



Arizona Framework of Environmental Concepts and Themes

Preface

Preparing today's students to address tomorrow's environmental challenges is perhaps the most critical task facing us today. These challenges may be local, regional, national or even international in scope. How will Arizona address issues relative to our water supply, land use and open space, feeding a growing population, or heightened demand for energy? How can future decision makers develop the requisite decision-making skills necessary to meet these challenges and countless others, all of which will play a vital role in one's quality of life? What role do we and will we play on a community or a global stage? While we cannot predict all of the major issues that the next generation will have to face, we know that among them will be issues related to the environment. As the National Science Board states, "The environment is a critical element of the knowledge base we need to live in a safe and prosperous world." Today's students will one day have to participate as citizens in making decisions regarding the environment, decisions that will be of lasting importance to themselves, their children and grandchildren, the nation, and of course, the planet.

- *The Environmental Literacy Council*

To reach consensus on such issues, we will need a citizenry equipped to make critical decisions that impact the lives of current generations as well as those to follow. Decision making will employ both individual and collective comprehensive knowledge about, and skills relative to, the natural world and its systems. Building this foundation of knowledge and skills will begin in early childhood and continue throughout one's entire lifetime.

This conceptual framework provides a mechanism designed to engender environmental literacy within citizens of all ages. An environmentally literate person will have:

1. *Foundations of learning (cognitive skills)*: how humans learn and factors that play a role in acquiring and processing new information.
2. *Content knowledge*: natural systems and how they function.
3. *Sense of place*: how people interact with and influence these natural systems.
4. *Respect for self, others, and natural systems when addressing issues*: appreciating the complexity of the natural world, and of personal and societal behaviors.

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1. Learning is a process for acquiring and synthesizing information and data.
 - 1.1. Inquiry is the basis for all human learning.
 - 1.2. Learning is a systematic process that incorporates prior experiences and discovery.
 - 1.3. Learning leads to the acquisition of new knowledge, understandings, skills, and often new behaviors.
 - 1.4. Outdoor learning experiences and investigations, both structured and unstructured are important components to learning about the natural world.
2. The natural world is made up of interconnected, interdependent systems.
 - 2.1. Natural systems are both dynamic and generally resilient, changing over time and space.
 - 2.2. All life on earth – including people - are part of these interconnected systems.
 - 2.3. Earth's matter is generally finite, but cycles through various forms over time.
 - 2.4. Almost all of the energy that drives earth's systems comes from the sun, then transfers through those systems in various forms.
 - 2.5. A vast and intricate network of relationships connects all Earth's organisms with each other and with the cycles of matter and the flows of energy.
 - 2.6. Organisms compete over limited resources.
 - 2.7. Arizona has its own set of unique natural systems, embedded in the greater global network of systems.
3. People interact with and impact systems on Earth.
 - 3.1. Humans build or create environments that differ from the natural environment, but generally mimic natural systems and processes.
 - 3.2. Environmental processes have different outcomes in a built environment than a natural environment.
 - 3.3. Human interactions with both natural and built environments have intended and unintended ecological consequences.
 - 3.4. The natural world impacts all aspects of human existence.
 - 3.5. There are limitations on the extent to which natural resources can support human existence.
4. Respectful issue analysis and citizenship skills are needed to fully understand and effectively address environmental issues.
 - 4.1. Human interactions with the environment have cultural, economic, societal, and ecological implications.
 - 4.2. Management of natural resources ultimately will affect the quality of life for future generations.
 - 4.3. Societal perspectives related to environmental issues are diverse and changing, shaped by cultural understandings and interpretation of data gathered from evolving scientific research and technological applications.
 - 4.4. Individual choices are driven by personal attitudes and perceptions, which are shaped by individual experiences in context of societal perspectives.
 - 4.5. Individuals determine their own sense of respect for self, society, and the environment, which translates into their own level of accepted responsibility, citizenship, and stewardship.