



DISTANCE LEARNING PROGRAM - ACADEMIC STANDARDS

WATER CYCLE BOOGIE VIDEO



Kindergarten

ESS: Daily and Seasonal Changes

This topic focuses on observing, exploring, describing and comparing weather changes, patterns in the sky, and changing seasons.

K.ESS.1: Yearly weather changes (seasons) are observable patterns in the daily weather changes.

K.ESS.1: Wind, temperature and precipitation can be used to document short-term weather changes that are observable.

First Grade

ESS: Sun, Energy, and Weather

This topic focuses on the sun as a source of energy and energy changes that occur to land, air, and water.

1.ESS.2: Water on Earth is present in many forms

1.ESS.2: The physical properties of water can change. These changes occur due to changing energy. Water can change from a liquid to a solid and from a solid to a liquid.

Note: Water as a vapor is not introduced until grade 2; the water cycle is reserved for later grades.

Second Grade

ESS: The Atmosphere

This topic focuses on air and water as they relate to weather and weather changes that can be observed and measured.

2.ESS.2: Water is present in the atmosphere. When water vapor in the atmosphere cools, it forms clouds, fog, rain, ice, snow, sleet or hail.

Grade 2 concepts: The concepts of condensation and evaporation are explored through experimentation and observation.

2.ESS.3: Long- and short-term weather changes occur due to changes in energy.

Grade 2 concepts: Heating (from sunlight) and cooling of water, air and land are directly related to wind, evaporation, condensation, freezing, thawing, and precipitation.

Fourth Grade

ESS: Earth and Space Sciences:

1.ESS.2: Water on Earth is present in many forms. The physical properties of water can change. These changes occur due to changing energy. Water can change from a liquid to a solid and from a solid to a liquid.

Grades 3-5 concepts: Water is identified as a non-living resource that can be used for energy. Common states of matter include liquids, solids and gases. Earth's surface has been changed by processes involving water.

3.ESS.3: Some of Earth's resources are limited

Grades 4-5 concepts: Conservation of matter, environmental changes through Earth's history and erosion (loss of resources/contamination) are studied.

7.ESS.1: The hydrologic cycle illustrates the changing states of water as it moves through the lithosphere, biosphere, hydrosphere and atmosphere.

Grades 3-5 concepts: Water is present in soil. Water is a non-living resource. Properties of the different states of water, how water can change the surface of Earth and how water is a factor in some weather-related events (e.g., flooding, droughts) are discussed.

PS: Electricity, Heat and Matter

This topic focuses on the conservation of matter and the processes of energy transfer and transformation, especially as they apply to heat and electrical energy.

4.PS.1: When objects break into smaller pieces, dissolve, or change state, the total amount of matter is conserved.

4.PS.1: When a solid is dissolved in a liquid, the mass of the mixture is equal to the sum of the masses of the liquid and solid.

I'M A TREE VIDEO



Kindergarten

Living and nonliving things have specific physical properties that can be used to sort and classify.

ESS: Daily and Seasonal Changes

This topic focuses on observing, exploring, describing and comparing weather changes, patterns in the sky, and changing seasons.

K.ESS.1: Yearly weather changes (seasons) are observable patterns in the daily weather changes.

PS: Properties of Everyday Objects and Materials

This topic focuses on the production of sound and on observing, exploring, describing and comparing the properties of objects and materials with which the student is familiar.

K.PS.1: Objects and materials can be sorted and described by the properties of the materials of which they are made. Some of the properties can include color, size, and texture.

LS: Physical and Behavioral Traits of Living Things

This topic focuses on observing, exploring, describing and comparing living things in Ohio.

K.LS.1: Living things have specific characteristics and traits

K.LS.2: Living things have physical traits and behaviors that influence their survival

- Living things are made up of a variety of structures
- Some traits can be observable structures
- Some of these structures and behaviors influence their survival

First Grade

LS: Basic Needs of Living Things

This topic focuses on the physical needs of living things in Ohio. Energy from the sun or food, nutrients, water, shelter and air are some of the physical needs of living things.

1.LS.1: Living things have basic needs, which are met by obtaining materials from the physical environment.

1.LS.2: Living things survive only in environments that meet their needs.

1.LS.2: The needs of plants include room to grow, appropriate temperature range, light, water, air and nutrients. Changes in these conditions can affect the growing season for certain plants. The amount and distribution of these conditions will influence the types of plants that can survive in an area. Observations of seasonal changes in temperature, liquid water availability, wind and light are applied to the effect of seasonal changes on local plants.

Second Grade

LS: Interactions within Habitats

This topic focuses on how ecosystems work by observations of simple interactions between the biotic/living and abiotic/nonliving parts of an ecosystem. Just as living things impact the environment in which they live, the environment impacts living things.

2.LS.1: Living things function and interact with their physical environments. Living things cause changes in the environments where they live; the changes can be very noticeable or slightly noticeable, fast or slow.

Third Grade

LS: Behavior, Growth, and Changes

This topic explores life cycles of organisms and the relationship between the natural environment and an organism's (physical and behavioral) traits, which affect its ability to survive and reproduce.

3.LS.3: Plants and animals have life cycles that are adapted to survive in distinct ecosystems (e.g., trees lose their leaves in winter to conserve water).

WHAT DO ANIMALS NEED VIDEO



Kindergarten

LS: Physical and Behavioral Traits of Living Things
This topic focuses on observing, exploring, describing and comparing living things in Ohio.

K.LS.1: Living things have specific characteristics and traits

K.LS.2: Living things have physical traits and behaviors that influence their survival

- Living things are made up of a variety of structures
- Some traits can be observable structures
- Some of these structures and behaviors influence their survival

First Grade

ESS: Sun, Energy and Weather
This topic focuses on the sun as a source of energy and energy changes that occur to land, air and water.

1.ESS.1: The sun is the principal source of energy.

LS: Basic Needs of Living Things
This topic focuses on the physical needs of living things in Ohio. Energy from the sun or food, nutrients, water, shelter and air are some of the physical needs of living things.

1.LS.1: Living things require energy, water, and a particular range of temperatures in their environments. Plants get energy from sunlight. Animals get energy from plants and other animals. Living things acquire resources from the living and nonliving components of the environment.

1.LS.2: Animals require basic habitat components, including food, water, cover and space. The amount and distribution of the basic components will influence the types of animals that can survive in an area. Food sources might include plants, fruits, seeds, insects or other animals. Water sources may be as small as drops of dew found on grass or as large as a lake or river. Animals need cover for many life functions including nesting, escaping from predators, seeking shelter from unfavorable weather conditions and resting. Animals also need space in which to perform necessary activities such as feeding or raising young. Seasonal changes affect the resources available to living things (e.g., grasses are not as available in winter as they are in summer).

1.LS.2: The needs of plants include room to grow, appropriate temperature range, light, water, air and nutrients. Changes in these conditions can affect the growing season for certain plants. The amount and distribution of these conditions will influence the types of plants that can survive in an area. Observations of seasonal changes in temperature, liquid water availability, wind and light are applied to the effect of seasonal changes on local plants.

Second Grade

LS: Interactions within Habitats
This topic focuses on how ecosystems work by observations of simple interactions between the biotic/living and abiotic/nonliving parts of an ecosystem. Just as living things impact the environment in which they live, the environment impacts living things.

2.LS.2: Some kinds of organisms become extinct when their basic needs are no longer met or the environment changes.

Third Grade

LS: Behavior, Growth, and Changes
This topic explores life cycles of organisms and the relationship between the natural environment and an organism's (physical and behavioral) traits, which affect its ability to survive and reproduce.

3.LS.2: Plants and animals have physical features that are associated with the environments where they live.

Fourth Grade

LS: Earth's Living History
This topic focuses on using fossil evidence and living organisms to observe that suitable habitats depend upon a combination of biotic and abiotic factors.

4.LS.1: Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful.

4.LS.1: Ecosystems can change gradually or dramatically. When the environment changes, some plants and animals survive and reproduce and others die or move to new locations.

4.LS.1: Ecosystems are based on interrelationships among and between biotic and abiotic factors. These include the diversity of other organisms present, the availability of food and other resources, and the physical attributes of the environment.

Fifth Grade

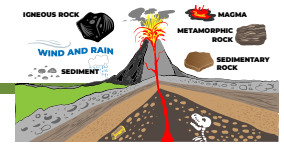
LS: Interactions within Ecosystems
This topic focuses on foundational knowledge of the structures and functions of ecosystems.

5.LS.1: Organisms perform a variety of roles in an ecosystem.

5.LS.1: Organisms have symbiotic relationships in which individuals of one species are dependent upon individuals of another species for survival.

5.LS.1: Investigations of locally threatened or endangered species can be conducted and include considerations of the effects of remediation programs, species loss and the introduction of new species on the local ecosystem.

HEAT & PRESSURE VIDEO



■ Third Grade

ESS: Earth's Resources

This topic focuses on Earth's resources. While resources can be living and nonliving, within this strand, the emphasis is on Earth's nonliving resources, such as water, air, rock, and soil and the energy resources they represent.

3.ESS.1: Earth's nonliving resources have specific properties

3.ESS.1: Soil is composed of pieces of rock, organic material, water, and air and has characteristics that can be measured and observed.

3.ESS.1: Rocks have specific characteristics that allow them to be sorted and compared.

3.ESS.1: Rocks form in different ways.

■ Sixth Grade

ESS: Rocks, Minerals, and Soil

This topic focuses on the study of rocks, minerals, and soil, which make up the lithosphere. Classifying and identifying different types of rocks, minerals, and soil can decode the past environment in which they formed.

6.ESS.1: Minerals have specific, quantifiable properties.

6.ESS.2: Igneous, metamorphic and sedimentary rocks have unique characteristics that can be used for identification and/or classification.

6.ESS.3: Igneous, metamorphic, and sedimentary rocks form in different ways.

6.ESS.5: Rocks, minerals, and soils have common and practical uses

6.ESS.5: Rocks, minerals and soils have specific physical properties that determine how they can be used.

WEATHERING, EROSION, DEPOSITION VIDEO



■ Fourth Grade

ESS: Earth's Surface

This topic focuses on the variety of processes that shape and reshape Earth's surface.

4.ESS.1: Earth's surface has specific characteristics and landforms that can be identified.

4.ESS.1: Catastrophic events such as flooding, volcanoes and earthquakes can create landforms.

4.ESS.2: The surface of Earth changes due to weathering.

4.ESS.2: Rocks change shape, size and/or form due to water or glacial movement, freeze and thaw, wind, plant growth, acid rain, pollution and catastrophic events such as earthquakes, flooding, and volcanic activity. Note: Differentiating between chemical and physical weathering is not the focus at this grade level.

4.ESS.3: Earth's surface can change due to erosion and deposition.

4.ESS.3: Liquid water, wind and ice physically remove and carry rock, soil and sediment (erosion) and deposit the material in a new location (deposition).

4.ESS.3: Gravitational force affects movements of water, rock and soil.

FOOD CHAIN VIDEO



■ First Grade

LS: Basic Needs of Living Things

This topic focuses on the physical needs of living things in Ohio. Energy from the sun or food, nutrients, water, shelter and air are some of the physical needs of living things.

1.LS.1: Living things have basic needs, which are met by obtaining materials from the physical environment.

1.LS.1: Living things require energy, water, and a particular range of temperatures in their environments. Plants get energy from sunlight. Animals get energy from plants and other animals. Living things acquire resources from the living and nonliving components of the environment.

1.LS.2: Living things survive only in environments that meet their needs.

■ Second Grade

LS: Interactions within Habitats

This topic focuses on how ecosystems work by observations of simple interactions between the biotic/living and abiotic/nonliving parts of an ecosystem. Just as living things impact the environment in which they live, the environment impacts living things.

2.LS.1: Living things function and interact with their physical environments. Living things cause changes in the environments where they live; the changes can be very noticeable or slightly noticeable, fast or slow.

2.LS.1: Living things can cause changes in their ecosystems, which can be observed. These interactions can cause changes in groups of living things and the physical environment.

■ Third Grade

LS: Behavior, Growth, and Changes

This topic explores life cycles of organisms and the relationship between the natural environment and organism's (physical and behavioral) traits, which affect its ability to survive and reproduce.

3.LS.2: Plants and animals have certain physical or behavioral characteristics that influence their chances of surviving in particular environments.

3.LS.3: Worldwide, organisms are growing, reproducing, dying and decaying. The details of the life cycle are different for different organisms, which affect their ability to survive and reproduce in their natural environments.

■ Fifth Grade

LS: Interactions within Ecosystems

This topic focuses on foundational knowledge of the structures and functions of ecosystems.

5.LS.1: Organisms perform a variety of roles in an ecosystem.

5.LS.1: Populations of organisms can be categorized by how they acquire energy.

5.LS.1: Food webs can be used to identify the relationships among producers, consumers and decomposers in an ecosystem.

5.LS.1: Food chains and webs are schematic representations of real-world interactions. For this grade level, it is enough to recognize that food webs represent an intertwining of food chains within the same biological community.

5.LS.2: All of the processes that take place within organisms require energy.

5.LS.2: For ecosystems, the major source of energy is sunlight. Energy entering ecosystems as sunlight is transferred and transformed by producers into energy that organisms use through the process of photosynthesis. That energy is used or stored by the producer and can be passed from organism to organism as illustrated in food webs.

5.LS.2: Energy flows through an ecosystem in one direction, from the sun to photosynthetic organisms to consumers (herbivores, omnivores, carnivores) and decomposers. The exchange of energy that occurs in an ecosystem can be represented as a food web. The exchange of energy in an ecosystem is essential because all processes of life for all organisms require a continual supply of energy.

FBI VIDEO



■ Second Grade

- LS: Interactions within Habitats
This topic focuses on how ecosystems work by observations of simple interactions between the biotic/living and abiotic/nonliving parts of an ecosystem. Just as living things impact the environment in which they live, the environment impacts living things.
- 2.LS.1: Living things cause changes on Earth

■ Third Grade

- LS: Behavior, Growth, and Changes
This topic explores life cycles of organisms and the relationship between the natural environment and an organism's (physical and behavioral) traits, which affect its ability to survive and reproduce.
- 3.LS.3: Plants and animals have life cycles that are part of their adaptations for survival in their natural environments.
- 3.LS.3: Worldwide, organisms are growing, reproducing, dying and decaying. The details of the life cycle are different for different organisms, which affect their ability to survive and reproduce in their natural environments.

■ Fourth Grade

- LS: Earth's Living History
This topic focuses on using fossil evidence and living organisms to observe that suitable habitats depend upon a combination of biotic and abiotic factors.
- 4.LS.1: Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful
- 4.LS.1: Ecosystems are based on interrelationships among and between biotic and abiotic factors. These include the diversity of other organisms present, the availability of food and other resources, and the physical attributes of the environment
- 4.LS.2: The concept of biodiversity is expanded to include different classification schemes based upon shared internal and external characteristics of organisms.

■ Fifth Grade

- LS: Interactions within Ecosystems
This topic focuses on foundational knowledge of the structures and functions of ecosystems.
- 5.LS.1: Organisms perform a variety of roles in an ecosystem.
- 5.LS.1: Organisms have symbiotic relationships in which individuals of one species are dependent upon individuals of another species for survival.
- 5.LS.1: Decomposers (primarily bacteria and fungi) are consumers that use waste materials and dead organisms for food. Decomposers also return nutrients to the ecosystem.

ROOTS, STEMS, LEAVES VIDEO



Kindergarten

LS: Physical and Behavioral Traits of Living Things

This topic focuses on observing, exploring, describing and comparing living things in Ohio.

K.LS.1: Living things have specific characteristics and traits.

K.LS.1: Living things grow and reproduce. Living things are found worldwide.

K.LS.1: There are different kinds of living things. The focus is on familiar organisms (e.g., grass, trees, flowers, cats, dogs, horses). Some grade-appropriate characteristics include that living things grow, reproduce, require energy and respond to stimuli. Animals need food for energy; plants acquire energy from the sun.

K.LS.2: Living things have physical traits and behaviors, which influence their survival.

K.LS.2: Living things are made up of a variety of structures. Some traits can be observable structures. Some of these structures and behaviors influence their survival.

First Grade

LS: Basic Needs of Living Things

This topic focuses on the physical needs of living things in Ohio. Energy from the sun or food, nutrients, water, shelter and air are some of the physical needs of living things.

1.LS.1: Living things require energy, water, and a particular range of temperatures in their environments. Plants get energy from sunlight. Animals get energy from plants and other animals. Living things acquire resources from the living and nonliving components of the environment.

1.LS.2: The needs of plants include room to grow, appropriate temperature range, light, water, air and nutrients. Changes in these conditions can affect the growing season for certain plants. The amount and distribution of these conditions will influence the types of plants that can survive in an area. Observations of seasonal changes in temperature, liquid water availability, wind and light are applied to the effect of seasonal changes on local plants.

Third Grade

LS: Behavior, Growth and Changes

This topic explores life cycles of organisms and the relationship between the natural environment and an organism's (physical and behavioral) traits, which affect its ability to survive and reproduce.

3.LS.2: Organisms have different structures and behaviors that serve different functions. Some plants have leaves, stems and roots; each part serves a different function for the plant.

3.LS.3: Plants and animals have life cycles that are part of their adaptations for survival in their natural environments.

3.LS.3: Most life cycles start with birth, budding or germination, then progress to growth, development, adulthood, reproduction and death.

NO BONES

Kindergarten

LS: Physical and Behavioral Traits of Living Things

This topic focuses on observing, exploring, describing and comparing living things in Ohio.

K.LS.1: Living things have specific characteristics and traits.

K.LS.2: Living things are made up of a variety of structures. Some traits can be observable structures. Some of these structures and behaviors influence their survival.



First Grade

LS: Basic Needs of Living Things

This topic focuses on the physical needs of living things in Ohio. Energy from the sun or food, nutrients, water, shelter and air are some of the physical needs of living things.

1.LS.2: Resources are necessary to meet the needs of an individual and populations of individuals. Living things interact with their physical environments as they meet those needs.

Third Grade

LS: Behavior, Growth, and Changes

This topic explores life cycles of organisms and the relationship between the natural environment and an organism's (physical and behavioral) traits, which affect its ability to survive and reproduce.

3.LS.2: Organisms have different structures and behaviors that serve different functions. Some animals have wings, feathers and beaks; each part serves a different function for the animals. The observation of body parts should be limited to gross morphology and not microscopic or chemical features.