

Grade 6 – Science Curriculum

Earth and Space Science GLE	Student Friendly Language
<p>ESS1:5-6:2.1 Differentiate between renewable and non-renewable resources.</p>	<p>I can tell the difference between things that are renewable and things that are non-renewable.</p>
<p>ESS1:5-6:2.2 Describe and define the different landforms on the Earth's surface, such as coastlines, rivers, mountains, deltas, canyons, etc.</p>	<p>I can tell you all about the different landforms on the Earth's surface, such as coastlines, rivers, mountains, deltas, and canyons.</p>
<p>ESS1:5-6:2.3 Identify and distinguish between various landforms, using a map and/or digital images.</p>	<p>I can use a map and other visuals to find and tell apart different landforms.</p>
<p>ESS1:5-6:3.1 Recognize that fossils provide important evidence relating to changes in life forms and environmental conditions over geologic time.</p>	<p>I know that fossils found in the Earth can tell us a lot about life and the environment over long periods of time throughout history.</p>
<p>ESS1:5-6:3.2 Identify connections between fossil evidence and geological events, such as changes in atmospheric composition, movement of tectonic plates, and asteroid/comet impact; and develop a means of sequencing this evidence.</p>	<p>I can make connections between fossil evidence and geological evidence. I know that some of those connections might tell me about the atmosphere, the movement of tectonic plates, the impact of asteroids and comets. I also know that by looking at all of the evidence I can make a timeline of these events.</p>
<p>ESS1:5-6:4.1 Recognize that images taken of the Earth from space can show its features, and any changes in those features that appear over time.</p>	<p>I know that pictures taken from space show the Earth's features and how those features change over time.</p>
<p>ESS1:5-6:5.1 Recognize that things change in steady, repetitive, or irregular ways, or sometimes, in more than one way at the same time.</p>	<p>I know that things in nature can change in steady, repetitive, or irregular ways, or sometimes, in more than one way at the same time.</p>
<p>ESS1:5-6:5.2 Explain how some changes to the Earth's surface happen abruptly, as a result of landslides, earthquakes and volcanic eruptions; while other changes happen very slowly as a result of weathering, erosions and deposition of sediment caused by waves, wind, water and ice.</p>	<p>I can tell you about changes that happen in nature very quickly and about changes that happen in nature very slowly.</p>

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<p>ESS1:5-6:6.1 Explain how soil is formed from combinations of weathered rock and decomposed plant and animal remains, and that it contains living organisms.</p> <p>ESS1:5-6:6.2 Identify the components of soil and other factors, such as bacteria, fungi and worms that influence its texture, fertility, and resistance to erosion.</p> <p>ESS1:5-6:6.3 Describe the properties of soil, such as color, texture, capacity to retain water, and its ability to support plant life.</p> <p>ESS1:5-6:7.2 Explain that water quality has a direct effect on earth's life forms.</p> <p>ESS2:5-6:1.2 Recognize that of all the known planets, Earth appears to be somewhat unique, and describe the conditions that exist on Earth that allow it to support life.</p> <p>ESS2:5-6:4.1 Explain the historical perspective of planetary exploration and man's achievements in space, beginning with Russia's Sputnik mission in 1957.</p> <p>ESS2:5-6:4.2 Describe man's perception of the constellations throughout history, and explain how he has used them to his advantage, including navigational purposes and to explain historical events.</p> <p>ESS4:5-6:1.1 Understand that technology is used to design tools that improve our ability to measure and observe the world.</p>	<p>I can explain how soil is formed and what it contains.</p> <p>I can identify all of the biotic and abiotic parts of soil.</p> <p>I can describe the physical and chemical properties of soil.</p> <p>I can explain why water quality is important to all living things on Earth.</p> <p>I know that of all the planets, Earth appears to be unique especially because it is the only one that we know has life on it.</p> <p>I can tell you about the history and achievements made in space exploration, starting with the first satellite in space.</p> <p>I can tell you about how people have used constellations throughout history for navigation and to explain historical events. I can also tell you how our view of constellations has changed over time.</p> <p>I know that we can improve our ability to measure and observe the world by using technology.</p>
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ESS4:5-6:2.1

Provide examples of products that man has developed that have helped humans do things that they could not do otherwise, and identify the natural materials used to produce these products.

I can give examples of products that people have made that help us do things that we could not do naturally by ourselves. I can also tell you which parts of them are from natural materials.

ESS4:5-6:3.2

Identify the most appropriate materials for a given design task with requirements for specific properties such as weight, strength, hardness, flexibility.

I can show you the most appropriate materials in order to perform a specific task. I will take into account properties like weight, strength, hardness and flexibility.

ESS4:5-6:3.3

Give examples of how to reduce waste through conservation, recycling, and reuse.

I know ways to reduce waste through conservation, recycling and reuse.

ESS4:5-6:4.1

Understand that some form of science is used in most jobs/careers, and that some jobs/careers specifically require knowledge of Earth science.

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

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Life Science GLE	Student Friendly Language
<p>LS1:5-6:1.1 Identify ways in which living things can be grouped and organized, such as taxonomic groups of plants, animals and fungi.</p>	<p>I can use taxonomy groups to organize living things, based on their shared characteristics.</p>
<p>LS1:5-6:1.2 Categorize organisms into kingdoms that are currently recognized according to their shared characteristics. Differentiate between living and nonliving things, and categorize objects in each group, using the significant observable characteristics they share, such as color, shape and size.</p>	<p>I can classify living and nonliving things.</p>
<p>LS1:5-6:2.1 Recognize that all living things are composed of cells, and explain that while many organisms are single celled, such as yeast, others, including humans, are multicellular.</p>	<p>I can group organisms into single cell or multicellular groups.</p>
<p>LS1:5-6:2.2 Explain that the way in which cells function is similar in all organisms.</p>	<p>I am able to explain the cells function in all living things.</p>
<p>LS1:5-6:2.3 Recognize that cells use energy, obtained from food, to conduct the functions necessary to sustain life, such as cell growth.</p>	<p>I will explain how cells use food to get energy to complete its functions.</p>
<p>LS1:5-6:2.4 Recognize and describe the hierarchical organization of living systems, including cells, tissues, organs, organ systems, whole organisms, and ecosystems.</p>	<p>I can organize systems of living things.</p>
<p>LS1:5-6:2.5 Explain that multicellular organisms have specialized cells, tissues, organs and organ systems that perform certain necessary functions, including digestion, respiration, reproduction, circulation, excretion, movement, control and coordination and protection from disease.</p>	<p>I can examine relationships between all tissues, organs, and systems.</p>

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<p>LS1:5-6:2.6 Recognize that the human cells found in tissues and organs are similar to those of other animals, but somewhat different from cells found in plants.</p> <p>LS1:5-6:3.1 Explain that cells repeatedly divide to make more cells for growth and repair.</p> <p>LS1:5-6:3.2 Explain that the same genetic information is copied in each cell of a new organism.</p> <p>LS1:5-6:3.3 Explain that all living things reproduce in order to continue their species.</p> <p>LS2:5-6:1.1 Identify and describe the factors that affect the number and types of organisms an ecosystem can support, including the resources that are available, the range of temperatures, the composition of the soil, disease, the threat of predators, and competition from other organisms.</p> <p>LS2:5-6:1.2 Explain that most microorganisms do not cause disease and that many are beneficial to the environment.</p> <p>LS2:5-6:2.1 Describe how energy is transferred through food webs in an ecosystem, and explain the roles and relationships between producers.</p> <p>LS2:5-6:2.2 Recognize that one of the most general distinctions among organisms is between plants, which use sunlight to make their own food, and animals, which consume energy-rich foods.</p>	<p>I can compare plant and animal cells and name the similarities and differences.</p> <p>I am able to explain cell division.</p> <p>The same genetic information is copied in each new cell.</p> <p>In order to continue their species, I recognize that living things reproduce.</p> <p>I can show you and describe all of the biotic and abiotic factors that make up an ecosystem.</p> <p>I can compile ways in which microorganisms are beneficial to the environment.</p> <p>I can show you how energy moves through food webs in an ecosystem.</p> <p>I know the difference between producers and consumers.</p>
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<p>LS2:5-6:2.3 Describe the process of photosynthesis and explain that plants can use the food they make immediately or store it for later use.</p> <p>LS2:5-6:2.4 Recognize that energy, in the form of heat, is usually a byproduct when one form of energy is converted to another, such as when living organisms transform stored energy to motion.</p> <p>LS2:5-6:3.1 Define a population as all individuals of a species that exist together at a given place and time and explain that all populations living together in a community, along with the physical factors with which they interact, compose an ecosystem.</p> <p>LS2:5-6:3.2 Identify and describe the ways in which organisms interact and depend on one another in an ecosystem, using food webs.</p> <p>LS2:5-6:3.3 Explain how insects and various other organisms depend on dead plant and animal matter for food, and describe how this process contributes to the system.</p> <p>LS3:5-6:1.1 Provide examples of how all organisms, including humans, impact their environment and explain how some changes can be detrimental to other organisms.</p> <p>LS3:5-6:1.2 Explain how changes in environmental conditions can affect the survival of individual organisms and the entire species.</p>	<p>I can explain photosynthesis and how plants can use their food right away or save it for a long time.</p> <p>I know that when organisms use energy they make heat.</p> <p>I can define an organism, population and community. I can show you how they all fit into an ecosystem.</p> <p>I can show you the ways that organisms interact with one another in an ecosystem and throughout a food web.</p> <p>I can explain how insects and other organisms depend on dead biotic factors for food. I also can describe how this helps a food web in an ecosystem.</p> <p>I can show you different ways that humans affect the environment, good and bad.</p> <p>I can explain how changes in the environment can affect how well organisms live.</p>
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<p>LS3:5-6:2.1 Describe the fundamental concepts related to biological evolution, such as biological adaptations and the diversity of species.</p> <p>LS3:5-6:3.1 Recognize that there are genetic variations among individuals in groups of organisms and provide examples of ways these variations affect the survival of an organism.</p> <p>LS3:5-6:3.2 Recognize that only organisms that are able to reproduce can pass on their genetic information to the next generation.</p> <p>LS4:5-6:4.1 Understand that some form of science is used in most jobs/careers and that most jobs/careers specifically require knowledge of Life Science.</p> <p>LS5:5-6:1.1 Recognize that an agricultural system is designed to maximize the use of all the elements in the system, including using plants for food, oxygen, for the filtration of air and water, and for making compost.</p> <p>LS5:5-6:2.1 Demonstrate the appropriate use of tools, such as thermometers, probes, microscopes and computers to gather, analyze and interpret scientific and medical data.</p> <p>LS5:5-6:3.4 Identify and describe some of the processes and systems used to grow food in New Hampshire, including irrigation, pest control, and harvesting.</p> <p>LS5:5-6:4.1 Understand that some form of science is used in most jobs/careers, and that some jobs/careers specifically require knowledge of life science.</p>	<p>I can trace a species biological evolution.</p> <p>I can identify genetic variations made by organisms to insure their survival.</p> <p>In order to create future generations, a species must reproduce.</p> <p>I know that 6th grade life science might be important to the job I choose later in life.</p> <p>I know that agricultural systems make the most use of all of the elements in their ecosystem, including plants, oxygen, water, air and compost.</p> <p>I am able to use a variety of tools to gather, analyze, and interpret information.</p> <p>I can identify systems and processes used to grow food in New Hampshire.</p> <p>I can identify the use of science in many careers and jobs.</p>
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Physical Science GLE	Student Friendly Language
<p>PS1:5-6:1.1 Explain that matter is composed of minute particles called atoms, and explain that all substances are composed of atoms, each arranged into different groupings.</p>	<p>I can explain that all matter is made up of atoms and that those atoms are grouped in a certain way.</p>
<p>PS1:5-6:1.2 Identify elements as substances that contain only one kind of atom, and explain that elements do not break down by normal laboratory reactions, such as heating, exposure to electric current, and reaction to acid.</p>	<p>I can point out things that are made up of only one type of atom. I can also explain why elements can't be broken apart by normal laboratory experiments.</p>
<p>PS1:5-6:1.3 Recognize that over 100 elements exist and identify the periodic table as a tool for organizing the information about them.</p>	<p>I can recognize over 100 different elements. I can use the Periodic Table to find information about them.</p>
<p>PS1:5-6:2.1 Classify elements according to their common properties, such as highly reactive metals, less reactive metals, highly reactive non-metals and almost non-reactive gases.</p>	<p>I can group elements based on their similarities.</p>
<p>PS1:5-6:2.2 Identify substances by their physical and chemical properties, such as magnetism, conductivity, density, solubility, boiling and melting points.</p>	<p>I can use that knowledge to help identify things.</p>
<p>PS1:5-6:2.3 Differentiate between weight and mass.</p>	<p>I know the difference between weight and mass.</p>
<p>PS1:5-6:2.4 Identify energy as a property of many substances.</p>	<p>I know that energy is a part of all substances.</p>
<p>PS2:5-6:1.1 Differentiate between physical change, such as melting, and chemical change, such as rusting.</p>	<p>I can tell the difference between a physical property and a chemical property. I can also give examples of each.</p>
<p>PS2:5-6:2.1 Describe how mass remains constant in a closed system and provide examples relating to both physical and chemical change.</p>	<p>I can describe why mass of a substance stays the same in a closed system. I can also give examples of that in terms of physical</p>

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	changes and chemical changes.
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<p>PS2:5-6:3.5 Explain how electrical circuits can be used to transfer energy to produce heat, light, sound, and chemical changes.</p>	<p>I can explain how electrical circuits transfer energy to make heat, light, sound and chemical changes.</p>
<p>PS3:5-6:1.1 Recognize that just as electric currents can produce magnetic forces, magnets can cause electric currents.</p>	<p>I know that electric currents make magnetic currents and that magnetic currents make electric currents.</p>
<p>PS4:5-6:1.1 Understand that scientific principles are used in the design of technology.</p>	<p>I know that we have to use scientific principles in order to design technology.</p>
<p>PS4:5-6:2.1 Recognize that manufacturing processes use a variety of tools and machines to separate, form, combine and condition natural and synthetic materials.</p>	<p>I know that when we make things, we use a lot of different tools and machinery to separate, form, combine and condition natural and man-made materials.</p>
<p>PS4:5-6:3.1 Explain how a battery changes chemical energy into electrical energy.</p>	<p>I can explain how a battery changes chemical energy into electrical energy.</p>
<p>PS4:5-6:3.2 Demonstrate how to produce a magnetic force with an electric current such as an electromagnet, and how to produce an electric current with a magnet such a generator.</p>	<p>I can show you how to make a magnetic force with an electric current and how to make an electric current with a magnet.</p>
<p>PS4:5-6:3.3 Provide an example to show that manufacturing processes involve changing natural materials into finished products through a series of processes that involve physical and/or chemical changes.</p>	<p>I can give examples to show how when we make things we change natural materials into finished products by making physical and chemical changes.</p>
<p>PS4:5-6:4.1 Understand that some form of science is used in most jobs/careers, and that some jobs/careers specifically require knowledge of Physical science.</p>	<p>I know that what I learn in Physical Science might be important to the job I choose in the future.</p>

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