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

with the State of Connecticut
Science Standards
for Grade 5

Created October 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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CT Science Standards – 5th 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
Energy Transfer and Transformations — What is the role of energy in our world?												
5.1 — Sound and light are forms of energy.												
5.1.a. Sound is a form of energy that is produced by the vibration of objects and is transmitted by the vibration of air and objects.												
5.1.b. Light is a form of energy that travels in a straight line and can be reflected by a mirror, refracted by a lens, or absorbed by objects.												
Students should be able to:												
1. Generalize that vibrating objects produce sound if the vibrations are transferred from the object through another material (e.g., air, a solid, or a liquid).												
2. Demonstrate how the loudness, pitch and quality/timbre of sound can be varied.												
3. Design and conduct investigations to determine factors that affect pitch.												
4. Describe the properties of materials that reflect or												

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absorb sound.												
5. Analyze properties of materials that cause sound to be reflected or absorbed, then apply findings to design a device that reflects or absorbs sound.												
6. Construct simple musical instruments (e.g., rubber band guitars, drums, etc.) that produce sounds with various pitches, volume and timbres.												
7. Provide evidence that light travels in straight lines away from a source in all directions.					• • •							
8. Investigate how light is refracted as it passes through a lens or through one transparent material to another.					• • •							
9. Demonstrate that white light is composed of many colors.					• • •							
10. Explain that all visible objects are reflecting some light to the human eye.					• • •							

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11. Contrast the way light is reflected by a smooth, shiny object (e.g., mirror or pool of water) and how light is reflected by other objects.					• • •							
12. Measure angles to predict the path of light reflected by a mirror.					•							
13. Determine whether a material is opaque, transparent or translucent based on how light passes through it.					• • •							
14. Design and conduct light absorption experiments that vary the size, length, direction and clarity of a shadow by changing the position of the light-blocking object or the light source.					•							
Structure and Function — How are organisms structured to ensure efficiency and survival?												
5.2 --Perceiving and responding to information about the environment is critical to the survival of organisms.												
5.2.a. The sense organs perceive stimuli from the environment and send signals to the brain through the nervous system.												
Students should be able to:												

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1. Explain the role of sensory organs in perceiving stimuli (e.g., light/dark, heat/cold, flavors, pain, etc.)												
2. Pose testable questions and design experiments to determine factors that affect human reaction time.												
3. Conduct simple tests to explore the capabilities of the human senses.												
4. Summarize nonfiction text to explain the role of the brain and spinal cord in responding to information received from the sense organs.												
5. Identify the major structures of the human eye, ear, nose, skin and tongue, and explain their functions.												
6. Draw diagrams showing the straight path of light rays from a source to a reflecting object to the eye, allowing objects to be seen.					● ● ●							
7. Describe the properties of different materials and the structures in the human eye enable humans to					● ●							

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perceive color.												
Earth in the Solar System — How does the position of Earth in the solar system affect conditions on our planet?												
5.3 — Most objects in the solar system are in a regular and predictable motion.												
5.3. a. The positions of the earth and moon relative to the sun explain the cycles of day and night, and the monthly moon phases.												
Student should be able to:												
1. Explain the motion of the earth relative to the sun that causes Earth to experience cycles of day and night.									• • •			
2. Construct models demonstrating Earth's rotation on its axis, the moon's revolution around the earth, and the earth and moon revolving around the sun.									• • •			
3. Distinguish between the sun as a source of light and the moon as a reflection of that light.									• • •			

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4. Observe and record the moon's appearance over time and analyze findings to describe the cyclical changes in its appearance from Earth (moon phases).									● ● ●			
5. Relate the moon phases to changes in the moon's position relative to the earth and sun during its 29-day revolution around the earth.									● ● ●			
Science and Technology in Society — How do science and technology affect the quality of our lives?												
5.4 — Humans have the capacity to build and use tools to advance the quality of their lives.												
5.4.a. Advances in technology allow individuals to acquire new information about the world.												
Students should be able to:												
1. Generalize that optical tools, such as binoculars, telescopes, eyeglasses or periscopes, change the path of light by reflecting or refracting it.					● ●							
2. Construct simple periscopes and telescopes, and analyze how the placement of their lenses and												

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mirrors affects the quality of the image formed.												
3. Evaluate the best optical instrument to perform a given task.												
4. Design and conduct simple investigations to determine how the shape of a lens or mirror (concave, convex, flat) affects the direction in which light rays travel.					•							
5. Explain how eyeglasses or contact lenses improve vision by changing the path of light to the retina.					•							
6. Analyze the similarities and differences between structures of the human eye and those of a simple camera.												

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