

# 6th Grade Standards

Correlated Standards by Class

Last Updated: 2024

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**IMPORTANT:** Our classes have a base curriculum that can vary based on instructor, and some activities that match the standards below may not be taught. Please let us know if there is a standard below you would like us to focus on, and we will tailor our classes to make sure we address it!

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## Animals in Motion

### Next Generation Science Standards (NGSS)

MS-LS1-4. Use arguments based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

MS-LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

### Mississippi College- and Career-Readiness Standards

#### *Science*

L.6.3. Students will demonstrate an understanding of the relationships among survival, environmental changes, and diversity as they relate to the interactions of organisms, populations, and the environment.

3.3. Analyze cause and effect relationships to explore how changes in the physical environment (limiting factors, natural disasters) can lead to population changes within an ecosystem.

3.4. Investigate organism interactions in a competitive or mutually beneficial relationship (predation, competition, cooperation, or symbiotic relationships).

# Aquatic Adventures

## **Next Generation Science Standards (NGSS)**

MA-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

## **Alabama Course of Study (ACOS)**

### ***Science***

SC.6.11. Obtain, evaluate, and communicate information concerning the relationships between human activities and natural processes and how those relationships affect Earth's systems, including human population growth and its impact on the global environment over time. *(CCC: Cause and Effect)*

SC.6.11a. Define problems and design solutions to monitor and mitigate human impact on the environment. *(CCC: Cause and Effect)*

## **Mississippi College- and Career- Readiness Standards**

### ***Science***

L.6.3. Students will demonstrate an understanding of the relationships among survival, environmental changes, and diversity as they relate to the interactions of organisms, populations, and the environment.

3.1. Use scientific reasoning to explain differences between biotic and abiotic factors that demonstrate what living organisms need to survive.

3.3. Analyze cause and effect relationships to explore how changes in the physical environment (limiting factors, natural disasters) can lead to population changes within an ecosystem.

## Art in Nature

### Alabama Course of Study (ACOS)

#### *Arts Education - Visual Arts*

1. Work collaboratively to develop new and innovative ideas for creating art.
3. Develop new ideas through open-ended experiments, using various materials, methods, and approaches in creating works of art.
4. Explain and/or demonstrate environmental implications of conservation, care, and clean-up of art materials, tools, and equipment.
7. Compare and contrast methods associated with preserving and presenting two-dimensional, three-dimensional, and digital artwork.
11. Discuss ways that visual components and cultural connections suggested by images can influence ideas, emotions, and actions.

### Mississippi College- and Career- Readiness Standards

#### *Arts Learning Standards - Visual Arts*

- Cr1. Generate and conceptualize artistic ideas and work.
  - 1.6.a. Combine concepts collaboratively to generate innovative ideas for creating art.
- Cr2. Organize and develop artistic ideas and work.
  - 1.6.a. Demonstrate openness in trying new ideas, materials, methods, and approaches in making works of art and design.
  - 2.6.a. Explain environmental implications of conservation, care, and clean-up of art materials, tools, and equipment.
- Re7. Perceive and analyze artistic work.
  - 2.6.a. Analyze ways that visual components and cultural associations suggested by images influence ideas, emotions, and actions.

## Down to Earth

### **Next Generation Science Standards (NGSS)**

MS-ESS2-1. Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.

MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.

MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

MS-LS1-6. Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.

MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

### **Alabama Course of Study (ACOS)**

#### ***Science***

SC.6.5. Obtain, evaluate, and communicate evidence that explains how constructive and destructive processes shape Earth's surface. *(CCC: Cause and Effect)*

SC.6.5c. Develop and use models to demonstrate types of weather, effects of agents of erosion and transportation, and the formation of environments of deposition. *(CCC: Cause and Effect)*

SC.6.5d. Use research-based evidence to propose a scientific explanation of how the distribution of Earth's resources, including minerals, fossil fuels, and groundwater, results from ongoing geoscience processes. *(CCC: Cause and Effect)*

SC.6.11. Obtain, evaluate, and communicate information concerning the relationships between human activities and natural processes and how those relationships affect Earth's systems, including human population growth and its impact on the global environment over time. *(CCC: Cause and Effect)*

SC.6.11a. Define problems and design solutions to monitor and mitigate human impact on the environment. *(CCC: Cause and Effect)*

### **Mississippi College- and Career- Readiness Standards**

#### ***Science***

L.6.3. Students will demonstrate an understanding of the relationships among survival, environmental changes, and diversity as they relate to the interactions of organisms, populations, and the environment.

3.3. Analyze cause and effect relationships to explore how changes in the physical environment (limiting factors, natural disasters) can lead to population changes within an ecosystem.

#### ***Social Studies***

6.2. Identify geographic patterns in the environment that result from the processes of Earth's physical systems.

- 2.3. Explain the major processes and natural phenomena that shape the physical environment and how humans adapt to them.
- 2.4. Investigate ways humans change their environment.
- 6.4. Analyze the concept, usage, and value of natural resources.
  - 4.1. Characterize and differentiate renewable and non-renewable resources.
  - 4.2. Identify important resources in the contemporary world and their usage.
- 6.8. Examine how humans and the physical environment are impacted by the extraction of resources and by natural hazards.
  - 8.1. Identify and describe ways in which humans modify the physical environment.
  - 8.2. Explain how people use technology to access resources.

## Focus on Fungi

### **Next Generation Science Standards (NGSS)**

MS-LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

MS-LS2-3. Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

### **Mississippi College- and Career- Readiness Standards**

#### ***Science***

L.6.3. Students will demonstrate an understanding of the relationships among survival, environmental changes, and diversity as they relate to the interactions of organisms, populations, and the environment.

3.3. Analyze cause and effect relationships to explore how changes in the physical environment (limiting factors, natural disasters) can lead to population changes within an ecosystem.

3.4. Investigate organism interactions in a competitive or mutually beneficial relationship (predation, competition, cooperation, or symbiotic relationships).

3.5. Develop and use food chains, webs, and pyramids to analyze how energy is transferred through an ecosystem from producers (autotrophs) to consumers (heterotrophs; including humans) to decomposers.

L.6.4. Students will demonstrate an understanding of classification tools and models such as dichotomous keys to classify representative organisms based on the characteristics of the kingdoms: Archaeobacteria, Eubacteria, Protists, Fungi, Plants, and Animals.

4.3. Analyze and interpret data from observations to describe how fungi obtain energy and respond to stimuli (e.g. bread mold, rotting plant material).

## Food for Thought

### **Next Generation Science Standards (NGSS)**

MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

MS-PS1-3. Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.

### **Mississippi College- and Career- Readiness Standards**

#### ***Social Studies***

6.2. Identify geographic patterns in the environment that result from the processes of Earth's physical systems.

2.4. Investigate ways humans change their environment.

## **Hop, Slither, Slide & Birds of a Feather**

### **Next Generation Science Standards (NGSS)**

MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

### **Alabama Course of Study (ACOS)**

SC.6.11a. Define problems and design solutions to monitor and mitigate human impact on the environment. *(CCC: Cause and Effect)*



## **Invention Convention**

### **Next Generation Science Standards (NGSS)**

MS-ETS1-2. Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.

## McDowell Woods

### **Next Generation Science Standards (NGSS)**

MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

### **Alabama Course of Study (ACOS)**

#### ***Science***

SC.6.11. Obtain, evaluate, and communicate information concerning the relationships between human activities and natural processes and how those relationships affect Earth's systems, including human population growth and its impact on the global environment over time. *(CCC: Cause and Effect)*

SC.6.11a. Define problems and design solutions to monitor and mitigate human impact on the environment. *(CCC: Cause and Effect)*

### **Mississippi College- and Career- Readiness Standards**

#### ***Science***

L.6.3. Students will demonstrate an understanding of the relationships among survival, environmental changes, and diversity as they relate to the interactions of organisms, populations, and the environment.

3.3. Analyze cause and effect relationships to explore how changes in the physical environment (limiting factors, natural disasters) can lead to population changes within an ecosystem.

## Meet a Map

### **Mississippi College- and Career- Readiness Standards**

6.1. Describe the world using the tools of geography including maps, globes, and technological representations.

1.1. Demonstrate the use of map essentials (e.g. directions, latitude and longitude, globes, maps, etc).

## Navigation

# Our Galaxy

## **Next Generation Science Standards (NGSS)**

MS-PS2-4. Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.

MS-ESS1-2. Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.

MS-ESS1-3. Analyze and interpret data to determine scale properties of objects in the solar system.

## **Alabama Course of Study (ACOS)**

### ***Science***

SC.6.1. Manipulate models to demonstrate the patterns of motion of the sun, Earth, and moon. *(CCC: Patterns)*

SC.6.3. Construct an evidence-based explanation of the role of gravity on the movement of natural and manmade objects within galaxies and the solar system. *(Scale, Proportion, and Quantity)*

SC.6.4. Analyze and use data to determine scale properties and characteristics of objects in the solar system including sizes, distances, orbital periods, basic composition, and ability to support life. *(Scale, Proportion, and Quantity)*

## **Mississippi College- and Career- Readiness Standards**

### ***Science***

E.6.8. Students will demonstrate an understanding of Earth's place in the universe and the interactions of the solar system (sun, planets, their moons, comets, and asteroids) using evidence from multiple scientific resources to explain how these objects are held in orbit around the Sun because of its gravitational pull.

E.6.8.5. Construct explanations for how gravity affects the motion of objects in the solar system and tides on Earth.

### ***Arts Learning Standards - Theatre***

Cr2. Organize and develop artistic ideas and work.

1.6.b. Contribute ideas and accept and incorporate the ideas of others in preparing or devising drama/theatre work.

# People of the Earth

## Mississippi College- and Career-Readiness Standards

### *Social Studies*

6.9. Analyze how sovereign nation-states interact with one another.

9.5. Assess ways the use of land and resources has led to conflict, cooperation, and compromise among nation-states.

9.6. Cite evidence of conflict, cooperation, and compromise among nation-states including treaties and wars.

# Rock Query

## **Next Generation Science Standards (NGSS)**

MS-ESS1-4. Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.

MS-ESS2-1. Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.

MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.

MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

MS-LS2-3. Develop a model to describe the cycling of matter and flow of energy among living and non-living parts of an ecosystem.

MS-PS1-3. Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.

## **Alabama Course of Study (ACOS)**

### ***Science***

SC.6.5. Obtain, evaluate, and communicate evidence that explains how constructive and destructive processes shape Earth's surface. *(CCC: Cause and Effect)*

SC.6.5a Develop and use models to demonstrate the processes that form rocks and cycle Earth's materials. *(CCC: Cause and Effect)*

SC.6.5b. Construct an evidence-based explanation of how rocks are classified as metamorphic, igneous, or sedimentary based on their characteristics and the process of the rock cycle. *(CCC: Cause and Effect)*

SC.6.5c. Develop and use models to demonstrate types of weather, effects of agents of erosion and transportation, and the formation of environments of deposition. *(CCC: Cause and Effect)*

## **Mississippi College- and Career- Readiness Standards**

### ***Social Studies***

6.2. Identify geographic patterns in the environment that result from the processes of Earth's physical systems.

2.1. Define atmosphere, biosphere, lithosphere, and hydrosphere.

2.3. Explain the major processes and natural phenomena that shape the physical environment and how humans adapt to them.

2.4. Investigate ways humans change their environment.

## Survival Skills

### Alabama Course of Study (ACOS)

#### ***Science***

SC.6.11. Obtain, evaluate, and communicate information concerning the relationships between human activities and natural processes and how those relationships affect Earth's systems, including human population growth and its impact on the global environment over time. (*CCC: Cause and Effect*)

SC.6.11a. Define problems and design solutions to monitor and mitigate human impact on the environment. (*CCC: Cause and Effect*)

### Mississippi College- and Career-Readiness Standards

#### ***Social Studies***

6.2. Identify geographic patterns in the environment that result from the processes of Earth's physical systems.

2.3. Explain the major processes and natural phenomena that shape the physical environment and how humans adapt to them.