Flows, cycles, and conservation
6. Structure and function
7. Stability and change

Disciplinary Core Ideas
Physical Sciences
PS3: Energy
Life Sciences
LS2: Ecosystems: Interactions, energy, and dynamics
Earth and Space Sciences
ESS3: Earth and human activity
Engineering, Technology, and Applications of Science
ETS2: Links among engineering, technology, science, & society

The Next Generation Science Standards for Engineering, Technology, and the Applications of Science

ETS-ETSS: Engineering, Technology, Science and Society:
1. The interdependence of science, engineering and technology
   MAIN QUESTION (Grades 6-8): How do science and engineering build on and stimulate each other?
2. Influence of engineering, technology, and science, on society and the natural world
   MAIN QUESTION (Grades 6-8): What are the factors that drive technological change, and how do the technologies that are created affect society and the natural world?