Mississippi Science

# Grade 1

Adopted 2018

## Life Science

### 1. Hierarchical Organization L.1.1

1A. Students will demonstrate an understanding of the basic needs and structures of plants. L.1.1A

1. Construct explanations using first-hand observations or other media to describe the structures of different plants (i.e., root, stem, leaves, flowers, and fruit). Report findings using drawings, writing, or models. L.1.1A.1
2. Obtain information from informational text and other media to describe the function of each plant part (roots absorb water and anchor the plant, leaves make food, the stem transports water and food, petals attract pollinators, flowers produce seeds, and seeds produce new plants). L.1.1A.2
3. Design and conduct an experiment that shows the absorption of water and how it is transported through the plant. Report observations using drawings, sketches, or models. L.1.1A.3
4. Create a model which explains the function of each plant structure (roots, stem, leaves, petals, flowers, seeds). L.1.1A.4
5. With teacher support, gain an understanding that scientists are humans who use observations and experiments to learn about the natural world. Obtain information from informational text or other media about scientists who have made important observations about plants (e.g., Theophrastus, Gregor Mendel, George Washington Carver, Katherine Esau). L.1.1A.5

### 2. Reproduction and Heredity L.1.2

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.1.2A

1. Investigate, using observations and measurements (non-standard units), flowering plants (pumpkins, peas, marigolds, or sunflowers) as they change during the life cycle (i.e., germination, growth, reproduction, and seed dispersal). Use drawings, writing, or models to communicate findings. L.1.2A.1
2. Obtain, evaluate, and communicate information through labeled drawings, the life cycle (egg, larva, pupa, adult) of pollinating insects (e.g., bees, butterflies). L.1.2A.2

**3. Ecology and Interdependence** L.1.3

3A. Students will demonstrate an understanding of what plants need from the environment for growth and repair. L.1.3A

1. Conduct structured investigations to make and test predictions about what plants need to live, grow, and repair including water, nutrients, sunlight, and space. Develop explanations, compare results, and report findings. L.1.3A.1

3B. Students will demonstrate an understanding of the interdependence of flowering plants and pollinating insects. L.1.3B

1. Identify the body parts of a pollinating insect (e.g., bee, butterfly) and describe how insects use these parts to gather nectar or disburse pollen. Report findings using drawings, writing, or models. L.1.3B.1

**4. Adaptations and Diversity** L.1.4

4A. Students will demonstrate an understanding of the ways plants adapt to their environment in order to survive. L.1.4A

1. Explore the cause and effect relationship between plant adaptations and environmental changes (i.e., leaves turning toward the sun, leaves changing color, leaves wilting, or trees shedding leaves). L.1.4A.1
2. Describe how the different characteristics of plants help them to survive in distinct environments (e.g., rain forest, desert, grasslands, forests). L.1.4A.2
3. Create a solution for an agricultural problem (i.e. pollination, seed dispersal, over-crowding). Use an engineering design process to define the problem, design, construct, evaluate, and improve the solution. L.1.4A.3

## Physical Science

**6. Motions, Forces, and Energy** P.1.6

6A. Students will demonstrate an understanding that light is required to make objects visible. P.1.6A

1. Construct explanations using first-hand observations or other media to describe how reflected light makes an object visible. P.1.6A.1
2. Use evidence from observations to explain how shadows form and change with the position of the light source. P.1.6A.2

6B. Students will demonstrate an understanding of sound. P.1.6B

1. Conduct an investigation to provide evidence that vibrations create sound (e.g., pluck a guitar string) and that sound can create vibrations (e.g., feeling sound through a speaker). P.1.6B.1
2. Create a device that uses light and/or sound to communicate over a distance (e.g., signal lamp with a flashlight). Use an engineering design process to define the problem, design, construct, evaluate, and improve the device. P.1.6B.2

**Earth and Space Science**

**9. Earth's Systems and Cycles** E.1.9

9A. Students will demonstrate an understanding of the patterns of weather by describing, recording, and analyzing weather data to answer questions about daily and seasonal weather patterns. E.1.9A

1. Analyze and interpret data from observations and measurements to describe local weather conditions (including temperature, wind, and forms of precipitation). E.1.9A.1
2. Develop and use models to predict weather conditions associated with seasonal patterns and changes. E.1.9A.2
3. Construct an explanation for the general pattern of change in daily temperatures by measuring and calculating the difference between morning and afternoon temperatures. E.1.9A.3
4. Obtain and communicate information about severe weather conditions to explain why certain safety precautions are necessary. E.1.9A.4

9B. Students will demonstrate an understanding of models (drawings or maps) to describe how water and land are distributed on Earth. E.1.9B

1. Locate, classify, and describe bodies of water (oceans, rivers, lakes, and ponds) on the Earth's surface using maps, globes, or other media. E.1.9B.1
2. Generate and answer questions to explain the patterns and location of frozen and liquid bodies of water on earth using maps, globes, or other media. E.1.9B.2
3. With teacher guidance, plan and conduct a structured investigation to determine how the movement of water can change the shape of the land on earth. E.1.9B.3

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**10. Earth's Resources** E.1.10

10A. Students will demonstrate an understanding of human dependence on clean and renewable water resources. E.1.10A

1. Obtain and evaluate informational texts and other media to generate and answer questions about water sources and human uses of clean water. E.1.10A.1
2. Communicate solutions that will reduce the impact of humans on the use and quality of water in the local environment. E.1.10A.2
3. Create a device that will collect free water to meet a human need (e.g., household drinking water, watering plants/animals, cleaning). Use an engineering design process to define the problem, design, construct, evaluate, and improve the device. E.1.10A.3