

**Grades 3 & 4 – Science Curriculum
Student Friendly**

Life Science	Grade 3- Student Friendly	Grade 4-Student Friendly
LS1:3-4:1.1 Recognize the various ways in which living things can be grouped.	I know different ways to group living things.	
LS1:3-4:1.2 Sort/classify different living things using similar and different characteristics. Describe why organisms belong to each group or cite evidence about how they are alike or not alike. INQ&POC-1	I can sort living things based on their characteristics. I can tell why some belong together and why some do not belong together.	
LS1:3-4:2.1 Recognize that living organisms have distinct structures and body systems that serve specific functions in growth, survival, and reproduction.	I know that sometimes, living things have special features that help them to live.	
LS1:3-4:2.2 Identify and describe the function of the plant structures responsible for food production, water transport, support, reproduction, growth and protection.	I can describe each part of a plant and what it does.	
LS1:3-4:2.3 Identify and explain how the physical structures of an organism (plants or animals) allow it to survive in its habitat/environment (e.g., roots for water; nose to smell fire) FAF-4.	I can point out and explain why special parts help an animal or plant live in a certain area.	
LS1:3-4:2.4 Identify the basic needs of plants and animals in order to stay alive (i.e., water, air, food, space). SAE-2	I know that all living things need four things in order to live: air, water, food and space.	

<p>LS1:3-4:3.1 Distinguish between plant and animal characteristics that are inherited, such as eye color in humans and the shape of leaves in plants, and those that are affected by their environment, such as grass turning brown due to lack of water.</p>	<p>I know that animals get their features from their parents and that plants get their features from the plants they came from. I know that sometimes those features can change because of things around them.</p>	
<p>LS1:3-4:3.2 Recognize that plants and animals move through life cycles of birth, growth and development, reproduction, and death, and explain how these life cycles are different for different organisms.</p>	<p>I know that plants and animals have particular life cycles. I know that each living thing's life cycle can be a little different from one another.</p>	
<p>LS1:3-4:3.3 Describe the reproductive process of plants, including how some plants grow from seed and others grow from the parts of other plants.</p>	<p>I can tell you how new plants are made.</p>	
<p>LS1:3-4: 3.4 Predict, sequence, or compare the life stages of organisms -plants and animals (e.g., put images of life stages of an organism in order, predict the next stage in sequence, and compare two organisms)POC-3</p>	<p>I know the stages of life for plants and animals.</p>	
<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>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>LS2:3-4:1-2 Describe the interaction of living organisms with nonliving things.</p>		<p>I can describe how living things interact with things that are not alive.</p>
<p>LS2:3-4:2.1 Recognize and describe the organization of food webs.</p>		<p>I can tell you all about 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>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>LS2:3-4:3.2 Describe ways plants and animals depend on each other (e.g., shelter, nesting, food).SAE-5</p>		<p>I can tell you different ways that plants and animals need one another in order to survive.</p>
<p>LS3:3-4:1.1 Provide examples of how environmental changes can cause different effects on different organisms.</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>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 give examples of how plants and animals have changed over long periods of time because their environment changed.</p>
<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>I can use information to show you that animals and plants react to changes in their environment.</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>When comparing fossils to living things, I can show you things that are the same and things that are different.</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>I know that even though things are the same species, they might have unique things about them that help them to survive.</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>I know that living things will do better or worse depending on their environments.</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>I know that living things use their instincts and senses in order to survive.</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>I know that living things change their behavior based on seasonal changes.</p>
<p>LS4:3-4:1.3 Recognize behaviors that may be unsafe or unhealthy for themselves and others.</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>LS5:3-4:1.1 Recognize that man uses various mechanical devices to record and describe living organisms.</p>		<p>I know that humans use technology to better understand other living things.</p>
<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>I can use Science tools to help me understand something we're studying.</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>I can tell you different types of technology used to help keep people healthy or to help make them feel better.</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>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>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>I know that the word biotechnology means when we use technology to help make living things better.</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 know that someday my job might use some of the things I learned about in 4th grade life science.</p>

Physical Science	Grade 3- Student Friendly	Grade 4-Student Friendly
PS1:3-4:1.1 Explain that materials may be composed of parts that are too small to be seen without magnification		I know that some things are so small that you need special technology in order to see them.
PS1:3-4:1.2 Use measures of weight (date) to demonstrate that the whole equals the sum of its parts. (PS1(K-4)SAE-3)		I can show you with weights, that by weighing pieces of something I can find out the weight of the whole thing.
PS2:3-4:1.1 Recognize that energy has the ability to create change.		
PS1:3-4:2.1 Recognize that substances can be classified by observable properties.	I know that we can group things by certain characteristics that I can see.	
PS1:3-4:2.2 Explain that some materials can exist in different states, and describes the distinct physical properties of each state of matter.	I know that things can change from solid to a liquid or to a gas.	
PS1:3-4:2.3 Explain how some materials, such as water, can change from one state to another by heating or cooling.	I know that by heating or cooling water, we can change its state.	
PS1:3-4:2.4 Make a prediction about what might happen to the state of common materials when heated or cooled or categorize materials as solid, liquid, or gas. POC-2	I can predict what will happen if I cool or heat matter.	
PS1:3-4:2.5 Collect and organize data about physical properties in order to classify objects or draw conclusions about objects and their characteristic properties (e.g., temperature, color, size, shape, weight, texture, flexibility)INQ-1	I can collect and sort information about materials. With that information, I can make predictions about those materials.	
PS2:3-4:1.1 Recognize that energy has the ability to create change.		I know that some things can change when they receive energy.
PS2:3-4:3.1 Identify the various forms of energy, such as electrical, light, heat, sound.		I know that energy can mean things like electricity, light, heat or sound.

PS2:3-4:3.2 Recognize that electricity in circuits can produce light, heat, sound, and magnetic effects.		I know that when electricity is in a circuit, it can make light, heat, sound and magnetism.
PS2:3-4:3.3 Identify and describe the organization of a simple circuit.		I can identify and describe a simple circuit.
PS2:3-4:3.4 Differentiate between objects and materials that conduct electricity and those that are insulators of electricity.		I can tell the difference between things that conduct electricity and things that are insulators of electricity.
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 items might ask, “What will happen when...?”). (PS2(K-4)SAE-4)		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.
PS2:3-4:3.8 Experiment, observe, or predict how heat might move from one object to another. [PS2(K-4)INQ+SAE-6]		I can make an experiment, observe or predict how heat might move from one object to another.
PS3:3-4:1.1 Recognize that magnets attract certain kinds of other materials and classify objects by those magnets will attract and those they will not.	I know that magnets attract certain materials. I can group things that magnets are attracted to and those that magnets are not attracted to.	I know that magnets attract certain materials. I can group things that magnets are attracted to and those that magnets are not attracted to.
PS3:3-4:1.2 Recognize that magnets attract and repel each other.	I know that magnets attract and repel each other.	I know that magnets attract and repel each other.
PS3:3-4:1.3 Explain that electrically charged material pulls on all other materials and can attract or repel other charged materials.	I know that things can be charged by electricity. I know that those materials can attract or repel other electrically charged materials.	I know that things can be charged by electricity. I know that those materials can attract or repel other electrically charged materials.
PS3:3-4:1.4 Recognize that the Earth's gravitational force pulls any object toward it.	I know that Earth's gravity pulls objects towards it.	
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]	I can describe magnetism.	I can describe magnetism.

<p>PS3:3-4:2.1 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>PS4:3-4:1.1 Understand that materials are used in certain products based on their properties, such as strength and flexibility.</p>	<p>I know that we use certain materials to make things because they are strong or flexible.</p>	<p>I know that we choose certain materials based on their physical properties, like strength and flexibility.</p>
<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 we can combine technology to make things.</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 GRADE 3 Demonstrate how to use tools, such as magnifiers, scales, balances, rulers, and thermometers to gather data and extend the senses.</p>	<p>I can use science tools to gather information.</p>	
<p>PS4:3-4:2.1 GRADE 4 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 how we use tools to change natural 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 move people and things in New Hampshire.</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 that things are made because we need to solve a problem or because people need something different.</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 an example of taking things from nature to make something new. I know that sometimes when new things are made they are made in large numbers and each one looks alike.</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 some people use science in their jobs.</p>	<p>I know that what I learn today might help me with a job or a career I choose in the future.</p>

Earth and Space Science	Grade 3- Student Friendly	Grade 4-Student Friendly
<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>		I can describe the different forms water can take and the ways it changes from one to another.
<p>ESS1:3-4:1.2 Explain that air surrounds us, it takes up space, and it moves with the wind.</p>		I can explain that air is all around us, that it takes up space, and that it moves with the wind.
<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>		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>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>		I can explain different technology that helps us understand and predict weather.
<p>ESS1:3-4:2.1 Describe Earth materials as rocks, soils, water in its liquid state, and the gases found in the atmosphere.</p>	I know that Earth materials are rocks, soils, liquid water and gases found in our atmosphere.	
<p>ESS1:3-4:2.2 Describe rock as being composed of different combinations of minerals.</p>	I know that rocks are made of minerals.	
<p>ESS1:3-4:2.3 Given information about Earth materials, explain how their characteristics lend themselves to specific uses. [ESS1(K-4)FAF-6]</p>	I know that we use things from Earth for certain uses.	
<p>ESS1:3-4:2.4 Given certain Earth materials (soils, rocks or minerals) use physical properties to sort, classify, and/or describe them. [ESS1(K-4)INQ-1]</p>	I can sort things based on their characteristics.	
<p>ESS1:3-4:3.1 Recognize and explain that fossils provide evidence about plants and animals that lived long ago, and about the nature of the environment at that time.</p>	I know that fossils teach us about plants, animals and the world from a long time ago.	

<p>ESS1:3-4:4.1 Recognize features of the Earth as viewed by astronauts in orbit and as transmitted by scientific instruments on satellites and spacecraft.</p>	<p>I can recognize features of the Earth from pictures taken from space.</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 know and can describe ways that weather changes the surface of the Earth.</p>
<p>ESS1:3-4:5.2 Explain how wind, water, or ice shape and reshape the Earth's surface. (ESS1(K-4)INQ+SAE-4)</p>		<p>I can explain how wind, water, and ice can change the Earth's surface.</p>
<p>ESS1:3-4:6.1 Explain that smaller rocks come from the breakage and weathering of larger rocks and bedrock.</p>	<p>I can explain how smaller rocks are formed.</p>	
<p>ESS1:3-4:6.2 Distinguish between the three categories of rocks, metamorphic, igneous and sedimentary, and describe the processes that create them.</p>	<p>I can tell you about the three different types of rocks. I can tell you how each type is made.</p>	
<p>ESS1:3-4:6.3 Identify minerals by their physical properties and explain how minerals can be tested for them.</p>	<p>I can identify different minerals by their characteristics. I know how we can test for certain minerals.</p>	
<p>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)</p>		<p>I can use what I learned in an experiment to make predictions about how water will affect the ground.</p>
<p>ESS1:3-4:7.1 Recognize and describe the Earth's surface as being mostly covered by water.</p>		<p>I know that most of Earth is covered with water. I can describe some of those bodies of water.</p>

<p>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.</p>		<p>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.</p>
<p>ESS2:3-4:1.1 Explain that night and day are caused by the Earth's rotation on its axis and that the Earth rotates approximately once, every 24 hours.</p>	<p>I know that the Earth makes one complete turn on its axis in 24 hours. I know that this turn causes day and night.</p>	
<p>ESS2:3-4:1.2 Describe the Sun as a star.</p>	<p>I know that the Sun is a star.</p>	
<p>ESS2:3-4:2.1 Recognize that the Sun provides the light and heat necessary to maintain the temperature of the Earth.</p>	<p>I know that the Sun gives us light and heat. I know that we need the Sun to stay warm on Earth.</p>	
<p>ESS2:3-4:3.1 Recognize the Moon orbits the Earth.</p>	<p>I know that the Moon circles around the Earth.</p>	
<p>ESS2:3-4:3.2 Recognize the Earth is one of a number of planets that orbit the Sun.</p>	<p>I know that the planets circle around the Sun.</p>	
<p>ESS2:3-4:4.1 Recognize that although star patterns seen in the sky appear to move slowly each night from east to west, they actually remain the same, and explain why different stars can be seen during different seasons.</p>	<p>I know that stars don't move. I know that they seem to move from east to west at night because the Earth moves. I know why we see different stars during different seasons.</p>	
<p>ESS2:3-4:4.2 Explain that planets look like stars, but observed over time they appear to wander among the constellations.</p>	<p>I know that the planets sometimes look like stars in the sky. I know that they seem to move among the constellations.</p>	
<p>ESS3:3-4:1.1 Recognize that astronomical objects in space are massive in size and are separated from one another by vast distances.</p>	<p>I know that some objects in space are humongous and really far apart from one another.</p>	
<p>ESS3:3-4:1.2 Explain how telescopes magnify the size of distant objects and significantly increase the number of these objects that can be viewed from Earth.</p>	<p>I know that we can use a telescope to make objects in space seem closer. I know that when we use telescopes we can see more things than when we do not use telescopes.</p>	

ESS3:3-4:2.1 Recognize and describe the stars, like the Sun, as spherical in nature.	I know that the stars, and the Sun, are round.	
ESS3:3-4:2.2 Recognize that stars come in different colors, and that the Earth's sun is a yellow star.	I know that stars can be different colors. I know that our star, the Sun, is a yellow star.	
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.
ESS4:3-4:2.1 Use simple instruments including thermometers, wind socks, meter sticks, rain gauges to collect data and extend the senses.		I can use simple technology to help me understand weather.
ESS4:3-4:3.1 Distinguish between and provide examples of materials that can be recycled/reused and those that cannot.	I know things that can be recycled and reused and things that cannot.	
ESS4:3-4:3.2 Provide examples of technology that have changed the environment and explain whether the effect had a positive or negative impact.	I can give examples of how technology has changed the world around us. I know that some of those changes are good and some of those changes are bad.	
ESS4:3-4:3.3 Explain how to dispose of waste so that it does not harm the environment.	I know how to take care of my trash so it does not hurt nature.	
ESS4:3-4:3.4 Recognize there are pros and cons to using different types of energy, such as solar energy and fossil fuels, and compare the differences.	I know that there are different ways of making energy. I know that some of those ways are better for nature than others.	
ESS4:3-4:4.1 Identify some jobs/careers that require knowledge and use of Earth science content and/or skills.	I know that some people use science in their jobs.	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.