

Correlation of
Seeds of Science/Roots of Reading[®]

units for grades 2/3, 3/4 and 4/5 to

Louisiana
State
Science
Standards

**Correlation of *Seeds of Science/Roots of Reading* units to
Louisiana State Science Standards**

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| | Grades 2-3 | | | | Grades 3-4 | | | | Grades 4-5 | | | |
|--|----------------------|--------------------------|---------------------------|------------------------------|--------------------------|---------------------|-----------------------------------|-------------------------------------|--------------------------|---------------------------|-------------------------|-------------------------|
| | <i>Soil Habitats</i> | <i>Shoreline Science</i> | <i>Designing Mixtures</i> | <i>Gravity and Magnetism</i> | <i>Weather and Water</i> | <i>Light Energy</i> | <i>Variation & Adaptation</i> | <i>Digestion & Body Systems</i> | <i>Planets and Moons</i> | <i>Aquatic Ecosystems</i> | <i>Models of Matter</i> | <i>Chemical Changes</i> |
| GRADES K-4 STANDARDS | | | | | | | | | | | | |
| SCIENCE AS INQUIRY | | | | | | | | | | | | |
| The students will do science by engaging in partial and full inquiries that are within their developmental capabilities. | | | | | | | | | | | | |
| A. THE ABILITIES NECESSARY TO DO SCIENTIFIC INQUIRY | | | | | | | | | | | | |
| SI-E-A1 asking appropriate questions about organisms and events in the environment; (1, 3) | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• |
| SI-E-A2 planning and/or designing and conducting a scientific investigation; (2, 3) | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• |
| SI-E-A3 communicating that observations are made with one's senses; (1, 3) | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• |
| SI-E-A4 employing equipment and tools to gather data and extend the sensory observations; (3) | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• |
| SI-E-A5 using data, including numbers and graphs, to explain observations and experiments; (1, 2, 3) | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• |
| SI-E-A6 communicating observations and experiments in oral and written formats; (1, 3) | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• |
| SI-E-A7 utilizing safety procedures during experiments. (3, 5) | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• |
| B. UNDERSTANDING SCIENTIFIC INQUIRY | | | | | | | | | | | | |
| SI-E-B1 categorizing questions into what is known, what is not known, and what questions need to be explained; (2, 4) | ••• | ••• | ••• | •• | •• | ••• | •• | •• | •• | ••• | •• | ••• |
| SI-E-B2 using appropriate experiments depending on the questions to be explored; (2, 4) | ••• | ••• | ••• | •• | •• | ••• | •• | •• | •• | ••• | •• | ••• |

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| | Grades 2-3 | | | | Grades 3-4 | | | | Grades 4-5 | | | |
|---|----------------------|--------------------------|---------------------------|------------------------------|--------------------------|---------------------|-----------------------------------|-------------------------------------|--------------------------|---------------------------|-------------------------|-------------------------|
| | <i>Soil Habitats</i> | <i>Shoreline Science</i> | <i>Designing Mixtures</i> | <i>Gravity and Magnetism</i> | <i>Weather and Water</i> | <i>Light Energy</i> | <i>Variation & Adaptation</i> | <i>Digestion & Body Systems</i> | <i>Planets and Moons</i> | <i>Aquatic Ecosystems</i> | <i>Models of Matter</i> | <i>Chemical Changes</i> |
| SI-E-B3 choosing appropriate equipment and tools to conduct an experiment; (2, 3, 5) | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• |
| SI-E-B4 developing explanations by using observations and experiments; (1, 2, 3, 4) | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• |
| SI-E-B5 presenting the results of experiments; (1, 3) | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• |
| SI-E-B6 reviewing and asking questions about the results of investigations. (1, 3, 4) | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• |

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| PHYSICAL SCIENCE | | | | | | | | | | | | |
| Students will develop an understanding of the characteristics and interrelationships of matter and energy in the physical world. | | | | | | | | | | | | |
| A. PROPERTIES OF OBJECTS AND MATERIALS | | | | | | | | | | | | |
| PS-E-A1 observing, describing, and classifying objects by properties (size, weight, shape, color, texture, and temperature); (4) | ••• | ••• | •• | • | | ••• | • | | ••• | | • | |
| PS-E-A2 measuring properties of objects using appropriate materials, tools, and technology; (3, 4, 5) | ••• | ••• | ••• | ••• | •• | ••• | | | • | | • | • |
| PS-E-A3 observing and describing the objects by the properties of the materials from which they are made (paper, wood, metal); (2, 4) | | | ••• | | | ••• | | | | | ••• | ••• |
| PS-E-A4 describing the properties of the different states of matter and identifying the conditions that cause matter to change states; (2, 3) | | | | | ••• | | | | | | ••• | |
| B. POSITION AND MOTION OF OBJECTS | | | | | | | | | | | | |
| PS-E-B1 observing and describing the position of an object relative to another object or the background; (1, 2) | | | | •• | | ••• | | | ••• | | | |
| PS-E-B2 exploring and recognizing that the position and motion of objects can be changed by pushing or pulling (force) over time; (1, 2, 3) | | | | ••• | | | | | | | | |
| PS-E-B3 describing an object's motion by tracing and measuring its position over time; (1, 2, 3, 4) | | | | | | | | | | | | |
| PS-E-B4 investigating and describing how the motion of an object is related to the strength of the force (pushing or pulling) and the mass of the object. (1, 2, 3, 4) | | | | ••• | | | | | | | | |
| C. FORMS OF ENERGY | | | | | | | | | | | | |

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| LS-E-B3 observing and recording how the offspring of plants and animals are similar to their parents; (1, 2, 3, 4) | | | | | | | | ... | | | | |
| LS-E-B4 observing, recording, and graphing student growth over time using a variety of quantitative measures (height, weight, linear measure of feet and hands, etc.). (1, 3) | | | | | | | | | | | | |
| C. ORGANISMS AND THEIR ENVIRONMENTS | | | | | | | | | | | | |
| LS-E-C1 examining the habitats of plants and animals and determining how basic needs are met within each habitat; (1, 2, 3, 4, 5) | .. | .. | | | | | | ... | | ... | | |
| LS-E-C2 describing how the features of some plants and animals enable them to live in specific habitats; (1, 2, 3, 4, 5) | .. | ... | | | | | | ... | | ... | | |
| LS-E-C3 observing animals and plants and describing interaction or interdependence. (1, 4) | | ... | | | | | | | | ... | | |
| EARTH AND SPACE SCIENCE | | | | | | | | | | | | |
| The students will develop an understanding of the properties of earth materials, the structure of the Earth system, the Earth's history, and the Earth's place in the universe. | | | | | | | | | | | | |
| A. PROPERTIES OF EARTH MATERIALS | | | | | | | | | | | | |
| ESS-E-A1 understanding that earth materials are rocks, minerals, and soils; (1) | ... | ... | | | | | | | | | | |
| ESS-E-A2 understanding that approximately three-fourths of the Earth's surface is covered with water and how this condition affects weather patterns and climates; (1) | | | | | | ... | | | | | | |
| ESS-E-A3 investigating, observing, and describing how water changes from one form to another and interacts with the atmosphere; (2, 4) | | | | | | ... | | | | | | |
| ESS-E-A4 investigating, observing, measuring, and describing changes in daily weather patterns and phenomena; (2, 4) | | | | | | ... | | | | | | |
| ESS-E-A5 observing and communicating that rocks are composed of various substances; (1) | | . | | | | | | | | | | |
| ESS-E-A6 observing and describing variations in soil; (1) | ... | | | | | | | | | | | |
| ESS-E-A7 investigating fossils and describing how they provide evidence about plants and animals that lived long ago and the environment in which they lived. (1, 2, 4) | | | | | | | | ... | | | | |
| B. OBJECTS IN THE SKY | | | | | | | | | | | | |

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| ESS-E-B1 observing and describing the characteristics of objects in the sky; (1) | | | | | | | | | ... | | | |
| ESS-E-B2 demonstrating how the relationship of the Earth, moon, and sun causes eclipses and moon phases; (2, 3, 4) | | | | | | | | | .. | | | |
| ESS-E-B3 observing and recording the changing appearances and positions of the moon in the sky at night and determining the monthly pattern of lunar change; (1, 2, 3, 4) | | | | | | | | | ... | | | |
| ESS-E-B4 modeling changes that occur because of the rotation of the Earth (alternation of night and day) and the revolution of the Earth around the sun; (1, 2, 3, 4) | | | | | | | | | ... | | | |
| ESS-E-B5 understanding that the sun, a star, is a source of heat and light energy and identifying its effects upon the Earth; (1, 2, 3, 4) | | | | | | ... | | | .. | | | |
| ESS-E-B6 understanding that knowledge of the Earth as well as of the universe is gained through space exploration. (1) | | | | | | | | | ... | | | |
| SCIENCE AND THE ENVIRONMENT | | | | | | | | | | | | |
| In learning environmental science, students will develop an appreciation of the natural environment, learn the importance of environmental quality, and acquire a sense of stewardship. As consumers and citizens, they will be able to recognize how our personal, professional, and political actions affect the natural world. | | | | | | | | | | | | |
| SE-E-A1 understanding that an “ecosystem” is made of living and non-living components; (1, 3, 4) | | .. | | | | | | | | ... | | |
| SE-E-A2 understanding the components of a food chain; (1, 3, 4) | | | | | | | | | | ... | | |
| SE-E-A3 identifying ways in which humans have altered their environment, both in positive and negative ways, either for themselves or for other living things; (1, 2, 3, 4, 5) | | ... | | | | | | | | ... | | |
| SE-E-A4 understanding that the original sources of all material goods are natural resources and that the conserving and recycling of natural resources is a form of stewardship; (1, 2, 3, 4, 5) | | | | | | | | | | | | |
| SE-E-A5 understanding that most plant and animal species are threatened or endangered today due to habitat loss or change. (1, 2, 4) | | | | | | | | | | ... | | |

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| | Grades 4-5 | | | |
|---|-------------------|--------------------|------------------|------------------|
| | Planets and Moons | Aquatic Ecosystems | Models of Matter | Chemical Changes |
| GRADES 5-8 STANDARDS | | | | |
| SCIENCE AS INQUIRY | | | | |
| The students will do science by engaging in partial and full inquiries that are within their developmental capabilities. | | | | |
| A. THE ABILITIES NECESSARY TO DO SCIENTIFIC INQUIRY | | | | |
| SI-M-A1 identifying questions that can be used to design a scientific investigation; (1, 2, 3) | ... | ... | . | ... |
| SI-M-A2 designing and conducting a scientific investigation; (1, 2, 3, 4, 5) | . | ... | | ... |
| SI-M-A3 using mathematics and appropriate tools and techniques to gather, analyze, and interpret data; (1, 2, 3, 4, 5) | . | ... | | ... |
| SI-M-A4 developing descriptions, explanations, and graphs using data; (1, 2, 3, 4) | ... | ... | ... | ... |
| SI-M-A5 developing models and predictions using the relationships between data and explanations; (1, 2, 3, 4) | ... | . | ... | ... |
| SI-M-A6 comparing alternative explanations and predictions; (1, 3, 4) | ... | ... | ... | .. |
| SI-M-A7 communicating scientific procedures, information, and explanations; (1, 3) | ... | ... | ... | ... |
| SI-M-A8 utilizing safety procedures during scientific investigations. (3, 5) | ... | ... | ... | ... |
| B. UNDERSTANDING SCIENTIFIC INQUIRY | | | | |
| SI-M-B1 recognizing that different kinds of questions guide different kinds of scientific investigations; (2, 4) | .. | ... | .. | ... |
| SI-M-B2 communicating that current scientific knowledge guides scientific investigations; (1, 3, 4) | . | ... | . | ... |
| SI-M-B3 understanding that mathematics, technology, and scientific techniques used in an experiment can limit or enhance the accuracy of scientific knowledge; (3, 4) | .. | . | . | .. |
| SI-M-B4 using data and logical arguments to propose, modify, or elaborate on principles and models; (1, 2, 3, 4) | ... | ... | ... | ... |
| SI-M-B5 understanding that scientific knowledge is enhanced through peer review, alternative explanations, and constructive criticism; (1, 4, 5) | ... | ... | ... | ... |
| SI-M-B6 communicating that scientific investigations can result in new ideas, new methods or procedures, and new technologies; (1, 3, 4) | ... | ... | ... | ... |
| SI-M-B7 understanding that scientific development/technology is driven by societal needs and funding. (4, 5) | .. | | | |
| C. Safety | | | | |
| 1. Recognize that conducting science activities requires and awareness of potential hazards and the need for safe practices. | ... | ... | ... | ... |
| 2. Understand and practices safety procedures for conducting science investigations. | ... | ... | ... | ... |

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| GRADES 5-8 STANDARDS | | | | |
| PHYSICAL SCIENCE | | | | |
| Students will develop an understanding of the characteristics and interrelationships of matter and energy in the physical world. | | | | |
| A. PROPERTIES AND CHANGES OF PROPERTIES IN MATTER | | | | |
| PS-M-A1 investigating, measuring, and communicating the properties of different substances which are independent of the amount of the substance; (1, 2, 3, 4) | | | ••• | ••• |
| PS-M-A2 understanding that all matter is made up of particles called atoms and that atoms of different elements are different; (2, 4) | | | ••• | ••• |
| PS-M-A3 grouping substances according to similar properties and/or behaviors; (4) | | | •• | • |
| PS-M-A4 understanding that atoms and molecules are perpetually in motion; (4) | | | ••• | •• |
| PS-M-A5 investigating the relationships among temperature, molecular motion, phase changes, and physical properties of matter; (2, 3) | | | ••• | |
| PS-M-A6 investigating chemical reactions between different substances to discover that new substances formed may have new physical properties and do have new chemical properties; (2, 3, 4, 5) | | | | ••• |
| PS-M-A7 understanding that during a chemical reaction in a closed system, the mass of the products is equal to that of the reactants; (2, 3, 4) | | | | • |
| PS-M-A8 discovering and recording how factors such as temperature influence chemical reactions; (2) | | | | • |
| PS-M-A9 identifying elements and compounds found in common foods, clothing, household materials, and automobiles. (1, 2, 3, 4, 5) | | | | •• |
| B. MOTIONS AND FORCES | | | | |
| PS-M-B1 describing and graphing the motions of objects; (1, 2, 3) | • | | | |
| PS-M-B2 recognizing different forces and describing their effects (gravity, electrical, magnetic); (1, 2) | • | | | |
| PS-M-B3 understanding that, when an object is not being subjected to a force, it will continue to move at a constant speed and in a straight line; (2, 3, 4) | | | | |
| PS-M-B4 describing how forces acting on an object will reinforce or cancel one another, depending upon their direction and magnitude; (1, 2) | | | | |
| PS-M-B5 understanding that unbalanced forces will cause changes in the speed or direction of an object's motion. (2, 4) | | | | |
| C. TRANSFORMATIONS OF ENERGY | | | | |
| PS-M-C1 identifying and comparing the characteristics of different types of energy; (2, 3, 4) | | | | |
| PS-M-C2 understanding the different kinds of energy transformations and the fact that energy can be neither destroyed nor created;(2, 3, 4) | | | | |

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| PS-M-C3 understanding that the sun is a major source of energy and that energy arrives at the Earth's surface as light with a range of wavelengths; (2, 3, 4) | . | | | |
| PS-M-C4 observing and describing the interactions of light and matter (reflection, refraction, absorption, transmission, scattering); (1, 2, 3, 4) | | | | |
| PS-M-C5 investigating and describing the movement of heat and the effects of heat in objects and systems; (2, 3, 4) | | | | |
| PS-M-C6 describing the types of energy that can be involved, converted, or released in electrical circuits; (2, 3, 4) | | | | |
| PS-M-C7 understanding that energy is involved in chemical reactions; (2, 4) | | | | . |
| PS-M-C8 comparing the uses of different energy resources and their effects upon the environment. (1, 2, 3, 4, 5) | | | | |
| LIFE SCIENCE | | | | |
| The students will become aware of the characteristics and life cycles of organisms and understand their relationships to each other and to their environment. | | | | |
| A. STRUCTURE AND FUNCTION IN LIVING SYSTEMS | | | | |
| LS-M-A1 describing the observable components and functions of a cell, such as the cell membrane, nucleus, and movement of molecules into and out of cells; (1) | | | | |
| LS-M-A2 comparing and contrasting the basic structures and functions of different plant and animal cells; (1, 2, 3, 4) | | | | |
| LS-M-A3 observing and analyzing the growth and development of selected organisms, including a seed plant, an insect with complete metamorphosis, and an amphibian; (1, 2, 3, 4) | | .. | | |
| LS-M-A4 describing the basic processes of photosynthesis and respiration and their importance to life; (1, 4, 5) | | .. | | |
| LS-M-A5 investigating human body systems and their functions (including circulatory, digestive, skeletal, respiratory); (1, 3, 4) | | | | |
| LS-M-A6 describing how the human body changes with age and listing factors that affect the length and quality of life; (1, 2, 3, 4, 5) | | | | |
| LS-M-A7 describing communicable and noncommunicable diseases. (1, 2, 3, 4, 5) | | | | |
| B. REPRODUCTION AND HEREDITY | | | | |
| LS-M-B1 describing the importance of body cell division (mitosis) and sex cell production (meiosis); (1, 4) | | . | | |
| LS-M-B2 describing the role of chromosomes and genes in heredity; (1, 4) | | | | |
| LS-M-B3 describing how heredity allows parents to pass certain traits to offspring. (1, 4) | | | | |
| C. POPULATIONS AND ECOSYSTEMS | | | | |
| LS-M-C1 constructing and using classification systems based on the structure of organisms; (1, 2, 3, 4) | | | | |
| LS-M-C2 modeling and interpreting food chains and food webs; (1, 2, 3, 4) | | ... | | |
| LS-M-C3 investigating major ecosystems and recognizing physical properties and organisms within each; (1, 2, 3, 4, 5) | | .. | | |
| LS-M-C4 explaining the interaction and interdependence of nonliving and living components within ecosystems. (1, 2, 3, 4, 5) | | ... | | |
| D. ADAPTATIONS OF ORGANISMS | | | | |
| LS-M-D1 describing the importance of plant and animal adaptation, including local examples; (1, 3, 4, 5) | | | | |
| LS-M-D2 explaining how some members of a species survive under changed environmental conditions. (1, 2, 3, 4, 5) | | .. | | |
| EARTH AND SPACE SCIENCE | | | | |
| The students will develop an understanding of the properties of earth materials, the structure | | | | |

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| EARTH AND SPACE SCIENCE | | | | |
|---|-----|--|--|--|
| The students will develop an understanding of the properties of earth materials, the structure of the Earth system, the Earth's history, and the Earth's place in the universe. | | | | |
| A. STRUCTURE OF THE EARTH | | | | |
| ESS-M-A1 understanding that the Earth is layered by density with an inner and outer core, a mantle, and a thin outer crust; (1) | | | | |
| ESS-M-A2 understanding that the Earth's crust and solid upper mantle are dividing plates that move in response to convection currents (energy transfers) in the mantle; (1) | | | | |
| ESS-M-A3 investigating the characteristics of earthquakes and volcanos and identifying zones where they may occur; (2, 3, 4) | | | | |
| ESS-M-A4 investigating how soils are formed from weathered rock and decomposed organic material; (2, 3, 4) | | | | |
| ESS-M-A5 identifying the characteristics and uses of minerals and rocks and recognizing that rocks are mixtures of minerals; (2, 3, 4) | | | | |
| ESS-M-A6 explaining the processes involved in the rock cycle; (1, 4) | | | | |
| ESS-M-A7 modeling how landforms result from the interaction of constructive and destructive forces; (1, 2, 3, 4) | | | | |
| ESS-M-A8 identifying the man-made and natural causes of coastal erosion and the steps taken to combat it; (1, 2, 3, 4, 5) | | | | |
| ESS-M-A9 compare and contrast topographic features of the ocean floor to those formed above sea level; (2, 3, 4) | | | | |
| ESS-M-A10 explaining (illustrating) how water circulates -- on and through the crust, in the oceans, and in the atmosphere -- in the water cycle; (1, 4) | | | | |
| ESS-M-A11 understanding that the atmosphere interacts with the hydrosphere to affect weather and climate conditions; (1, 4) | | | | |
| ESS-M-A12 predicting weather patterns through use of a weather map. (1, 2, 3, 4, 5) | | | | |
| B. EARTH HISTORY | | | | |
| ESS-M-B1 investigating how fossils show the development of life over time; (2, 3, 4) | | | | |
| ESS-M-B2 devising a model that demonstrates supporting evidence that the Earth has existed for a vast period of time; (1, 2, 3, 4) | | | | |
| ESS-M-B3 understanding that earth processes such as erosion and weathering affect the Earth today and are similar to those which occurred in the past. (1, 2, 3, 4) | | | | |
| C. EARTH IN THE SOLAR SYSTEM | | | | |
| ESS-M-C1 identifying the characteristics of the sun and other stars; (1, 2, 3, 4) | • | | | |
| ESS-M-C2 comparing and contrasting the celestial bodies in our solar system; (2, 4) | ••• | | | |
| ESS-M-C3 investigating the force of gravity and the ways gravity governs motion in the solar system and objects on Earth; (2, 3, 4) | ••• | | | |
| ESS-M-C4 modeling the motions of the Earth-moon-sun system to explain day and night, a year, eclipses, moon phases, and tides; (1, 2, 3, 4) | •• | | | |
| ESS-M-C5 modeling the position of the Earth in relationship to other objects in the solar system; (1, 2, 3, 4) | ••• | | | |
| ESS-M-C6 modeling and describing how radiant energy from the sun affects phenomena on the Earth's surface, such as winds, ocean currents, and the water cycle; (1, 2, 3, 4) | | | | |
| ESS-M-C7 modeling and explaining how seasons result from variations in amount of the sun's energy hitting the surface due to the tilt of Earth's rotation on its axis and the length of the day; (1, 2, 3, 4) | | | | |

- Addressed completely in the unit with explicit instruction and repeated opportunities for practice.
- Addressed partially in the unit with explicit instruction and repeated opportunities for practice.
- 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.

**Correlation of *Seeds of Science/Roots of Reading* units to
Louisiana State Science Standards**

| SCIENCE AND THE ENVIRONMENT | | | | |
|--|--|-----|--|--|
| In learning environmental science, students will develop an appreciation of the natural environment, learn the importance of environmental quality, and acquire a sense of stewardship. As consumers and citizens, they will be able to recognize how our personal, professional, and political actions affect the natural world. | | | | |
| SE-M-A1 demonstrating knowledge that an ecosystem includes living and nonliving factors and that humans are an integral part of ecosystems; (1, 3, 4, 5) | | ... | | |
| SE-M-A2 demonstrating an understanding of how carrying capacity and limiting factors affect plant and animal populations; (1, 2, 3, 4, 5) | | ... | | |
| SE-M-A3 defining the concept of pollutant and describing the effects of various pollutants on ecosystems; (1, 2, 3, 4, 5) | | ... | | |
| SE-M-A4 understanding that human actions can create risks and consequences in the environment; (1, 2, 3, 4, 5) | | ... | | |
| SE-M-A5 tracing the flow of energy through an ecosystem and demonstrating a knowledge of the roles of producers, consumers, and decomposers in the ecosystem; (1, 2, 3, 4, 5) | | ... | | |
| SE-E-A6 distinguishing between renewable and nonrenewable resources and understanding that nonrenewable natural resources are not replenished through the natural cycles and thus are strictly limited in quantity; (1, 2, 3, 4, 5) | | | | |
| SE-M-A7 demonstrating knowledge of the natural cycles, such as the carbon cycle, nitrogen cycle, water cycle, and oxygen cycle; (1, 2, 4) | | | | |
| SE-M-A8 investigating and analyzing how technology affects the physical, chemical, and biological factors in an ecosystem; (1, 2, 3, 4, 5) | | ... | | |
| SE-M-A9 demonstrating relationships of characteristics of soil types to agricultural practices and productivity; (1, 2, 3, 4, 5) | | | | |
| SE-M-A10 identifying types of soil erosion and preventive measures. (1, 2, 3, 4, 5) | | | | |

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