



Year B- Year 3 & 4 Science Overview

	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
	<b>Plants</b>	<b>Animals including humans 4</b>	<b>Materials- States of matter</b>		<b>Light</b>	<b>Sound 4</b>
<b>Prior knowledge</b>	Pupils will understand seeds and bulbs grow into mature plants. Plants need light, water and warmth to grow and stay health	That animals including humans do not produce their own food. The importance of a balanced and nutritious diet. That humans and some other animals have skeletons and muscles for support, protection and movement.	Pupils will have learnt to compare and group materials based on their simple properties. Pupils will have explored how to change the shape of solids by bending, twisting, squashing and stretching.		Pupils will have observed the effect of light on plant growth.	Pupils may have some understanding that objects make different sounds. Some understanding that they use their ears to hear sounds. Know about their different senses.
<b>Intent</b>	Pupils will build on prior knowledge from basic plant identification to an anatomical and functional understanding of how plants survive and thrive	Animals including humans Pupils will understand the structure of the human digestive system. Pupils will understand the different types of teeth and their function.	Pupils will master the States of Matter by observing how materials behave and change, using the Water Cycle as the primary real-world application of these concepts.		Pupils will understand the physics of light and shadow through practical exploration. It moves from basic sensory observation (seeing vs. darkness) to the scientific principles of reflection and opacity.	Pupils will be able to explain what happens when a sound leaves a source and how it travels to our ear. Pupils will be able to explain the correlation between pitch and the object producing the sound.
<b>Type of Scientific enquiry</b>	<p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</p> <p>Investigate the way in which water is transported within plants</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p>Identifying different types of teeth in humans and their simple function</p> <p>Conducting an investigation to determine which drink causes the most tooth decay</p> <p>Researching the simple functions of the basic parts of the digestive system</p> <p>Researching what animals eat to construct a food chain</p> <p>Identifying the basic parts of the human digestive system</p>	<p>Compare and group materials together, according to whether they are solids, liquids or gases</p> <p>Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>		<p>Recognise that they need light to see things and that dark is the absence of light</p> <p>Notice that light is reflected from surfaces</p> <p>Recognise that the Sun can be dangerous and that there are ways to protect their eyes</p> <p>Recognise that shadows are formed when the light from a light source is blocked by a solid object Find patterns in the way that the size of shadows change.</p>	<p>Identify how sounds are made, associating some of them with something vibrating</p> <p>Recognise that vibrations from sounds travel through a medium to the ear</p> <p>Find patterns between the pitch of a sound and features of the object that produced it</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>



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<p><b>Working scientifically</b></p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p>	<p>Identifying types of teeth on a diagram or model</p> <p>Making predictions using knowledge of the effects of sugar on tooth decay</p> <p>Setting up tests to investigate the question posed – “Which drink causes the most tooth decay?”</p> <p>Recording their findings by producing a life-sized model of the digestive system</p> <p>Communicating their findings by producing a presentation of food’s journey through the digestive system</p> <p>Children will evaluate their presentations Asking questions about what animals eat</p> <p>Drawing diagrams to show the transfer of energy in a food chain</p>	<p>Set up simple practical enquiries, comparative and fair tests</p> <p>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>Gather, record, classify and present data in a variety of ways to help answer questions</p> <p>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p>		<p>Set up simple practical enquiries, comparative and fair tests</p> <p>Gather, record, classify and present data in a variety of ways to help in answering questions</p> <p>Make systematic and careful observations and where appropriate, take accurate measurements using standard units, using a range of equipment</p> <p>Use results to make simple conclusions, make predictions for new values, suggest improvements and raise further questions</p>	<p>Set up simple practical enquiries, comparative and fair tests</p> <p>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p> <p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p>
<p><b>Key vocabulary</b></p>	<p>Roots Stem Leaves Flower Pollination Seeds</p>		<p>Solid Liquid Gas Condensation Evaporation Temperature</p>		<p>Reflect Shadow Opaque Translucent Transparent Luminous</p>	<p>Vibrate Volume Pitch Pinna Cochlea Eardrum</p>
<p><b>Outcome</b></p>	<p>Pupils will be able to explain how seeds are formed in flowering plants and describe the different ways in which they can be dispersed.</p>	<p>Pupils will carry out research to gather information, compare ideas and support their explanations, helping them develop a more accurate and well-informed understanding of the topic. They will extend their knowledge of food chains</p>	<p>Pupils will be able to explain the relationship between temperature and the rate of evaporation. They will be able to apply their science knowledge to suggest conditions that will accelerate or decelerate the rate of evaporation.</p>		<p>Pupils will be able to explain how mirrors reflect light. Through their explorations, they will understand how light behaves when it is reflected.</p>	<p>Pupils will plan and investigate in response to the question- Which material is the best at muffling sound.</p>



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		by constructing and interpreting a variety of food chains, identifying producers, consumers, predators and prey.				
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