

Correlation of
Seeds of Science/Roots of Reading[®]
Integrated Science and Literacy Units

**Aquatic Ecosystems, Planets and Moons, Models of Matter, and Chemical
Changes**

**with the State of Arizona
Science Standards
for Grades 5**

Created June 2010



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Aquatic Ecosystems, Planets and Moons,
Models of Matter, and Chemical Changes units (continued)
 Arizona State Science Standards for Grade 5**

	Aquatic Ecosystems	Planets & Moons	Models of Matter	Chemical Changes
Strand 1: Inquiry				
Concept 1: Observations, Questions, Hypotheses				
1. Formulate a relevant question through observations that can be tested by an investigation.	•••	••	••	•••
2. Formulate predictions in the realm of science based on observed cause and effect relationships.	•••	•••	•••	•••
3. Locate information related to an investigation.	•••	•••	•••	•••
Concept 2: Scientific Testing (investigating and modeling)				
1. Demonstrate safe behavior and appropriate procedures (e.g. use of instruments, materials, organisms) in all science inquiry.	•••	•••	•••	•••
2. Plan a simple investigation that identifies the variables to be controlled.	•••	••	••	•••
3. Conduct simple investigations based on student-developed questions in life, physical and Earth and space sciences.	•••	••	••	•••
4. Measure using appropriate tools.	••	•	••	••
5. Record data in an organized and appropriate format.	•••	••	••	•••
Concept 3: Analysis and Conclusions				
1. Analyze data obtained in a scientific investigation to identify trends and form conclusions.	•••	••	••	•••
2. Analyze whether the data is consistent with the proposed explanation that motivated the investigation.	•••	••	••	•••
3. Evaluate the reasonableness of the outcome of an investigation.	•••	••	••	•••
4. Develop new investigations and predictions based on questions that arise from the findings of an investigation.	•••	•	•	•••
5. Identify possible relationships between variables in simple investigations.	•••	••	••	•••
Concept 4: Communication				
1. Communicate verbally or in writing the results of an inquiry.	•••	••	•••	•••
2. Choose an appropriate graphic representation for collected data.	•••	•	••	•••
3. Communicate with other groups or individuals to compare the results of a common investigation.	•••	••	•••	•••

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Strand 2: History and Nature of Science				
Concept 1: History of Science as a Human Endeavor				
1. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations.	••	••	••	••
Concept 2: Nature of Scientific Knowledge				
1. Provide examples that support the premise that science is an ongoing process that changes in response to new information and discoveries.	•••	•••	•••	•••
2. Explain the cycle by which new scientific knowledge generates new scientific inquiry.	•••	•	•	•••
3. Describe how scientific knowledge is subject to modification and/or change as new information/technology challenges prevailing theories.	•••	•••	•••	•••
4. Compare collaborative approaches that scientists use for investigations.	•••	•••	•••	•••
5. Describe qualities of the scientists' habits of mind.	••	••	••	••
Strand 3: Science in Personal and Social Perspectives				
Concept 1: Changes in Environments				
1. Explain the impacts of natural hazards on habitats.	•••			
2. Propose a solution, resource, or product that addresses a specific human, animal, or habitat need.	••			
3. Evaluate the possible strengths and weaknesses of a proposed solution to a specific problem relevant to human, animals, or habitat needs.	••			
Concept 2: Science and Technology in Society (Understand the impact of technology)				
1. Describe the relationship between science and technology.		•••		
2. Explain how scientific knowledge, skills, and technological capabilities are integral to a variety of careers.	••	••	••	••
3. Design and construct a technological solution to a common problem or need using common materials.		•••		
Strand 4: Life Science				
Concept 1: Structure and Function in Living Systems				
1. Identify the function and parts of the skeletal system: protection; support; movement.				
2. Identify the following types of muscles: cardiac; smooth; skeletal				
3. Identify the functions and parts of the nervous system: control center; relay mechanism; transport messages				
4. Distinguish between voluntary and involuntary responses.				

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Strand 5: Physical Science				
Concept 1: Properties and Changes of Properties in Matter				
1. Identify that matter is made of smaller units called: molecules; atoms.			•••	•••
2. Distinguish between mixtures and compounds.				•••
3. Describe changes of matter: physical; chemical.				••
Concept 2: Motion and Forces				
1. Describe the following forces: gravity, friction.		••		
2. Describe the various effects forces can have on an object.		••		
3. Examine forces and motion through investigations using simple machines.				
4. Demonstrate effects of variables on an objects motion.		••		
Strand 6: Earth Science				
Concept 2: Earth's Processes and Systems				
1. Describe how the Moon's appearance changes during a four-week lunar cycle.		•••		
2. Describe how Earth's rotation results in day and night at any particular location.		•••		
3. Distinguish between revolution and rotation.		•••		
4. Describe the role of gravity as an attractive force between celestial objects.		•••		
Concept 3: Earth in the Solar System				
1. Identify the known planets of the solar system.		•••		
2. Describe the distinguishing characteristics of the known planets in the solar system.		•••		
3. Describe various objects in the sky.		•••		
4. Describe the change in position and motion of the following objects in the sky over time: real motion; apparent motion.		••		
5. Explain the apparent motion of the Sun and stars.		••		
6. Describe efforts to explore space.		•••		

Correlation Key:

- • • The standard is addressed completely in the unit with explicit instruction and repeated opportunities for practice.
- • The standard is addressed partially in the unit with explicit instruction and repeated opportunities for practice.
- The standard is touched upon in the unit providing good reinforcement to other experiences and/or an opportunity for teachers to expand instruction to address the standard partially or completely