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

with the Alabama
Science Standards for Grade 4

Created November 2011

***Seeds of Science/Roots of Reading®* was created with partial support from the National Science Foundation under grant numbers ESI-0242733 and ESI-0628272.**
The program was created by a team at the Lawrence Hall of Science at the University of California, Berkeley.

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Alabama Science Standards – 4th Grade	2nd - 3rd Grade				3rd - 4th Grade				4th - 5th 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 Changes
PHYSICAL SCIENCE												
1.) Describe how electrical circuits can be used to produce light, heat, sound, and magnetic fields.					●							
• Identifying ways to use and conserve electrical energy					●							
• Identifying characteristics of parallel and series circuits												
• Classifying materials as conductors, nonconductors, and insulators of electricity and heat												
• Identifying relationships among charge, current, and potential energy												
• Identifying components of a circuit												
2.) Compare different pitches of sound produced by changing the size, tension, amount, or type of vibrating material.												
• Describing the relationship between the structure of the ear and hearing												
3.) Recognize how light interacts with transparent, translucent, and opaque materials. Examples: - transparent-most light passes through, - translucent-some light passes through, - opaque-no light passes through					● ● ●							
• Predicting the reflection or absorption of light by various					● ● ●							

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objects												
4.) Describe effects of friction on moving objects.												
• Identifying momentum and inertia as properties of moving objects												
• Identifying ways to increase or decrease friction												
LIFE SCIENCE												
5.) Describe the interdependence of plants and animals.	● ● ●									● ● ●		
• Describing behaviors and body structures that help animals survive in particular habitats Examples: - behaviors-migration, hibernation, mimicry; - body structures-quills, fangs, stingers, webbed feet	● ● ●	●					● ● ●	● ●		● ● ●		
• Describing life cycles of various animals to include incomplete and complete metamorphosis Examples: damsel fly, mealworms	●					●				●		
• Tracing the flow of energy through a food chain Example: producer, first-level consumer, second-level consumer, and third-level consumer	● ● ●											
• Identifying characteristics of organisms, including growth and development, reproduction, acquisition and use of energy, and response to the environment	● ● ●	● ● ●				●	● ● ●			● ● ●		
6.) Classify animals as vertebrates or invertebrates and as endotherms or ectotherms.												

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• Describing the organization of cells into tissues, organs, and organ system												
• Describing the grouping of organisms into populations, communities, and ecosystems	● ●	● ●								● ● ●		
• Classifying common organisms into kingdoms, including Animalia, Plantae, Protista, Fungi, Archaebacteria, and Eubacteria												
EARTH AND SPACE SCIENCE												
7.) Describe geological features of Earth, including bodies of water, beaches, ocean ridges, continental shelves, plateaus, faults, canyons, sand dunes, and ice caps.		●										
8.)Identify technological advances and other benefits of space exploration. Examples: laser, pacemaker, dehydrated food, flame-retardant clothing, global positioning system (GPS), satellite imagery, global weather information, diagnostic imagery									●			
• Listing highlights of space exploration, including satellites, manned moon missions, the unmanned Mars mission, and an inhabited space station									●			
• Identifying Alabama's contribution to the space industry												
9.) Describe the appearance and movement of Earth and its moon.									● ● ●			
• Identifying the waxing and waning of the moon in the night sky									● ● ●			

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• Identifying lunar and solar eclipses												
10.) Describe components of our solar system.									● ● ●			
• Defining comets, asteroids, and meteors									● ●			

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