

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

with the State of NORTH DAKOTA
Science Standards
for Grade 6

Created MARCH 2010



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North Dakota Science Standards – 6 th Grade	2 nd - 3 rd Grade				3 rd - 4 th Grade				4 th - 5 th Grade			
	Soil Habitats	Shoreline Science	Designing Mixtures	Gravity & Magnetism	Light Energy	Weather & Water	Variation and Adaptation	Digestion & Body Systems	Planets & Moons	Aquatic Ecosystems	Models of Matter	Chemical
STANDARD 1: Students understand the unifying concepts and processes of science.												
MODELS												
6.1.1. Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth’s interior)						● ● ●		● ● ●	● ● ●	● ● ●	● ● ●	●
SYSTEMS												
6.1.2. Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)						● ●	● ●	● ● ●	● ● ●	● ●	● ●	●
CONSTANCY AND CHANGE												
6.1.3. Explain the connection between cause and effect in a system					●	● ●		● ● ●			● ●	●
STANDARD 2: Students use the process of science inquiry.												
UNDERSTANDINGS ABOUT SCIENTIFIC INQUIRY												
6.2.1. Explain the components of a scientific investigation (e.g., hypothesis, observation, data collection, data interpretation, communication of results, replicable)					● ●	● ● ●	● ●	● ●	● ●	● ● ●	● ●	● ●

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6.2.2. Select alternative methods of scientific investigations (e.g., library, internet, field work) to address different kinds of questions.												
6.2.3. Identify biases that may affect data collection and analysis (e.g., gender, race, religion, economic, generational.)												
ABILITIES NECESSARY TO DO SCIENTIFIC INQUIRY												
6.2.4. Use appropriate tools and techniques to gather and analyze data					●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●
6.2.5. Use data from scientific investigations to determine relationships and patterns					●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●
STANDARD 3: Students understand the basic concepts and principles of physical science.												
PROPERTIES OF MATTER												
6.3.1. Organize materials according to similar properties (e.g., physical, chemical)												
FORCE AND MOTION												
6.3.2. Use simple machines to change forces												

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FORMS OF ENERGY												
6.3.3. Identify different forms of energy (e.g., chemical, mechanical, heat, sound)					● ● ●							
6.3.4. Identify sources of energy (e.g., sun, wind, moving water, nuclear, fossil fuels, food)					● ●					● ●		
VIBRATIONS AND WAVES												
6.3.5. Explain how vibrations create wavelike disturbances that spread out from the source												
STANDARD 4: Students understand the basic concepts and principles of life science.												
STRUCTURE AND FUNCTION												
6.4.1. Identify single- or multi-celled organisms.												
ORGANISMS AND THEIR ENVIRONMENTS												
<i>No benchmark expectations at this level</i>												
GENETICS AND REPRODUCTION												

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6.4.2. Explain why reproduction is necessary for the continuation of the species (e.g., asexual, sexual)												
STANDARD 5: Students understand the basic concepts and principles of earth and space science.												
WEATHER, SEASONS, AND CLIMATE												
6.5.1. Identify adverse weather conditions and how humans prepare for them						● ● ●						
CHARACTERISTICS OF THE EARTH												
6.5.2. Explain how rocks are formed (e.g., melting, cooling, metamorphism, combinations of minerals)												
6.5.3. Describe the characteristics of the layers of the Earth (i.e., crust, mantle, core)												
THE SOLAR SYSTEM												
6.5.4. Identify the basic characteristics (e.g., composition, rings) of objects (e.g., planets, sun, small bodies) in the solar system									● ● ●			
STANDARD 6: Students understand relations between science and technology.												

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TECHNOLOGICAL DESIGN												
6.6.1. Identify examples of how technologies have evolved									●			
6.6.2. Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)							● ●	● ●				
6.6.3. Explain the relationship between science and technology								● ● ●		● ●		
STANDARD 7: Students understand relations between science and personal, social, and environmental issues.												
SCIENCE AND ENVIRONMENTAL ISSUES												
6.7.1. Explain how natural hazards affect populations, resources, and the environment (e.g., floods, storms, hurricanes, volcanoes, earthquakes)						● ●						
6.7.2. Explain how recycling and conservation affect populations, resources, and the environment												
STANDARD 8: Students understand the history and nature of science.												
PEOPLE IN SCIENCE												

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6.8.1.	Identify various settings in which scientists may work alone or in a team (e.g., industries, laboratories, field work)					● ●	● ●	●	●	● ● ●	● ●	● ● ●	●
SCIENTIFIC KNOWLEDGE													
6.8.2.	Identify scientific advances that have resulted in new ideas and further-advance					● ● ●			● ●	● ●		● ● ●	

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