

Science - Animals, including Humans

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Health and Self Care</b> Children know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe. They manage their own basic hygiene and personal needs successfully, including dressing and going to the toilet independently.</p> <p><b>People and Communities</b> They know about similarities and differences between themselves and others, and among families, communities and traditions.</p> <p><b>The world</b> They make observations of animals and plants and explain why some things occur, and talk about changes.</p>	<ul style="list-style-type: none"> <li>• name, draw and label the basic parts of the body</li> <li>• name the senses and say which body part is associated with each sense and describe activities that use each of the five senses</li> <li>• identify and name a range of common animals</li> <li>• sort animals into simple groups</li> <li>• describe the structure of common animals, including some parts of the body that are specific to animals, using relevant vocabulary</li> <li>• say something that is the same and something that is different about two animals</li> <li>• understand that animals have different diets</li> <li>• understand the difference between carnivores, herbivores and omnivore</li> <li>• identify and classify animals by suggesting groups that they belong to</li> </ul>	<ul style="list-style-type: none"> <li>• Say which animal some babies will grow into and say how an animal will change as it grows.</li> <li>• Name some animal babies.</li> <li>• Say how an animal gets air, food and water.</li> <li>• Name the different stages in the human timeline.</li> <li>• Give examples of healthy and less healthy food.</li> <li>• Say what is healthy about their diet and how they could improve their diet.</li> <li>• Give a reason why humans need to exercise and name an effect that exercise has on the human body.</li> <li>• Name some things that humans do to keep themselves clean and give reasons why.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand and explain that plants and animals obtain food in different ways.</li> <li>• Explain the difference between food groups and nutrient groups.</li> <li>• Explain what the right type and amounts of nutrition are for human beings as well as some of the consequences related to eating the wrong type of diet.</li> <li>• Name the different types of skeletons as well as identify and categorise animals based on the type of skeleton it has.</li> <li>• Use the scientific names for the main bones in the human body and explain how the skeleton protects, supports and helps the body to move.</li> <li>• Explain how pairs of muscles work together to enable movement.</li> </ul>	<ul style="list-style-type: none"> <li>• Name parts of the digestive system.</li> <li>• Add labels to the parts of the digestive system.</li> <li>• Explain the functions of the parts of the digestive system.</li> <li>• Identify the types and functions of teeth.</li> <li>• Identify producers, consumers, predators and prey in simple food chains.</li> <li>• Construct and interpret a variety of food chains.</li> </ul>	<ul style="list-style-type: none"> <li>• Name the 6 stages of human.</li> <li>• Explain the changes that occur during stages of human development.</li> <li>• Demonstrate understanding of how babies grow in height and weight.</li> <li>• Describe the main changes that occur during puberty giving reasons for these changes.</li> <li>• Analyse the similarities and differences between how boys and girls experience puberty.</li> <li>• Explain the main changes that take place in old age.</li> </ul>	<ul style="list-style-type: none"> <li>• Name the organs, the main parts of those organs and the functions of each in the circulatory system</li> <li>• Explain the main functions of the heart, lungs and blood vessels in the circulatory system.</li> <li>• Identify and explain the processes which break down food into nutrients.</li> <li>• Explain what constitutes a healthy lifestyle and describe how smoking, drugs and alcohol can impact negatively on the body.</li> <li>• Take accurate measures of the pulse rate.</li> <li>• Demonstrate prior knowledge of systems within the human body.</li> <li>• Understand how the circulatory and digestive system connect to transport water and nutrients throughout the body.</li> <li>• State the beneficial impact of a healthy diet and exercise on the human body.</li> </ul>

**Science - Plants**

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Understanding the World: The world</b> Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes.</p>	<ul style="list-style-type: none"> <li>• describe how to plant a seed.</li> <li>• talk about how my seed has grown.</li> <li>• identify and name common wild plants.</li> <li>• identify and name some garden plants.</li> <li>• identify trees by their leaves.</li> <li>• sort deciduous and evergreen leaves.</li> <li>• identify and describe the parts of plants and trees.</li> <li>• say what plants need to grow well and give reasons for my answers.</li> </ul>	<ul style="list-style-type: none"> <li>• plant seeds and bulbs and suggest how to care for them.</li> <li>• use my observations to explain what plants need.</li> <li>• observe and describe the growth of different plants.</li> <li>• look closely at plants and trees and record what I see.</li> <li>• explain the life cycle of plants.</li> </ul> <p>SPRING but will continue throughout summer term.</p>	<ul style="list-style-type: none"> <li>• name the different parts of flowering plants and explain their jobs.</li> <li>• set up an investigation to find out what plants need to grow well.</li> <li>• investigate how water is transported in plants.</li> <li>• name the different parts of a flower and explain their role in pollination and fertilisation.</li> <li>• understand and order the stages of the life cycle of a flowering plant.</li> </ul>			

**Science - Seasonal Changes**

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>The world</b> They make observations of animals and plants and explain why some things occur, and talk about changes.</p>	<ul style="list-style-type: none"> <li>• name the four seasons</li> <li>• name different types of weather</li> <li>• make observations about the weather</li> <li>• describe the weather associated with each season</li> <li>• make simple observations about changes across the seasons</li> <li>• name an event or occasion which happens in each season</li> <li>• explain seasonal changes across the four seasons</li> <li>• describe how day length varies across the four seasons</li> <li>• make comparison across the four seasons</li> </ul> <p>To be taught throughout the year as appropriate with each season.</p>					

Science - Materials

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Moving and Handling</b> Shows increasing control over an object in pushing, patting, throwing, catching or kicking it. Uses simple tools to effect changes to materials. Handles tools, objects, construction and malleable materials safely and with increasing control.</p> <p><b>Shape, space and measure</b> Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. Exploring and Using Media and Materials They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>	<ul style="list-style-type: none"> <li>Identify and name everyday materials.</li> <li>Distinguish between an object and the material it is made from.</li> <li>Sort objects 2 or 3 ways.</li> <li>Describe and compare the properties of everyday materials.</li> </ul>	<ul style="list-style-type: none"> <li>Identify and name everyday materials and their uses.</li> <li>Compare and classify the uses of different everyday materials.</li> <li>Compare and explain the suitability of everyday materials in different circumstances.</li> <li>Demonstrate and explain how shapes of objects made from some materials can be changed.</li> <li>Explain what recycling means and the advantages of it.</li> <li>Explain the basic progress of recycling.</li> <li>Explain how recycling impacts positively on the environment.</li> <li>Explain how the inventions and discoveries of others have impacted on our lives today.</li> </ul>			<ul style="list-style-type: none"> <li>Describe and compare the properties of everyday materials.</li> <li>Test a material's properties.</li> <li>Explain the uses of thermal and electrical conductors and insulators.</li> <li>Order materials according to their electrical conductivity.</li> <li>Explain and investigate dissolving.</li> <li>Explain the processes used to separate mixtures.</li> <li>Explain irreversible changes and identify the new materials made</li> <li>Explain the uses of a material according to its properties.</li> <li>Explain why materials have dissolved in certain conditions.</li> <li>Select and explain the most suitable processes to separate different mixtures.</li> </ul>	

Science - Living Things and their Habitats

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>The world</b> They make observations of animals and plants and explain why some things occur, and talk about changes.</p>		<ul style="list-style-type: none"> <li>• Say what is different about things that are living, dead or have never been alive.</li> <li>• Find microhabitats and describe the conditions.</li> <li>• Describe the characteristics of some plants and animals.</li> <li>• Name some sources of food.</li> <li>• Explain some of the life processes.</li> <li>• Draw a map of a local habitat.</li> <li>• Identify and name minibeasts in microhabitats.</li> <li>• Suggest how an animal is able to survive in their habitat.</li> <li>• Explain why the animals in a habitat need the plants.</li> <li>• Draw a simple food chain.</li> <li>• Identify a variety of plants and animals in a range of habitats.</li> <li>• Suggest why the plants in a habitat need the animals.</li> </ul>		<ul style="list-style-type: none"> <li>• Sort living things into groups (Venn/Carroll).</li> <li>• See similarities and differences between vertebrates.</li> <li>• Identify vertebrate groups.</li> <li>• Identify the characteristics of living things.</li> <li>• Suggest how to have a positive effect on the local environment.</li> <li>• Record observations on a map.</li> <li>• Name some endangered species.</li> <li>• Use a key to identify invertebrates by looking at their characteristics.</li> <li>• Use the characteristics of living things to sort them using a classification key.</li> <li>• Show the characteristics of living things in a table.</li> <li>• Create a classification key.</li> <li>• Identify dangers to wildlife in the local and wider environment.</li> <li>• Explain, using evidence, how they have identified invertebrates.</li> <li>• Explain in more detail how changes to the environment have affected endangered species.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify plants that reproduce asexually.</li> <li>• Describe ways to grow new plants other than from seed.</li> <li>• Identify and explain the function of the parts of a flower.</li> <li>• Give two advantages and two disadvantages of sexual and asexual reproduction.</li> <li>• Explain how a plant's features are adapted to pollination by insect or wind.</li> <li>• Explain that plants that reproduce asexually are genetically identical to the parent plant.</li> <li>• Identify familiar animals that undergo metamorphosis.</li> <li>• Describe the stages of sexual reproduction.</li> <li>• Identify and describe the differences between types of mammals.</li> <li>• Order, describe and compare the stages of the life cycles of mammals, birds, insects and amphibians.</li> <li>• Identify similarities and differences between the life cycles of different plants and animals.</li> <li>• Explain the classification of different mammals.</li> </ul>	<ul style="list-style-type: none"> <li>• Explain and give reasons for how living things are classified at each level of the Linnean system.</li> <li>• Match groups of animals to their characteristics.</li> <li>• Classify creatures based on their characteristics.</li> <li>• Name and investigate types of microorganism.</li> </ul>

Science - Light

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<ul style="list-style-type: none"> <li>• Identify light sources.</li> <li>• Understand that we need light to see.</li> <li>• Know that light travels in a straight line.</li> <li>• Understand that a shadow is formed when a solid object blocks light and know how and why shadows change size.</li> <li>• Understand that dark is the absence of light.</li> <li>• Identify and understand how surfaces reflect light.</li> <li>• Explain the properties of materials that reflect light well.</li> <li>• Recognise that a mirror appears to reverse an image.</li> <li>• Know how to protect their eyes from the Sun.</li> <li>• Identify some parts of the eye.</li> <li>• Understand how the Sun can damage parts of the eye.</li> <li>• Identify opaque, translucent and transparent objects.</li> </ul>			<ul style="list-style-type: none"> <li>• Describe how light enables us to see.</li> <li>• Understand reflection as light bouncing off a surface.</li> <li>• Identify some effects of refraction.</li> <li>• Identify the visible spectrum.</li> <li>• Explore colours using light.</li> <li>• Explain how light travels to enable us to see.</li> <li>• Understand that all objects reflect light.</li> <li>• Understand refraction as light bending or changing direction for example through water.</li> <li>• Explain how a prism allows us to see the visible spectrum.</li> <li>• Understand that colours are a result of light reflecting off an object.</li> <li>• Understand how shadows change size.</li> <li>• Understand that shadows are the same shape as the object that casts them.</li> <li>• Explain how light enables us to see an object reflected in a mirror.</li> <li>• Identify and recognise that the angles of incidence and reflection are equal.</li> <li>• Recognise that the colours of the visible spectrum have different wavelengths.</li> <li>• Understand how filters reflect or absorb different colours of light.</li> <li>• Recognise how Isaac Newton used proof to support his ideas about light and colour.</li> </ul>

Science - Forces and Magnets

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<ul style="list-style-type: none"> <li>• Name and identify the type of force required to carry out an action.</li> <li>• Investigate the force of friction produced by different surfaces.</li> <li>• Describe friction as a force that slows objects down.</li> <li>• Feel the pulling force of a magnet.</li> <li>• Sort materials according to whether they are magnetic or not.</li> <li>• Identify the different poles of a bar magnet.</li> <li>• Explain that magnets produce an invisible pulling force.</li> <li>• Identify magnetic materials.</li> <li>• Identify different types of magnet.</li> <li>• Investigate the strength of different magnets.</li> <li>• Identify when magnets will repel or attract based on their poles.</li> <li>• Identify and describe the invisible magnetic field around a magnet.</li> <li>• Make generalisations about the types of materials that are attracted to magnets.</li> <li>• Use a magnetic compass with 8 points.</li> </ul>		<ul style="list-style-type: none"> <li>• explain Newton's role in discovering gravity.</li> <li>• explain how to increase the effects of air resistance.</li> <li>• identify streamlined shapes.</li> <li>• investigate and explain the effects of friction.</li> <li>• explain how different mechanisms work.</li> <li>• identify and explain balanced and unbalanced forces.</li> <li>• explain the difference between weight and mass and accurately measure it.</li> <li>• explain the link between the weight and mass of an object.</li> <li>• make generalisations about how to increase the effects of air resistance.</li> <li>• explain the conclusions and implications of Galileo's 'Tower of Pisa' experiment into gravity and air resistance.</li> <li>• explain how to minimise the effects of water resistance</li> <li>• make generalisations about the properties of materials that create the most friction.</li> <li>• explain how a mechanism they have designed alters force and motion to achieve a purpose.</li> </ul>	

Science - Electricity

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				<p><b>Electricity</b></p> <ul style="list-style-type: none"><li>• They will learn to identify electrical and nonelectrical appliances.</li><li>• They will be able to explain, with support, how a circuit works.</li><li>• Children will be able to name at least two electrical conductors and insulators.</li><li>• They will be able to create a simple series circuit both with and without a switch.</li><li>• Sort appliances based on whether they use mains or batteries.</li><li>• They will be able to explain how a switch turns the electric current on and off.</li><li>• Explain why a circuit is incomplete.</li><li>• Generalise about types of materials that conduct electricity.</li></ul>		<p><b>Electricity</b></p> <ul style="list-style-type: none"><li>• To know the main circuit symbols and use these to draw circuit diagrams.</li><li>• Label the voltage correctly.</li><li>• Explain how our understanding of electricity has changed over time and how this led to widespread use.</li><li>• Explain the effect of increasing or decreasing the voltage on different parts of a circuit.</li></ul>

Science – STAND ALONE

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<p><b>Rocks</b></p> <ul style="list-style-type: none"> <li>• Children will be able to name the three different types of rocks.</li> <li>• They will handle and examine rocks to identify their properties, with support.</li> <li>• They will be able to state the four different types of matter that soil is composed of.</li> <li>• Children will be able to give examples of natural and human-made rocks.</li> <li>• They will be able to group rocks by their properties and identify simple similarities and differences.</li> <li>• Children will be able to explain the difference between a bone and a fossil.</li> <li>• They will be able to explain, using simple scientific language, how soil is formed.</li> <li>• They will be able to explain the main processes of fossilisation.</li> </ul>	<p><b>Sound</b></p> <ul style="list-style-type: none"> <li>• Describe sounds around them.</li> <li>• Identify high and low; loud and quiet sounds.</li> <li>• Observe how different sounds are made.</li> <li>• Describe how sounds change over distance.</li> <li>• Explain how sound sources vibrate to make sounds.</li> <li>• Explain how vibrations change when the loudness of a sound changes.</li> <li>• Explain how sounds travel to reach our ears.</li> <li>• Explain how sound travels through a string telephone.</li> <li>• Identify the best material for absorbing sound and explain why some materials absorb sound.</li> <li>• Explain how we hear and interpret sounds.</li> <li>• Explain that sounds travel differently through different materials.</li> <li>• Identify and explain patterns between the pitch of a sound and the features of the object that made the sound.</li> <li>• Explain how sounds change over distance.</li> <li>• Explain why sounds travel better through solids than gases.</li> </ul>	<p><b>Earth and Space</b></p> <p>Explain how the planets orbit the Sun.</p> <ul style="list-style-type: none"> <li>• Explain that the Moon orbits the Earth not the Sun.</li> <li>• Describe the Sun, Earth and Moon as spherical.</li> <li>• Distinguish between heliocentric and geocentric ideas of planetary movement.</li> <li>• Explain how the Moon moves relative to the Earth.</li> <li>• Describe some features of the planets.</li> <li>• Place the planets in the solar system in the correct order and name them.</li> <li>• Explain theories of planetary movement in the solar system using evidence.</li> <li>• Explain using evidence how night and day occur due to rotation of the Earth.</li> <li>• Explain why night and day occur at different times in different places on Earth.</li> <li>• Explain how the Earth and Moon move relative to the Sun.</li> </ul>	<p><b>Evolution and Inheritance</b></p> <ul style="list-style-type: none"> <li>• Explain the terms adaptation, evolution and natural selection and use these in context.</li> <li>• Describe how living things evolve via the process of natural selection.</li> <li>• Explain in simple terms what genes and DNA are.</li> <li>• Investigate the ethical issues of human intervention in the process of evolution by natural selection.</li> <li>• Develop an understanding of the development of evolutionary ideas and theories over time.</li> <li>• Explain how human evolution has occurred and compare modern humans with those of the same genus and family.</li> <li>• Identify inherited traits and adaptive traits.</li> <li>• Understand that adaptations are random mutations.</li> <li>• Examine fossil evidence supporting the idea of evolution.</li> <li>• Identify the difference between selective and cross-breeding and give examples.</li> </ul>

AUTUMN

SPRING

SUMMER