



Grade 4 Science ENERGY	
Louisiana Student Standards	Louisiana Connectors (LC)
4-PS3-1 Use evidence to construct an explanation relating the speed of an object to the energy of that object.	LC-4-PS3-1a Identify that moving objects contain energy.
	LC-4-PS3-1b Demonstrate that objects moving faster possess more energy than objects moving slower.
4-PS3-2 Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.	LC-4-PS3-2a Identify examples of how energy can be moved from place to place (i.e., through sound or light traveling; by electrical currents; heat passing from one object to another).
4-PS3-3 Ask questions and predict outcomes about the changes in energy that occur when objects collide.	LC-4-PS3-3a Identify the change in energy or the change in objects' motions when objects collide (e.g., speeds as objects interact, direction).
4-PS3-4 Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.	LC-4-PS3-4a Relate an example that demonstrates that energy can be converted from one form to another form (e.g., electric circuits that convert electrical energy into light, motion, sound or heat).

Grade 4 Science WAVES AND THEIR APPLICATIONS IN TECHNOLOGIES FOR INFORMATION TRANSFER	
Louisiana Student Standards	Louisiana Connectors (LC)
4-PS4-1 Develop a model of waves to describe patterns in terms of amplitude and wavelength and to show that waves can cause objects to move.	LC-4-PS4-1a Describe the properties of waves using a model (e.g., drawings, diagrams) to show amplitude (height) and wavelength.
	LC-4-PS4-1b Identify relationships involving wave amplitude, wavelength, and the motion of an object (e.g., when the amplitude increases, the object moves more).
	LC-4-PS4-1c Identify amplitude as a measure of energy in a wave.
4-PS4-2 Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.	LC-4-PS4-1d Identify wavelength as the distance between a point on one wave and the identical point on the next wave.
	LC-4-PS4-2a Arrange a model to show that light can be seen when light reflected from its surface enters the eye.



Grade 4 Science FROM MOLECULES TO ORGANISMS: STRUCTURE AND PROCESSES	
Louisiana Student Standards	Louisiana Connectors (LC)
4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.	LC-4-LS1-1a Identify external macroscopic structures (e.g., bird beaks, eyes, feathers, roots, needles on a pine tree) that support growth, survival, behavior, and reproduction of organisms.
	LC-4-LS1-1b Identify internal structures (e.g., heart, muscles, bones) that support growth, survival, behavior, and reproduction of organisms.
4-LS1-2 Construct an explanation to describe how animals receive different types of information through their senses, process the information in their brains, and respond to the information in different ways.	LC-4-LS1-2a Identify that sense receptors provide different kinds of information, which is processed by the brain.
	LC-4-LS1-2b Identify how animals use their sense receptors to respond to different types of information (e.g., sound, light, odor, temperature) in their surroundings with behaviors that help them survive.
	LC-4-LS1-2c Identify how animals use their memories to help them survive.

Grade 4 Science EARTH'S PLACE IN THE UNIVERSE	
Louisiana Student Standards	Louisiana Connectors (LC)
4-ESS1-1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in landforms over time.	LC-4-ESS1-1a Identify rock formations that show how the Earth's surface has changed over time (e.g., change following earthquakes).
	LC-4-ESS1-1b Identify older fossils as being found in deeper, older rock layers.



Grade 4 Science EARTH'S SYSTEM	
Louisiana Student Standards	Louisiana Connectors (LC)
4-ESS2-1 Plan and conduct investigations on the effects of water, ice, wind, and vegetation on the relative rate of weathering and erosion.	LC-4-ESS2-1a Use data to compare differences in the shape of the land due to the effects of weathering or erosion.
	LC-4-ESS2-1b Identify how living things affect the shape of the land.
4-ESS2-2 Analyze and interpret data from maps to describe patterns of Earth's features.	LC-4-ESS2-2a Use maps to locate different land and water features of Earth.
	LC-4-ESS2-2b Use maps to determine that earthquakes and volcanoes often occur along the boundaries between continents.
4-ESS2-3 Ask questions that can be investigated and predict reasonable outcomes about how living things affect the physical characteristics of their environment.	LC-4-ESS2-3a Identify how plants affect the environment (e.g., some have roots that can stabilize or destabilize the soil).
	LC-4-ESS2-3b Identify how animals affect the environment (e.g., they disturb rocks, soil, and sediment; some build dams or nests).

Grade 4 Science EARTH AND HUMAN ACTIVITY	
Louisiana Student Standards	Louisiana Connectors (LC)
4-ESS3-1 Obtain and combine information to describe that energy and fuels are derived from renewable and non-renewable resources and how their uses affect the environment.	LC-4-ESS3-1a Identify the origins of the natural sources humans use for energy and fuel.
	LC-4-ESS3-1b Identify environmental effects associated with the use of a given energy resource.
4-ESS3-2 Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.	LC-4-ESS3-2a Describe solutions to reduce the impact of a natural Earth process (e.g., earthquake, flood, volcanic activity) on humans.