

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 4**

Created June 2010



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**Correlation of *Seeds of Science/Roots of Reading*
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. Differentiate inferences from observations.	•••	••	•••	••
2. Formulate a relevant question through observations that can be tested by an investigation.	•••	••	••	•••
3. Formulate predictions in the realm of science based on observed cause and effect relationships.	•••	•••	•••	•••
4. Locate information related to an investigation.	•••	•••	•••	•••
Concept 2: Scientific Testing (investigating and modeling)				
1. Demonstrate safe behavior and appropriate procedures in all science inquiry.	•••	•••	•••	•••
2. Plan a simple investigation that identifies the variables to be controlled.	•••	••	••	•••
3. Conduct controlled investigations 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.	•••	••	•••	•••
2. Formulate conclusions based upon identified trends in data.	•••	••	••	•••
3. Determine that data collected is consistent with the formulated question.	•••	••	••	•••
4. Determine whether the data supports the prediction for an investigation.	•••	•	••	•••
5. Develop new questions and predictions based upon the data collected in the investigation.	•••	••	••	•••
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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	Aquatic Ecosystems	Planets & Moons	Models of Matter	Chemical Changes
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.	••	••	••	••
2. Describe science-related career opportunities.	••	••	••	••
Concept 2: Nature of Scientific Knowledge				
1. Explain the role of experimentation in scientific inquiry.	••	•	••	•••
2. Describe the interaction of components in a system	•••	••	•	
3. Explain various ways scientists generate ideas	•••	•••	•••	•••
Strand 3: Science in Personal and Social Perspectives				
Concept 1: Changes in Environments				
1. Describe how natural events and human activities have positive and negative impacts on environments	•••			
2. Evaluate the consequences of environmental occurrences that happen either rapidly or over a long period of time	••			
Concept 2: Science and Technology in Society (Understand the impact of technology)				
1. Describe how science and technology have improved the lives of many people.		•••	•	•
2. Describe benefits and risks related to the use of technology.		•		
3. Design and construct a technological solution to a common problem or need using common materials.		•••		
Strand 4: Life Science				
Concept 1: Characteristics of Organisms				
1. Compare structures in plants and animals that serve different functions in growth and survival.	••			
2. Classify animals by identifiable group characteristics				
Concept 3: Organisms and Environments				
1. Describe ways various resources are utilized to meet the needs of a population.	•••			
2. Differentiate renewable resources from nonrenewable resources.				
3. Analyze the effect that limited resources may have on an environment.	••			
4. Describe ways in which resources can be conserved				
Concept 4: Diversity, Adaptation and Behavior				
1. Recognize that successful characteristics of populations are inherited traits that are favorable in a particular environment.				
2. Give examples of adaptations that allow plants and animals to survive.	•••			

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Strand 5: Physical Science				
Concept 3: Energy and Magnetism				
1. Demonstrate that electricity flowing in circuits can produce light, heat, sound, and magnetic effects.				
2. Construct series and parallel electric circuits.				
3. Explain the purpose of conductors and insulators in various practical applications.				
4. Investigate the characteristics of magnets				
5. State cause and effect relationships between magnets and circuitry.				
Strand 6: Earth Science				
Concept 2: Earth's Processes and Systems				
1. Identify the Earth processes that cause erosion.				
2. Describe how currents and wind cause erosion and land changes.				
3. Describe the role that water plays in the following processes that alter the Earth's surface features: erosion, deposition, weathering				
4. Compare rapid and slow processes that change the Earth's surface				
5. Identify the Earth events that cause changes in atmospheric conditions				
6. Analyze evidence that indicates life and environmental conditions have changed				
Concept 3: Changes in the Earth and Sky				
1. Identify the sources of water within an environment	•			
2. Describe the distribution of water on the Earth's surface.				
3. Differentiate between weather and climate as they relate to the southwestern United States.				
4. Measure changes in weather				
5. Interpret the symbols on a weather map or chart to identify the following: temperature, fronts, precipitation				
6. Compare weather conditions in various locations				

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