

Louisiana Believes

Crosswalk for Louisiana Student Standards for Science and NGSS: Kindergarten

This document provides guidance to assist teachers, schools, and systems with determining alignment to [Louisiana Student Standards for Science](#) for resources designed for the Next Generation Science Standards. This guidance document is considered a “living” document, as we believe that teachers and other educators will find ways to improve the document as they use it. Please send feedback to STEM@la.gov so that we may use your input when updating this guide.

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MOTION AND STABILITY: FORCES AND INTERACTIONS		K- PS2-1
LSSS	NGSS	
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.		
Clarification Statement		
Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, or two objects colliding and pushing on each other. <u>Content includes contact forces with different relative strengths or different directions, but not both at the same time.</u>	Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, or two objects colliding and pushing on each other.	
Science and Engineering Practice	Planning and Carrying Out Investigations	
Disciplinary Core Ideas:	Forces and Motion	
Pushes and pulls can have different strengths and directions. (LE.PS2A.a)		
Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. (LE.PS2A.b)		
Disciplinary Core Ideas:	Types of Interactions	
When objects touch or collide, they push on one another and can change motion. (LE.PS2B.a)		
Disciplinary Core Ideas:	Relationship Between Energy and Forces	
A bigger push or pull makes things speed up or slow down more quickly. (LE.PS3C.a)		
Crosscutting Concepts:	Cause and Effect	
Simple tests can be designed to gather evidence to support or refute student ideas about causes.		

*Underlined sections denote **additional information** in the Louisiana Student Standards for Science.

MOTION AND STABILITY: FORCES AND INTERACTIONS		K-PS2-2
LSSS	NGSS	
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.		
Clarification Statement		
Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, or knock down other objects. Examples of solutions could include tools such as a ramp to increase the speed of the object, a structure that would cause an object such as a marble or ball to turn <u>or using a rope or string to pull an object</u> . Content does <u>not include friction as a mechanism for change in speed</u> .	Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, or knock down other objects. Examples of solutions could include tools such as a ramp to increase the speed of the object, a structure that would cause an object such as a marble or ball to turn.	
Science and Engineering Practice:	Analyzing and Interpreting Data	
Disciplinary Core Ideas:	Forces and Motion	
Pushes and pulls can have different strengths and directions. (LE.PS2A.a)		
Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. (LE.PS2A.b)		
Disciplinary Core Ideas:	Engineering Design	
A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions. (LE.ETS1A.a)		
Crosscutting Concepts:	Cause and Effect	
Simple tests can be designed to gather evidence to support or refute student ideas about causes.		

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ENERGY		K-PS3-1
LSSS	NGSS	
Make observations to determine the effect of sunlight on Earth's surface.		
Clarification Statement		
<u>Sunlight heats Earth's natural surfaces including sand, soil, rocks, or water and the unnatural surfaces including man-made objects like plastics, asphalt, or concrete. Examples of observations could be relative changes in temperature of surfaces exposed to sunlight.</u>	<u>Examples of Earth's surface could include sand, soil, rocks, and water.</u>	
Science and Engineering Practice:	Planning and Carrying Out Investigations	
Disciplinary Core Ideas:	Conservation of Energy and Energy Transfer	
Sunlight warms Earth's surface. (LE.PS3B.a)		
Crosscutting Concepts:	Cause and Effect	
Events have causes that generate observable patterns.		

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ENERGY		K-PS3-2
LSSS	NGSS	
Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.		
Clarification Statement		
Examples of structures could include umbrellas, canopies, and tents that minimize the warming effect of the sun		
Science and Engineering Practice:		Constructing Explanations and Designing Solutions
Disciplinary Core Ideas:		Conservation of Energy and Energy Transfer
Sunlight warms Earth's surface. (LE.PS3B.a)		
Crosscutting Concepts:		Cause and Effect
<u>Simple tests can be designed to gather evidence to support or refute student ideas about causes.</u>	<u>Events have causes that generate observable patterns.</u>	

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FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES		K-LS1-1
LSSS	NGSS	
Use observations to describe patterns of what plants and animals (including humans) need to survive.		
Clarification Statement		
Examples of patterns could include that plants make their own food while animals do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; <u>or</u> that all living things need water.	Examples of patterns could include that plants make their own food while animals do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; <u>and</u> that all living things need water.	
Science and Engineering Practice:	Analyzing and Interpreting Data	
Disciplinary Core Ideas:	Organization for Matter and Energy Flow In Organisms	
All animals need food in order to live and grow. Animals obtain their food from plants or from other animals. Plants need water and light to live and grow. (LE.LS1C.a)		
Crosscutting Concepts:	Patterns	
Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.		

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EARTH'S SYSTEMS		K-ESS2-1
LSSS	NGSS	
Use and share observations of local weather conditions to describe patterns over time.		
Clarification Statement		
Examples of qualitative observations could include descriptions of the weather (such as sunny, cloudy, rainy, or warm); examples of quantitative observations could include numbers of sunny, windy, or rainy days in a month. Examples of patterns could include that it is cooler in the morning than in the afternoon or the number of sunny days versus cloudy days in different months.		
Science and Engineering Practice:	Analyzing and Interpreting Data	
Disciplinary Core Ideas:	Weather and Climate	
Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time. (LE.ESS2D.a)		
Crosscutting Concepts:	Patterns	
Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.		

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EARTH'S SYSTEMS		K-ESS2-2
LSSS	NGSS	
Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.		
Clarification Statement		
Examples of plants and animals changing their environment could include a squirrel digging in the ground to hide its food, tree roots breaking concrete, <u>or a dandelion spreading seeds to generate more dandelions.</u>	Examples of plants and animals changing their environment could include a squirrel digging in the ground to hide its food, tree roots breaking concrete.	
Science and Engineering Practice:	Engaging in Argument from Evidence	
Disciplinary Core Ideas:	Biogeology	
Plants and animals can change their environment. (LE.ESS2E.a)		
Disciplinary Core Ideas:	Human Impacts On Earth Systems	
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. (LE.ESS3C.a)		
Crosscutting Concepts:	Systems and System Models	
Systems in the natural and designed world have parts that work together.		

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EARTH AND HUMAN ACTIVITY		K-ESS3-1
LSSS	NGSS	
Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.		
Clarification Statement		
Examples of relationships could include that deer eat buds and leaves and therefore usually live in forested areas; grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.		
Science and Engineering Practice:		Developing And Using Models
Disciplinary Core Ideas:		Natural Resources
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. (LE.ESS3A.a)		
Crosscutting Concepts:		Systems and System Models
Systems in the natural and designed world have parts that work together.		

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EARTH AND HUMAN ACTIVITY		K-ESS3-2
LSSS	NGSS	
Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.		
Clarification Statement		
Emphasis is on local forms of severe weather <u>and safety precautions associated with that severe weather.</u>	Emphasis is on local forms of severe weather.	
Science and Engineering Practice:	Asking Questions and Defining Problems	
Disciplinary Core Ideas:	Natural Hazards	
Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events. (LE.ESS3B.a)		
Disciplinary Core Ideas:	Defining and Delimiting an Engineering Problem	
NONE PROVIDED IN LSSS	Asking questions, making observations, and gathering information are helpful in thinking about problems.	
Crosscutting Concepts:	Cause and Effect	
Events have causes that generate observable patterns.		

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EARTH AND HUMAN ACTIVITY		K-ESS3-3
LSSS	NGSS	
Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.		
Clarification Statement		
Examples of human impact on the land 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.		
Science and Engineering Practice:	Obtaining, Evaluating, and Communicating Information	
Disciplinary Core Ideas:	Human Impacts On Earth Systems	
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. (LE.ESS3C.a)		
Disciplinary Core Ideas:	Developing Possible Solutions	
Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solution(s) to other people. (LE.ETS1B.a)		
Crosscutting Concepts:	Cause and Effect	
Events have causes that generate observable patterns.		

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