

Instructional Support for the Idaho State Science Content and Performance Standards: Kindergarten

<u>Content Domain</u>	<u>Performance Standard</u>	<u>Supporting Content</u>	<u>Science and Engineering Practice</u>	<u>Cross Cutting Concept</u>
Physical Science: Motion and Stability: Forces and Interactions	PS1-K-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Pushes and Pulls Pushes and pulls can have different strengths and directions. When objects touch or collide, they push on one another, change direction, speed up, or slow down. <ul style="list-style-type: none"> • Examples could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other. Limit: Measurement of relative strengths or different directions, but not both at the same time.	Planning and Carrying Out Investigations <ul style="list-style-type: none"> • With guidance, develop an investigation plan to investigate the relationship between the strength and direction of pushes and pulls and the motion of an object and record their data. • Make observations to compare the effect on the motion of the object caused by changes in the strength or direction of the pushes and pulls and record data. 	Cause and Effect <ul style="list-style-type: none"> • Simple tests can be designed to gather evidence to support or refute student ideas about causes.
	PS1-K-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.	Pushes and Pulls Affect Speed and Direction Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. <ul style="list-style-type: none"> • Examples could include having a marble or other object move a certain distance, follow a particular path, and knock down other objects, or a structure that would cause an object such as a marble or ball to turn or increase in speed. Limit: Do not include friction as a mechanism for change in speed.	Analyzing and Interpreting Data <ul style="list-style-type: none"> • With guidance, organize given information using graphical or visual displays (e.g., pictures, charts) about the relative speed or direction of the object before and after a push or pull is applied, and how this affects the speed or direction of an object. 	Cause and Effect <ul style="list-style-type: none"> • Simple tests can be designed to gather evidence to support or refute student ideas about causes.
Physical Science: Energy	PS2-K-1. Make observations to determine the effect of sunlight on Earth's surface.	Effect of Sunlight Sunlight warms Earth's surface. <ul style="list-style-type: none"> • Examples could include sand, soil, rocks, and water. Limit: Use relative measurements such as warmer/cooler.	Planning and Carrying Out Investigations <ul style="list-style-type: none"> • With guidance, describe the affect of sunlight and the evidence that will result from the investigation. • Make and record observations of the relative warmth of materials in the presence and absence of sunlight. • Identify patterns of relative warmth of materials in sunlight and in shade. 	Cause and Effect <ul style="list-style-type: none"> • Events have causes that generate observable patterns.
	PS2-K-2. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.	Structures and Sunlight Sunlight warms Earth's surface. <ul style="list-style-type: none"> • Examples could include umbrellas, canopies, and tents that minimize the warming effect of the sun. Limit: Use relative measurements such as warmer/cooler.	Constructing Explanations and Designing Solutions <ul style="list-style-type: none"> • Use scientific information about sunlight's warming effect on the Earth's surface to collaboratively design and build a structure that reduces warming caused by the sun. 	Cause and Effect <ul style="list-style-type: none"> • Events have causes that generate observable patterns.

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Life Science: Molecules to Organisms: Structure and Processes	LS1-K-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.	Needs of Plants and Animals All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. <ul style="list-style-type: none"> • Examples could include that animals need to take in food but plants produce their own; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water. 	Analyzing and Interpreting Data <ul style="list-style-type: none"> • With guidance, organize data from observations (first hand or from media) using graphical displays (e.g., pictures, charts) to identify patterns and provide evidence describing the relationship between a plant/animal and their needs. 	Patterns <ul style="list-style-type: none"> • Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.
	LS1-K-2. Use classification supported by evidence to differentiate between living and non-living items.	Living and Non-Living Living and non-living things have distinct characteristics. <ul style="list-style-type: none"> • Examples include using a chart or Venn diagram to sort objects or pictures into living and not-living items. 	Analyzing and Interpreting Data <ul style="list-style-type: none"> • Use collected observations and evidence to classify items into categories. 	Patterns <ul style="list-style-type: none"> • Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.

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Earth and Space Sciences: Earth's Systems	ESS1-K-1. Use and share observations of local weather conditions to describe patterns over time, which includes the four seasons.	Weather and Four Seasons Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. The four seasons occur in a specific order due to their weather patterns. <ul style="list-style-type: none"> Examples could include descriptions of the weather (such as sunny, cloudy, rainy, and warm), numbers of sunny, windy, and rainy days in a month, or that it is usually cooler in the morning than in the afternoon. Limit: Observations are limited to whole numbers and relative measures such as warmer/cooler.	Analyzing and Interpreting Data <ul style="list-style-type: none"> With guidance, organize data from given observations (firsthand or from media) about local weather conditions using graphical displays (e.g., pictures, charts) to identify and describe patterns and describe the differences that occur within a day or between seasons. 	Patterns <ul style="list-style-type: none"> Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.
	ESS1-K-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.	Plants and Animals Change the Environment Plants and animals change their environments to meet their needs. <ul style="list-style-type: none"> Examples could include a squirrel digs in the ground to hide its food, birds build nests, and tree roots can break concrete. 	Engaging in Argument from Evidence <ul style="list-style-type: none"> Make a claim, describe the evidence, and present an argument by logically connecting various needs of plants and animals to evidence about how plants/animals change their environments to meet their needs. 	Systems and System Models <ul style="list-style-type: none"> Systems in the natural and designed world have parts that work together.
Earth and Space Sciences: Earth and Human Activity	ESS2-K-1. Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.	Needs of Living Things Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do. <ul style="list-style-type: none"> Examples could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. 	Developing and Using Models <ul style="list-style-type: none"> Use a model to describe the relationship between the different plants and animals and the places they live, the materials they need to survive, and that these parts of systems work together and allow living things to meet their needs. 	Systems and System Models <ul style="list-style-type: none"> Systems in the natural and designed world have parts that work together.
	ESS2-K-2. Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.	Weather Forecasting and Severe Weather Some kinds of severe weather are more likely than others in a given region. Scientists forecast severe weather so that the communities can prepare for and respond to these events. <ul style="list-style-type: none"> Examples could include any local form of severe weather. 	Asking Questions and Defining Problems <ul style="list-style-type: none"> Formulate questions about local severe weather, the answers to which would clarify how weather forecasting can help people avoid the most serious impacts of severe weather events. Obtaining, Evaluating, and Communicating Information <ul style="list-style-type: none"> Collect information (e.g., from grade appropriate texts, media) about local severe weather warnings to determine that weather patterns help scientists predict severe weather before it happens so people can plan for and respond to weather events. 	Cause and Effect <ul style="list-style-type: none"> Events have causes that generate observable patterns.
	ESS2-K-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.	Impact of Humans on the Environment Things that people do to live comfortably can affect the world around them; but, they can make choices that reduce their impacts on the land, water, air, and other living things. <ul style="list-style-type: none"> Examples could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles. 	Obtaining, Evaluating, and Communicating Information <ul style="list-style-type: none"> Use observations to describe information about how people affect the land, water, air, and/or other living things in the local environment in positive and negative ways. Communicate information about solutions that reduce the negative effects of humans on the local environment. 	Cause and Effect <ul style="list-style-type: none"> Events have causes that generate observable patterns.