

## Kindergarten Science

### BenchMark Item along with Clarification Point

#### Interdependent Relationships in Ecosystems: Animals, Plants, and Their Environment

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**K--LS1--a.** Collect, analyze, and use data to describe patterns of what plants and animals (including humans) need to survive. *[Clarification Statement: Data can come from direct observations and other sources. An example of a pattern is that plants need sunlight and water and animals need food and water. Scientists look for patterns when making observations.]*

**K--ESS3--a.** Obtain information to describe the relationship between the needs of different plants and animals (including humans) and where they live on the land or in the water. *[Clarification Statement: An example of a relationship is that deer eat grass;; therefore, they live in meadows and the forest. Plants, animals, and their surroundings make up a system, and they work*

**K--ESS3--d.** Communicate and discuss solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment using models and/or drawings.\* *Clarification Statement: Students may create real world solutions to use fewer natural resources in the classroom (e.g., reusing classroom materials, recycle water bottles or paper.*

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#### Structure and Properties of Matter

**K--PS1--a.** Design and conduct an investigation of different kinds of materials to describe their observable properties and classify the materials based on the patterns observed. *[Clarification Statement: Observations are qualitative only and could include relative length, weight, color, texture, and hardness. Patterns include the similar properties that different materials share.]*

**K--PS1--b.** Design and conduct investigations to test the idea that some materials can be a solid or liquid depending on temperature.

**K--PS1--c.** Ask questions, based on observations, to classify different objects by their use and to identify whether they occur naturally or are human-made.\* *[Clarification Statement: Patterns include the similar characteristics of objects that determine whether they occur naturally or are human-made.]*

## Kindergarten Science

### Weather & Climate

**K--ESS2--a.** Observe, record, and share representations of local weather conditions to describe changes over time and identify patterns. *[Clarification Statement: Representations may include pictograms, charts, tallies, and drawings. Time can vary from hours to seasons. Scientists look for patterns in their observations. An example of a pattern is that it is usually cooler in the morning than in the afternoon.]*

**K--ESS2--b.** Obtain information from text and other media about different types of local weather, including severe weather, and identify the most common types of weather in the local region. *[Clarification Statement: Looking for the most common type of weather is looking for a pattern in the recorded data.]*

**K--ESS3--c.** Ask questions and communicate information about the purpose of weather forecasting to prepare for, and respond to, problems caused by weather and how life would be different without forecasts.

**K--PS3--a.** Carry out investigations using observations to determine the effect of sunlight on Earth surface. *[Clarification Statement: Examples of Earth surface could include grass and sand.]*

**K--PS3--b.** Use tools and materials provided to design and test a structure that will reduce the warming effect of sunlight on Earth's surface.\*  
*[Clarification Statement: Students may design simple structures like umbrellas or canopies that minimize the warming effect of the sun by creating shade.]*

### 1. Structure, Function, and Information Processing

**1--LS1--a.** Use diagrams and physical models to support the explanation of how the external parts of animals and plants help them survive, grow, and meet their needs. *[Clarification Statement: Animals use their parts to seek, find, capture, and eat food, move, grasp objects, sense their environment, and protect themselves. Plants have parts that help them protect themselves, survive, grow, and produce new plants. Models might include drawings, diagrams, or physical replicas.]*

## Kindergarten Science

**1--LS3--a.** Use information from observations to support the explanation that different individual plants and animals of the same type have similarities and differences. *[Clarification Statement: Patterns could include similar features that plants or animals share. Examples of observations could include that leaves from the same type of plant are the same shape but can differ in size or a kitten may resemble its parents but is not exactly the same.]*

**1--LS1--c.** Record observations and communicate about the ways young plants and animals change as they grow. *[Clarification Statement: An example of a pattern could be that young organisms get bigger as they age. Focus is on simple growth and change, not complex life cycles. Information may be obtained from direct observation of organisms as well as various other resources (e.g., books, videos).]*

### **1.Waves: Light and Sound**

**1--PS4--b.** Construct an explanation using observations as evidence that objects in darkness can be seen only when light travels to the objects and shines on them.

**1--PS4--a.** Conduct an investigation to provide evidence that vibrating matter creates sound and that sound can cause matter to vibrate. *[Clarification Statement: Examples of vibrating matter that creates sound are tuning forks or plucking a stretched string. An example of how sound can cause matter to vibrate is holding a piece of paper near a speaker.]*

**1--PS4--e.** Use tools and materials to design and build a device that uses light or sound to solve the problem of sending a signal over a distance.\* *[Clarification Statement: Examples of devices include a light source to send signals beats.]*

### **Earth Surface Systems: Processes that Shape the Earth.**

**2--ESS2--a.** Use observations to construct explanations about how landforms and bodies of water provide homes for living things. *[Clarification Statement: Examples of landforms that provide homes are caves used as shelters. An example of cause and effect is a home being created or destroyed as a result of a landform change. Science is how we know about the ways animals live.]*

## Kindergarten Science

**2--ESS2--b.** Develop models to investigate how wind and water can move Earth materials from one place to another and change the shape of the land quickly or slowly. *[Clarification Statement: Examples of changes that occur slowly to shapes of landforms could be sediments built up at the mouth of the river, building and rebuilding of sand dunes, or changes that occur quickly to landforms such as coastal erosion after a hurricane.]*

### **4.Structure, Function, and Information Processing**

**4--LS1--a.** Use simple models to describe that plants and animals have major internal and external structures, including organs, that support survival, growth, behavior, and reproduction. *[Clarification Statement: Examples of structures include thorns, stems, roots, stamens, ovaries, heart, brain, skin, or bones.]*

### **5.Structure and Properties of Matter**

**5--PS1--c.** Make observations and measurements to identify given materials based on their properties. *[Clarification Statement: Examples of materials to be identified could include baking soda and metal. Both qualitative and quantitative measurements and observations should be used.]*