

Grade 4 – Science Curriculum

Earth and Space Science GLE	Student Friendly Language
<p>ESS1:3-4:1.1 Recognize and describe how water exists in the air in different forms and changes from one form to another through various processes, such as freezing, condensation, precipitation and evaporation.</p> <p>ESS1:3-4:1.2 Explain that air surrounds us, it takes up space, and it moves with the wind.</p> <div style="border: 2px solid black; padding: 5px; margin: 10px 0;"> <p>ESS1:3-4:1.3 Based on data collected from daily weather observations, describe weather changes or weather patterns. [ESS1(K-4)POC-5]</p> </div> <div style="border: 2px solid black; padding: 5px; margin: 10px 0;"> <p>ESS1:3-4:1.4 Explain how the use of scientific tools helps to extend senses and gather data about weather (i.e., weather/wind vane - direction; wind sock - wind intensity; anemometer - speed; thermometer - temperature; meter sticks/rulers - snow depth; rain gauges - rain amount in inches). [ESS1(K-4)NOS-3]</p> </div> <p>ESS4:3-4:2.1 Use simple instruments including thermometers, wind socks, meter sticks, rain gauges to collect data and extend the senses.</p> <p>ESS1:3-4:5.1 Identify and describe processes that affect the features of the Earth's surface, including weathering, erosion, and deposition of sediment.</p>	<p>I can describe the different forms water can take and the ways it changes from one to another.</p> <p>I can explain that air is all around us, that it takes up space, and that it moves with the wind.</p> <p>I know that we can get information by watching the weather and that with that information we can predict what the weather will be.</p> <p>I can explain different technology that helps us understand and predict weather.</p> <p>I can use simple technology to help me understand weather.</p> <p>I know and can describe ways that weather changes the surface of the Earth.</p>

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ESS1:3-4:5.2

Explain how wind, water, or ice shape and reshape the Earth's surface. [ESS1(K-4)INQ+SAE-4]

I can explain how wind, water, and ice can change the Earth's surface.

ESS1:3-4:6.4

Use results from an experiment to draw conclusions about how water interacts with earth materials (e.g., percolation, erosion, frost heaves). [ESS1(K-4)INQ-2]

I can use what I learned in an experiment to make predictions about how water will affect the ground.

ESS1:3-4:7.1

Recognize and describe the Earth's surface as being mostly covered by water.

I know that most of Earth is covered with water. I can describe some of those bodies of water.

ESS1:3-4:7.2

Explain that most of Earth's water is salt water, which is found in the oceans, and that fresh water is found in rivers, lakes, underground sources, and glaciers.

I know that most of the water on Earth is salt water in the oceans. I know that fresh water is in rivers, lakes, underground, and in glaciers.

ESS4:3-4:1.1

Recognize that man uses various mechanical devices to record changes in the weather and the Earth.

I know that there is technology to help us understand and keep track of how weather affects Earth.

ESS4:3-4:4.1

Identify some jobs/careers that require knowledge and use of Earth science content and/or skills.

I know that what I learn in Earth and Space Science in fourth grade might be helpful to the job I choose in the future.

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Life Science GLE	Student Friendly Language
<p>LS2:3-4:1.1 Describe how the nature of an organism's environment, such as the availability of a food source, the quantity and variety of other species present, and the physical characteristics of the environment, affect the organism's patterns of behavior.</p> <p>LDS2:3-4:1-2 Describe the interaction of living organisms with nonliving things.</p> <p>LS2:3-4:2.1 Recognize and describe the organization of food webs.</p> <p>LS2:3-4:2.2 Recognize that energy is needed for all organisms to stay alive and grow. Identify where a plant or animal gets its energy. SAE-5</p> <p>LS2:3-4:3.1 Recognize that plants and animals interact with one another in various ways besides providing food, such as seed dispersal or pollination.</p> <p>LS2:3-4:3.2 Describe ways plants and animals depend on each other (e.g., shelter, nesting, food).SAE-5</p> <p>LS3:3-4:1.1 Provide examples of how environmental changes can cause different effects on different organisms.</p> <p>LS3:3-4: 1.2 Provide examples of how an organism's inherited characteristics can adapt and change over time in response to changes in the environment.</p>	<p>I can describe how an animal's behavior can change because of the things around it, like food, other animals, and its environment.</p> <p>I can describe how living things interact with things that are not alive.</p> <p>I can tell you all about Food Webs.</p> <p>I know that all living things need energy in order to stay alive; animals need food and plants need sunlight, water and soil.</p> <p>I know that sometimes plants and animals need one another in order to survive.</p> <p>I can tell you different ways that plants and animals need one another in order to survive.</p> <p>I can tell you different ways that if we change and animal's or plant's environment, then that animal or plant will change too.</p> <p>I can give examples of how plants and animals have changed over long periods of time because their environment changed.</p>

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<p>LS3:3-4:1.3 Using information (data or scenario), explain how changes in the environment can cause organisms to respond (e.g., survive there and reproduce, move away, die). SAE-7</p> <p>LS3:3-4:2.1 Compare information about fossils to living organisms and other fossils to determine any similarities and differences.</p> <p>LS3:3-4:3.1 Recognize that individuals of the same species differ in their characteristics, and explain that sometimes these differences give individuals an advantage in survival and reproduction.</p> <p>LS3:3-4:3.2 Recognize that for any particular environment, some kinds of animals and plants survive well, some less well, and some cannot survive at all.</p> <p>LS4:3-4:1.1 Recognize that an individual organism's behavior is affected by internal cues, such as hunger and thirst; and describe how an organism uses its senses to understand and respond to these cues.</p> <p>LS4:3-4:1.2 Recognize that an individual organism's behavior is influenced by external cues, such as seasonal change, and describe how an organism might react, such as migrating or hibernating.</p> <p>LS4:3-4:1.3 Recognize behaviors that may be unsafe or unhealthy for themselves and others.</p> <p>LS5:3-4:1.1 Recognize that man uses various mechanical devices to record and describe living organisms.</p>	<p>I can use information to show you that animals and plants react to changes in their environment.</p> <p>When comparing fossils to living things, I can show you things that are the same and things that are different.</p> <p>I know that even though things are the same species, they might have unique things about them that help them to survive.</p> <p>I know that living things will do better or worse depending on their environments.</p> <p>I know that living things use their instincts and senses in order to survive.</p> <p>I know that living things change their behavior based on seasonal changes.</p> <p>I can tell when doing something might make me sick or hurt, or if it could make someone else sick or hurt.</p> <p>I know that humans use technology to better understand other living things.</p>
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<p>LS5:3-4:2.1 Demonstrate the use of appropriate tools and simple equipment, such as thermometers, magnifiers and microscopes to gather data and extend the senses.</p> <p>LS5:3-4:2.2 Identify and describe the purpose of tools used by health care professionals, such as X-rays and stethoscopes.</p> <p>LS5:3-4:3.1 Recognize that medical technology provides information about a body's condition, such as determining blood pressure, and recognizing the need to repair, replace and support the affected body parts.</p> <p>LS5:3-4:3.2 Recognize that biotechnology refers to the different ways humans modify the living environment to meet their needs, including growing food, genetic engineering and using living organisms such as yeast to prepare foods.</p> <p>LS5:3-4:4.1 Identify some jobs/careers that require knowledge and use of life science content and/or skills.</p>	<p>I can use Science tools to help me understand something we're studying.</p> <p>I can tell you different types of technology used to help keep people healthy or to help make them feel better.</p> <p>I know that using tools in medicine helps give information about how well our bodies are working and how to fix them if they are not.</p> <p>I know that the word biotechnology means when we use technology to help make living things better.</p> <p>I know that someday my job might use some of the things I learned about in 4th grade life science.</p>
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Physical Science GLE	Student Friendly Language
<p>PS1:3-4:1.1 Explain that materials may be composed of parts that are too small to be seen without magnification.</p>	<p>I know that some things are so small that you need special technology in order to see them.</p>
<p>PS1:3-4:1.2 Use measures of weight (data) to demonstrate that the whole equals the sum of its parts. [PS1(K-4)SAE-3]</p>	<p>I can show you with weights, that by weighing pieces of something I can find out the weight of the whole thing.</p>
<p>PS2:3-4:1.1 Recognize that energy has the ability to create change.</p>	<p>I know that some things can change when they receive energy.</p>
<p>PS2:3-4:3.1 Identify the various forms of energy, such as electrical, light, heat, sound.</p>	<p>I know that energy can mean things like electricity, light, heat or sound.</p>
<p>PS2:3-4:3.2 Recognize that electricity in circuits can produce light, heat, sound, and magnetic effects.</p>	<p>I know that when electricity is in a circuit, it can make light, heat, sound and magnetism.</p>
<p>PS2:3-4:3.3 Identify and describe the organization of a simple circuit.</p>	<p>I can identify and describe a simple circuit.</p>
<p>PS2:3-4:3.4 Differentiate between objects and materials that conduct electricity and those that are insulators of electricity.</p>	<p>I can tell the difference between things that conduct electricity and things that are insulators of electricity.</p>

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<p>PS2:3-4:3.6 Given a specific example or illustration (e.g., simple closed circuit, rubbing hands together) predict the observable effects of energy (i.e., light bulb lights, a bell rings, hands warm up) (e.g., a test item might ask, “What will happen when...?”). [PS2(K-4)SAE-4]</p>	<p>I can explain an example of energy or I could illustrate a picture of something that creates energy. I can also explain or draw what happens when that energy is made.</p>
<p>PS2:3-4:3.8 Experiment, observe, or predict how heat might move from one object to another. [PS2(K-4)INQ+SAE-6]</p>	<p>I can make an experiment, observe or predict how heat might move from one object to another.</p>
<p>PS3:3-4:1.1 Recognize that magnets attract certain kinds of other materials and classify objects by those magnets that will attract and those that will not.</p>	<p>I know that magnets attract certain materials. I can group things that magnets are attracted to and those that magnets are not attracted to.</p>
<p>PS3:3-4:1.2 Recognize that magnets attract and repel each other.</p>	<p>I know that magnets attract and repel each other.</p>
<p>PS3:3-4:1.3 Explain that electrically charged material pulls on all other materials and can attract or repel other charged materials.</p>	<p>I know that things can be charged by electricity. I know that those materials can attract or repel other electrically charged materials.</p>
<p>PS3:3-4:1.5 Use observations of magnets in relation to other objects to describe the properties of magnetism (i.e., attract or repel certain objects, or has no effect). [PS3(K-4)INQ+SAE-8]</p>	<p>I can describe magnetism.</p>
<p>PS4:3-4:1.1 Understand that materials are used in certain products based on their properties, such as strength and flexibility.</p>	<p>I know that we choose certain materials based on their physical properties, like strength and flexibility.</p>

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<p>PS4:3-4:1.2 Recognize that products are made using a combination of technologies, such as how an escalator uses both a pulley system and an electrical motor.</p>	<p>I know that some technology needs to have a combination of simple and complex machines in order to work.</p>
<p>PS4:3-4:2.1 Use data to predict how a change in force (greater/less) might affect the position, direction of motion, or speed of an object (e.g., ramps and balls). [PS3(K-4)INQ+SAE-7]</p>	<p>I can use information to show that a change in force will change the position, direction, or speed of an object.</p>
<p>PS4:3-4:2.2 Describe how some tools can be used to modify natural materials by processes such as separating, shaping, and joining, to produce new materials.</p>	<p>I can describe tools that take natural things and make them into new products.</p>
<p>PS4:3-4:3.1 Give examples of transportation systems used in New Hampshire, such as buses, trains, cars, and bicycles and describe the sources of energy they use.</p>	<p>I can give examples of how we use energy to move throughout New Hampshire, like on a bus, a car, or a bicycle.</p>
<p>PS4:3-4:3.2 Explain that manufactured products are designed to solve a problem or meet a need.</p>	<p>I can explain how something can be invented in order to solve a problem or give people what they need.</p>
<p>PS4:3-4:3.3 Provide an example to illustrate that manufacturing involves changing natural materials into finished products, and explain that this results in the production of a large number of objects that look almost identical.</p>	<p>I can give examples of how a natural thing becomes a finished product. I can explain mass production.</p>
<p>PS4:3-4:4.1 Identify some jobs/careers that require knowledge and use of physical science content and/or skills.</p>	<p>I know that what I learn today might help me with a job or a career I choose in the future.</p>