Louisiana Believes

Crosswalk for Louisiana Student Standards for Science and NGSS: 1st grade

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.

Published April 19, 2023

DEPARTMENT of EDUCATION
Louisiana Believes

WAVES AND THEIR APPLICATIONS	**1-PS4-1**
LSSS	**NGSS**
Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.	
Clarification Statement	
Examples of vibrating materials that make sound could include tuning forks or plucking a stretched string. Examples of how sound can make matter vibrate could include holding a piece of paper near a speaker making sound or holding an object near a vibrating tuning fork.	
Science and Engineering Practice:	Planning and Carrying Out Investigations
Disciplinary Core Ideas:	Wave Properties
Sound can make matter vibrate, and vibrating matter can make sound. (LE.PS4A.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.*

WAVES AND THEIR APPLICATIONS	**1-PS4-2**
LSSS	**NGSS**
Make observations to construct an evidence-based account that objects can be seen only when illuminated.	
Clarification Statement	
Examples of observations could include those made in a completely dark room, a pinhole box, or a video of a cave explorer with a flashlight. Illumination could be from an external light source or by an object giving off its own light. <u>This can be explored with light tables, 3-way mirrors, overhead projectors or flashlights.</u>	Examples of observations could include those made in a completely dark room, a pinhole box, or a video of a cave explorer with a flashlight. Illumination could be from an external light source or by an object giving off its own light.
Science and Engineering Practice:	Constructing explanations and designing solutions
Disciplinary Core Ideas:	Electromagnetic Radiation
Objects can be seen if light is available to illuminate them or if they give off their own light. <u>Some objects give off their own light. (LE.PS4B.a)</u>	Objects can be seen if light is available to illuminate them or if they give off their own light.
Crosscutting Concepts:	Cause and Effect
Events have causes that generate observable patterns.	Simple tests can be designed to gather evidence to support or refute student ideas about causes.

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WAVES AND THEIR APPLICATIONS	**1-PS4-3**
LSSS	**NGSS**
Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.	
Clarification Statement	
Examples of materials could include those that are transparent (such as clear plastic), translucent (such as wax paper), opaque (such as cardboard), or reflective (such as a mirror).	Examples of materials could include those that are transparent (such as clear plastic), translucent (such as wax paper), opaque (such as cardboard), and reflective (such as a mirror).
Science and Engineering Practice:	Planning and carrying out investigations
Disciplinary Core Ideas:	Electromagnetic Radiation
Some materials allow light to pass through them, others allow only some light through and others block all the light and create a dark shadow on any surface beyond them, where the light cannot reach. Mirrors can be used to redirect a light beam. (The idea that light travels from place to place is developed through experiences with light sources, mirrors, and shadows, but no attempt is made to discuss the speed of light.) (LE.PS4B.b)	
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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WAVES AND THEIR APPLICATIONS	**1-PS4-4**
LSSS	**NGSS**
Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.	
Clarification Statement	
Examples of devices could include a light source to send signals, paper cup and string "telephones," or a pattern of drum beats.	
Science and Engineering Practice:	Constructing explanations and designing solutions
Disciplinary Core Ideas:	Information Technologies and Instrumentation
People also use a variety of devices to communicate (send and receive information) over long distances. (LE.PS4C.a)	
Disciplinary Core Ideas:	Developing Possible Solutions
A situation that people want to change or create can be approached as a problem to be solved through engineering. (LE.ETS1A.a)	NONE PROVIDED IN NGSS
Crosscutting Concepts:	Systems and System Models
Systems in the natural and designed world have parts that work together.	People depend on various technologies in their lives; human life would be very different without technology.

Underlined sections denote **information that does **not** appear in both sets of standards.*

FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES	**1-LS1-1**
LSSS	**NGSS**
Use tools and materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.	
Clarification Statement	
Examples of human problems that can be solved by mimicking plant or animal solutions could include designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells or animal scales; stabilizing structures by mimicking animal tails or roots on plants; keeping out intruders by mimicking thorns on branches or animal quills; and detecting intruders by mimicking eyes or ears.	
Science and Engineering Practice:	Constructing explanations and designing solutions
Disciplinary Core Ideas:	Structure and Function
All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (LE.LS1A.a)	
Disciplinary Core Ideas:	Information Processing
Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. (LE.LS1D.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 solutions to	NONE PROVIDED IN NGSS

a problem. (LE.ETS1B.a)	
Disciplinary Core Ideas:	Optimizing the Design Solution
Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (LE.ETS1C.a)	NONE PROVIDED IN NGSS
Crosscutting Concepts:	Structure and Function
The shape and stability of structures of natural and designed objects are related to their function(s).	

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FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES	**1-LS1-2**
LSSS	**NGSS**
Read grade-appropriate texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.	Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.
Clarification Statement	
Examples of patterns of behaviors could include the signals that offspring make (such as crying, cheeping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring).	
Science and Engineering Practice:	Obtaining, evaluating, and communicating information
Disciplinary Core Ideas:	Growth and Development of Organisms
Adult plants and animals can have offspring. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (LE.LS1B.a)	Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.
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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Heredity: Inheritance and Variation of Traits	**1-LS3-1**
LSSS	**NGSS**
Make observations to construct an evidence-based account that young plants and animals are <u>similar</u>, but not exactly like, their parents.	Make observations to construct an evidence-based account that young plants and animals are <u>like</u>, but not exactly like, their parents.
Clarification Statement	
Examples of observations could include: leaves from the same kind of plant are similar in shape but can differ in size, or a particular breed of dog looks like its parents but is not exactly the same. Examples of patterns could include features that plants or animals share.	
Science and Engineering Practice:	Constructing explanations and designing solutions
Disciplinary Core Ideas:	Inheritance of Traits
Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly like, their parents. (LE.LS3A.a)	
Disciplinary Core Ideas:	Variation of Traits
Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (LE.LS3B.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 Place In The Universe	**1-ESS1-1**
LSSS	**NGSS**
Use observations of the sun, moon, and stars to describe patterns that can be predicted.	
Clarification Statement	
Examples of patterns could include that the sun and moon appear to rise in one part of the sky, move across the sky, and set; and stars other than our sun are visible at night but not during the day.	
Science and Engineering Practice:	Analyzing and interpreting data
Disciplinary Core Ideas:	The Universe and its Stars
Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. (LE.ESS1A.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 Place In The Universe	**1-ESS1-2**
LSSS	**NGSS**
Make observations at different times of year to relate the amount of daylight to the time of year.	
Clarification Statement	
Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring, fall, or summer.	
Science and Engineering Practice:	Planning and carrying out investigations
Disciplinary Core Ideas:	Earth and the Solar System
Seasonal patterns of sunrise and sunset can be observed, described, and predicted. (LE.ESS1B.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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