

## Science overview 2024-25

Year 1	<b>What is Science?</b>	<b>The Human Body</b> <ol style="list-style-type: none"> <li>To know our body has five senses.</li> <li>To know that we use our eyes to see.</li> <li>To know that sounds travel through our ears to send messages to our brain.</li> <li>To know that our senses help us to understand the world around us.</li> <li>To understand that some people have problems with their senses, such as blindness or deafness.</li> <li>Assessment</li> </ol>	<b>Animals and their needs</b> <ol style="list-style-type: none"> <li>To name and describe common animals.</li> <li>Scientists group animals according to their features.</li> <li>To understand that we can group animals according to what they eat.</li> <li>To describe the needs of a pet.</li> <li>To describe an animal using scientific words.</li> <li>Assessment</li> </ol>	<b>Seasons and weather</b> <ol style="list-style-type: none"> <li>To name and describe the four seasons</li> </ol>	
Year 2	<b>What is Science?</b>	<b>Unit 1: The Human Body</b> <ol style="list-style-type: none"> <li>To know that animals, including humans, need air, food and water to survive.</li> <li>To know that our skeleton and our muscles help us to move.</li> <li>To understand that our bodies digest our food.</li> <li>To know that our heart pumps blood around our body.</li> <li>To understand that scientists have found ways to keep us healthy.</li> <li>Assessment/extended write</li> </ol>	<b>Unit 2: Living Things and their Environment</b> <ol style="list-style-type: none"> <li>To know the differences between living, dead and never been alive.</li> <li>To know that a habitat is the name given to a place where plants or animals live.</li> <li>To describe rainforests as hot and moist, and deserts as dry and hot or cold. To know that each habitat has plants and animals adapted to survive.</li> <li>To name and describe animals who live in underground habitats.</li> <li>To know that a food chain describes 'who eats what' within a habitat</li> <li>Assessment/extended write</li> </ol>		
Year 3	<b>What is Science?</b>	<b>The Human Body</b> <ol style="list-style-type: none"> <li>To know that we can control our voluntary muscles, but we do not control our involuntary muscles.</li> <li>To know our bones help us to move and protect some parts of our bodies.</li> <li>To know that the brain is the centre of the nervous system.</li> <li>To understand how the brain and mouth start the digestive process</li> <li>To describe the simple functions of the basic parts of the digestive system in humans</li> <li>Assessment/extended write</li> </ol>	<b>Cycles in Nature</b> <ol style="list-style-type: none"> <li>To know that our natural environment changes as the seasons change.</li> <li>To understand how plants can change through the seasons.</li> <li>To know that plants grow, live and reproduce.</li> <li>To know that some animals migrate.</li> <li>To recognise the different stages in the life cycle of a frog.</li> <li>Assessment/extended write</li> </ol>	<b>Light</b> <ol style="list-style-type: none"> <li>To understand that we need light in order to see things.</li> </ol>	

## Autumn Term

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Year 4	<b>What is Science?</b>	<b>The Human Body</b> <ol style="list-style-type: none"> <li>Cells are the building blocks of the human body and we need nutrition to keep our bodies working as they should.</li> <li>Identify the different types of teeth in humans and their simple functions.</li> <li>To know how food is digested and excreted.</li> <li>To know a healthy diet keeps our bodies healthy</li> <li>To understand the essential vitamins and minerals needed in our body</li> <li>Assessment</li> </ol>	<b>Classification of plants and animals</b> <ol style="list-style-type: none"> <li>To understand that we can classify animals and plants</li> <li>I know that fish and amphibians are vertebrates</li> <li>To know some of the key features of reptiles, birds and mammals</li> <li>To understand and describe key features of insects, arachnids and molluscs</li> <li>To know that plants can be classified into two main groups: flowering and nonflowering plants</li> <li>Assessment</li> </ol>	<b>Ecology</b> <ol style="list-style-type: none"> <li>To know that living things depend on their habitats</li> </ol>	
Year 5	<b>What is Science?</b>	<b>The Human Body</b> <ol style="list-style-type: none"> <li>To recognise the first stages of human growth; gestation, birth and infancy.</li> <li>To know that the human body changes as it goes through puberty</li> <li>To identify physical and mental changes to the human body that happen from adulthood to old age</li> <li>Humans and Animals have growth stages of different lengths.</li> <li>Assessment/extended write</li> <li>Assessment/extended write</li> </ol>	<b>Materials</b> <ol style="list-style-type: none"> <li>To understand that materials can be grouped according to their properties and to know the definitions of some properties</li> <li>To know that thermal conductivity means heat can be transferred through a material.</li> <li>To understand that a solution is a mixture of a solid in a liquid where the solid has broken into parts too small to see.</li> <li>To know there are methods for separating mixtures including solutions</li> <li>To understand that all changes are either reversible or irreversible.</li> <li>Assessment</li> </ol>	<b>Living things and their habitats</b> <ol style="list-style-type: none"> <li>To recognise how plants and animals in our local area change throughout the year.</li> </ol>	
Year 6	<b>What is Science?</b>	<b>Human Body: Year 6</b> <ol style="list-style-type: none"> <li>To understand that the heart pumps blood around the body.</li> <li>To understand that blood vessels transport blood around the body</li> <li>To understand how the heart rate can speed up or slow down, depending on what the body is doing</li> <li>and 5. There are many things that can be varied and changed in an experiment, we call the things we can change variables.</li> <li>To understand that blood is made up of different components.</li> <li>To show what we know about the circulatory system.</li> </ol>	<b>Classification of Living Things</b> <ol style="list-style-type: none"> <li>To know there are five kingdoms of organisms.</li> <li>To know that plant and animal cells are different.</li> <li>To know that taxonomy is used to show how organisms are related to each other.</li> <li>To know that vertebrates are classified into five groups: fish, amphibians, reptiles, birds and mammals.</li> <li>To understand that scientists divide invertebrates into groups including insects, arachnids and molluscs.</li> <li>To be able to classify animals based on specific characteristics and give reasons.</li> </ol>		

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Spring term

<p>Year 1</p>	<p><b>Seasons and weather (continued)</b></p> <ol style="list-style-type: none"> <li>To know that tools are used to gather information about the weather.</li> <li>To present data using a graph.</li> <li>To know there are different types of cloud.</li> <li>To understand that weather forecasts help people to prepare for different kinds of weather.</li> <li>To understand that certain types of weather can be dangerous.</li> <li>Assessment</li> </ol>	<p><b>Taking care of the Earth</b></p> <ol style="list-style-type: none"> <li>To describe different ways we can take care of the Earth.</li> <li>To know that there are natural and manufactured resources that people on Earth use.</li> <li>To identify logging as a way of harvesting the Earth's natural resources.</li> <li>To know that people create pollution which can harm the environment.</li> <li>To know that recycling means turning used things into something new.</li> <li>Assessment/extended write</li> </ol>	
<p>Year 2</p>	<p><b>Unit 3: Electricity</b></p> <ol style="list-style-type: none"> <li>To identify things that use electricity</li> <li>To know that electricity is useful, but it can also be dangerous</li> <li>To construct an electrical circuit.</li> <li>To construct an electrical circuit.</li> <li>To identify materials that conduct electricity.</li> <li>Assessment/extended write</li> </ol>	<p><b>Unit 4: Plants</b></p> <ol style="list-style-type: none"> <li>To know there are many different kinds of plants.</li> <li>Seeds and bulbs grow into mature plants.</li> <li>Healthy plants need light and water to grow</li> <li>Healthy plants need light and water to grow</li> <li>To understand that plants are grown for food.</li> <li>Assessment/extended write</li> </ol>	
<p>Year 3</p>	<p><b>Light (continued)</b></p> <ol style="list-style-type: none"> <li>To know that transparent materials let light through and opaque materials block light from passing through.</li> <li>Mirrors can reflect light in different ways, depending on their shape.</li> <li>Our shadows change size throughout the day.</li> <li>Our shadows change size throughout the day.</li> <li>Assessment</li> </ol>	<p><b>Plants</b></p> <ol style="list-style-type: none"> <li>Flowering plants all have roots, a stem or trunk, but not all flowering plants look the same.</li> <li>Different plants need different things in order to thrive.</li> <li>Water moves from the roots of a plant, upwards via the stem</li> <li>To know that pollination is needed for flowering plants to reproduce.</li> <li>To understand that plants spread their seeds in many different ways to reproduce.</li> <li>Assessment</li> </ol>	<p><b>Rocks</b></p> <ol style="list-style-type: none"> <li>To know there are many different types of rocks.</li> </ol>

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Year 4	<p><b>Ecology (continued)</b></p> <ol style="list-style-type: none"> <li>To understand that living things are linked within a food chain.</li> <li>To know that living things depend on each other in an ecosystem.</li> <li>To understand that air pollution is a human threat to the environment.</li> <li>To know how humans have changed the environment in our local area.</li> <li>Assessment</li> </ol>	<p><b>Sound</b></p> <ol style="list-style-type: none"> <li>To understand how sound is produced and how it travels.</li> <li>To know sound travels through the air.</li> <li>To know the difference between pitch and volume.</li> <li>To understand how the human voice makes different sounds.</li> <li>Vibrations in sound waves travel through the different parts of the ear.</li> <li>Assessment</li> </ol>	<p><b>States of matter</b></p> <p>To know that there are three main states of matter: solid, liquid and gas.</p>
Year 5	<p><b>Living things and their habitats (continued)</b></p> <ol style="list-style-type: none"> <li>Mammals and amphibians have different life cycles.</li> <li>Insects and birds have different life cycles.</li> <li>To know that flowering plants need pollen to reproduce.</li> <li>To know that Jane Goodall and David Attenborough have dedicated their lives to studying the natural world and communicating their findings.</li> <li><b>Assessment</b></li> </ol>	<p><b>Forces</b></p> <ol style="list-style-type: none"> <li>A force is either a push or a pull.</li> <li>Friction occurs when two objects move against each other.</li> <li>Objects with a large surface area will have greater air resistance than other objects with a small surface area.</li> <li>Pupils carry out an appropriate, scientific enquiry as planned last lesson to answer the question—How does surface area affect speed of fall in air (or water)?</li> <li>Simple machines help us to increase the force we apply to an object to help us move it.</li> <li>Assessment</li> </ol>	<p><b>Astronomy</b></p> <ol style="list-style-type: none"> <li>To know that astronomers believe the universe began with the Big Bang, and that it is still expanding today</li> </ol>
Year 6	<p><b>Electricity</b></p> <ol style="list-style-type: none"> <li>To know that electricity flows in a circuit.</li> <li>To explore how the voltage in a cell effects a bulb or buzzer in a circuit.</li> <li>To be able to explain how switches effect the flow of electricity.</li> <li>4 and 5. To know that circuits can be used to make electrical toys.</li> <li>To be able to independently design and make a circuit for a purpose</li> </ol>	<p><b>Light</b></p> <ol style="list-style-type: none"> <li>To know that light is a source of illumination that allows us to see.</li> <li>To know that light enters our eyes, allowing us to see.</li> <li>To test the hypothesis that shadows are always the same shape as the object that made them.</li> <li>To understand what light is made of and how a prism works.</li> <li>To explore ways to reflect an image of something out of sight</li> <li>To show an understanding of how light behaves.</li> </ol>	

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Summer term

Year 1	<p><b>Plants</b></p> <ol style="list-style-type: none"> <li>To know what plants, need in order to grow.</li> <li>To name and describe the parts of a plant.</li> <li>To understand that plants spread their seeds to make new plants.</li> <li>To understand that some trees are evergreen, and some are deciduous.</li> <li>To recognise which parts of plants we eat.</li> <li>Assessment</li> </ol>	<p><b>Materials and magnets</b></p> <ol style="list-style-type: none"> <li>To recognise everyday materials.</li> <li>To identify the properties of materials.</li> <li>To explain why materials are chosen for specific tasks.</li> <li>To understand that materials can be sorted according to whether they are or are not attracted to magnets.</li> <li>To investigate which material would be most suitable for (insert purpose).</li> <li>Assessment</li> </ol>	Science quiz week (of the year's learning)	
Year 2	<p><b>Unit 5: Materials and Matter</b></p> <ol style="list-style-type: none"> <li>To know that materials have specific uses based on their properties.</li> <li>To know that inventors think carefully about materials and their properties.</li> <li>To know that scientists use microscopes to see very small things around us.</li> <li>To know that the shapes of solid objects made from some materials can be changed</li> <li>To understand that water can be a solid and can also be a liquid.</li> <li>Assessment and consolidation lesson</li> </ol>	<p><b>Unit 6: Astronomy</b></p> <ol style="list-style-type: none"> <li>To know there are eight planets in our solar system</li> <li>To know that Earth travels around the sun.</li> <li>To know that the moon orbits the earth.</li> <li>To know that groups of stars are called constellations.</li> <li>Scientists, including astronomers, learn from each other to make new discoveries about space</li> <li>Assessment and consolidation lesson</li> </ol>	Science quiz week (of the year's learning)	
Year 3	<p><b>Rocks (continued)</b></p> <ol style="list-style-type: none"> <li>To know that geologists sort rocks into three main groups.</li> <li>To understand that some rocks allow water to pass through, but others do not.</li> <li>To know that some rocks contain fossils which can tell us about life millions of years ago.</li> <li>To recognise that soils are made from rocks and organic matter</li> <li>Assessment</li> </ol>	<p><b>Forces and magnets</b></p> <ol style="list-style-type: none"> <li>A force is a push or a pull.</li> <li>Friction is the force between two surfaces.</li> <li>Magnets have an invisible push or pull force</li> <li>To know that magnets have poles and a magnetic field.</li> <li>To know that magnetic forces are not all the same strength.</li> <li>Assessment</li> </ol>	Science quiz week (of the year's learning)	

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Year 4	<b>States of matter (continued)</b> <ol style="list-style-type: none"> <li>To know that evaporation occurs when water turns into gas.</li> <li>To know that condensation occurs when water vapour turns into liquid water. (gas into water)</li> <li>To know that precipitation returns water to the surface of the Earth.</li> <li>To know how water changes state within the water cycle.</li> <li>Assessment</li> </ol>	<b>Electricity</b> <ol style="list-style-type: none"> <li>To know that electricity is useful, but it can also be very dangerous.</li> <li>To construct an electrical circuit.</li> <li>Switches open and close a circuit.</li> <li>To know that the lightbulb was a very important invention.</li> <li>To identify materials that conduct electricity.</li> <li>Assessment</li> </ol>	Science quiz week (of the year's learning)
Year 5	<b>Astronomy (continued)</b> <ol style="list-style-type: none"> <li>To understand that gravity is a force that holds objects together</li> <li>To know the planets of our Solar System</li> <li>To understand the Moon's phases</li> <li>To understand that the Solar System is just a small part of our universe</li> <li>Assessment</li> </ol>	<b>Meteorology</b> <ol style="list-style-type: none"> <li>To know the atmosphere protects Earth and enables life</li> <li>To know that human actions can impact the Earth's atmosphere</li> <li>To know that the UK experiences six air masses affecting the weather</li> <li>To know a weather front is a boundary where warm and cold air meet</li> <li>To know thunder and lightning is caused by electrical charge moving through the air.</li> <li>Assessment</li> </ol>	Science quiz week (of the year's learning)
Year 6	<b>Reproduction</b> <ol style="list-style-type: none"> <li>To know that asexual reproduction does not require male and female cells.</li> <li>To understand sexual reproduction in flowering plants.</li> <li>To know that many plants clothe their seeds with fruit.</li> <li>To understand sexual reproduction in animals.</li> <li>To know that different animals have different growth stages.</li> <li>To show what we know about how plants and animals reproduce. <i>(Need to condense 2 weeks into 1)</i></li> </ol>	<b>Evolution</b> <ol style="list-style-type: none"> <li>To know fossils are physical evidence of life from long ago</li> <li>To know offspring are usually similar to, but not identical to their parents</li> <li>To know living things can adapt to suit their environment</li> <li>To know who Charles Darwin was and what natural selection is</li> <li>To know who Alfred Wallace was and understand his contribution to the theory of evolution</li> <li>To show my understanding of evolution <i>(Need to condense 2 weeks into 1)</i></li> </ol>	Science quiz week (of the year's learning)