Mississippi Science

Grade K

Adopted 2018

Life Science

1. **Hierarchical Organization** L.K.1

   1A. Students will demonstrate an understanding of living and nonliving things. L.K.1A

      1. With teacher guidance, conduct an investigation of living organisms and nonliving objects in various real-world environments to define characteristics of living organisms that distinguish them from nonliving things (e.g., playground, garden, school grounds). L.K.1A.1

      2. With teacher support, gain an understanding that scientists are humans who use observations to learn about the natural world. Obtain information from informational text or other media about scientists who have made important observations about living things (e.g. Carl Linnaeus, John James Audubon, Jane Goodall). L.K.1A.2

   1B. Students will demonstrate an understanding of how animals (including humans) use their physical features and their senses to learn about their environment. L.K.1B

      1. Develop and use models to exemplify how animals use their body parts to (a) obtain food and other resources, (b) protect themselves, and (c) move from place to place. L.K.1B.1

      2. Identify and describe examples of how animals use their sensory body parts (eyes to detect light and movement, ears to detect sound, skin to detect temperature and touch, tongue to taste, and nose to detect smell). L.K.1B.2

2. **Reproduction and Heredity** L.K.2

   2A. Students will demonstrate an understanding of how living things change in form as they go through the general stages of a life cycle. L.K.2A

      1. Use informational text or other media to make observations about plants as they change during the life cycle (e.g., germination, growth, reproduction, and death) and use models (e.g., drawing, writing, dramatization, or technology) to communicate findings. L.K.2A.1
      2. Construct explanations using observations to describe and model the life cycle (birth, growth, adulthood, death) of a familiar mammal (e.g., dog, squirrel, rabbit, deer). L.K.2A.2
      3. With teacher guidance, conduct a structured investigation to observe and measure (comparison of lengths) the changes in various individuals of a single plant species from seed germination to adult plant. Record observations using drawing or writing. L.K.2A.3
      4. Use observations to explain that young plants and animals are like but not exactly like their parents (i.e., puppies look similar, but not exactly like their parents). L.K.2A.4

3. **Ecology and Interdependence** L.K.3

   3A. Students will demonstrate an understanding of what animals and plants need to live and grow. L.K.3A

      1. With teacher guidance, conduct a structured investigation to determine what plants need to live and grow (water, light, and a place to grow). Measure growth by directly comparing plants with other objects. L.K.3A.1
      2. Construct explanations using observations to describe and report what animals need to live and grow (food, water, shelter, and space). L.K.3A.2

   3B. Students will demonstrate an understanding of the interdependence of living things and the environment in which they live. L.K.3B

      1. Observe and communicate that animals get food from plants or other animals. Plants make their own food and need light to live and grow. L.K.3B.1
      2. Create a model habitat which demonstrates interdependence of plants and animals using an engineering design process to define the problem, design, construct, evaluate, and improve the habitat. L.K.3B.2

4. **Adaptations and Diversity** L.K.4

   4A. Students will demonstrate an understanding that some groups of plants and animals are no longer living (extinct) because they were unable to meet their needs for survival. L.K.4A

      1. Obtain information from informational text or other media to document and report examples of different plants or animals that are extinct. L.K.4A.1
      2. Observe and report how some present-day animals resemble extinct animals (i.e., elephants resemble wooly mammoths). L.K.4A.2

Physical Science

5. Organization of Matter and Chemical Interactions P.K.5

5A. Students will demonstrate an understanding of the solid and liquid states of matter. P.K.5A

1. Generate questions and investigate the differences between liquids and solids and develop awareness that a liquid can become a solid and vice versa. P.K.5A.1
2. Describe and compare the properties of different materials (e.g., wood, plastic, metal, cloth, paper) and classify these materials by their observable characteristics (visual, aural, or natural textural) and by their physical properties (weight, volume, solid or liquid, and sink or float). P.K.5A.2

5B. Students will demonstrate an understanding of how solid objects can be constructed from a smaller set. P.K.5B

1. Use basic shapes and spatial reasoning to model large objects in the environment using a set of small objects (e.g., blocks, construction sets). P.K.5B.1
2. Analyze a large composite structure to describe its smaller components using drawing and writing. P.K.5B.2
3. Explain why things may not work the same if some of the parts are missing. P.K.5B.3

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8. Earth and the Universe E.K.8

8A. Students will demonstrate an understanding of the pattern of seasonal changes on the Earth. E.K.8A

1. Construct an explanation of the pattern of the Earth's seasonal changes in the environment using evidence from observations. E.K.8A.1

8B. Students will demonstrate an understanding that the Sun provides the Earth with heat and light. E.K.8B

1. With teacher guidance, generate and answer questions to develop a simple model, which describes observable patterns of sunlight on the Earth's surface (day and night). E.K.8B.1
2. With teacher guidance, develop questions to conduct a structured investigation to determine how sunlight affects the temperature of the Earth's natural resources (e.g., sand, soil, rocks, and water). E.K.8B.2
3. Develop a device (i.e., umbrella, shade structure, or hat) which would reduce heat from the sun (temperature) using an engineering design process to define the problem, design, construct, evaluate, and improve the device. E.K.8B.3

Earth and Space Science

10. Earth's Resources E.K.10

10A. Students will demonstrate an understanding of how humans use Earth's resources. E.K.10A

1. Participate in a teacher-led activity to gather, organize and record recyclable materials data on a chart or table using technology. Communicate results. E.K.10A.1
2. With teacher guidance, develop questions to conduct a structured investigation to determine ways to conserve Earth's resources (i.e., reduce, reuse, and recycle) and communicate results. E.K.10A.2
3. Create a product from the reused materials that will meet a human need (e.g., pencil holder, musical instrument, bird feeder). Use an engineering design process to define the problem, design, construct, evaluate, and improve the product. E.K.10A.3