



**Science**  
**Programme of Study Progression Map**

<b>EYFS</b>	<b>Communication and Language</b>		Learn new vocabulary. • Ask questions to find out more and to check what has been said to them. • Articulate their ideas and thoughts in well-formed sentences. • Describe events in some detail. • Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. • Use new vocabulary in different contexts.
	<b>Personal social and emotional development</b>		Know and talk about the different factors that support their overall health and wellbeing: - regular physical activity - healthy eating - toothbrushing - sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian
	<b>Understanding the world</b>		Explore the natural world around them. • Describe what they see, hear and feel while they are outside. • Recognise some environments that are different to the one in which they live. • Understand the effect of changing seasons on the natural world around them.
<b>ELG</b>	<b>Communication and Language</b>	<b>Listening attention and understanding</b>	Make comments about what they have heard and ask questions to clarify their understanding
	<b>Personal, Social and Emotional Development</b>	<b>Managing Self</b>	Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.

		<b>Understanding the World</b>	<b>The Natural World</b>	Explore the natural world around them, making observations and drawing pictures of animals and plants. • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter		
	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>
<b>Animals including Humans</b>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals;</li> <li>• identify and name a variety of common animals that are carnivores, herbivores and omnivores;</li> <li>• describe and compare the structure of a variety of common animals (fish,</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• notice that animals, including humans, have offspring which grow into adults;</li> <li>• find out about and describe the basic needs of animals, including humans, for survival (water, food and air);</li> <li>• describe the importance for humans of exercise, eating the right amounts of</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat;</li> <li>• identify that humans and some other animals have skeletons and muscles for support, protection and movement.</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• describe the simple functions of the basic parts of the digestive system in humans;</li> <li>• identify the different types of teeth in humans and their simple functions;</li> <li>• construct and interpret a variety of food chains, identifying producers, predators and prey.</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• describe the changes as humans develop to old age.</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood;</li> <li>• recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function;</li> <li>• describe the ways in which nutrients and water are</li> </ul>

	<p>amphibians, reptiles, birds and mammals including pets);</p> <ul style="list-style-type: none"> <li>• identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> </ul>	<p>different types of food, and hygiene.</p>				<p>transported within animals, including humans.</p>
<b>Plants</b>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• identify and name a variety of common wild and garden plants, including deciduous and evergreen trees;</li> <li>• identify and describe the basic structure of a variety of common flowering plants, including trees.</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• observe and describe how seeds and bulbs grow into mature plants;</li> <li>• find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers;</li> <li>• explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to</li> </ul>			

			<p>grow) and how they vary from plant to plant;</p> <ul style="list-style-type: none"> <li>• investigate the way in which water is transported within plants;</li> <li>• explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</li> </ul>			
<b>Living Things and their Habitats</b>		<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• explore and compare the differences between things that are living, dead, and things that have never been alive;</li> <li>• identify that most living things live in habitats to which they are</li> </ul>		<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• recognise that living things can be grouped in a variety of ways;</li> <li>• explore and use classification keys to help group, identify and name a variety of living things in their local and</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird;</li> <li>• describe the life process of reproduction in some plants and animals.</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-</li> </ul>

		<p>suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.</p> <ul style="list-style-type: none"> <li>• identify and name a variety of plants and animals in their habitats, including microhabitats;</li> <li>• describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</li> </ul>		<p>wider environment;</p> <ul style="list-style-type: none"> <li>• recognise that environments can change and that this can sometimes pose dangers to living things.</li> </ul>		<p>organisms, plants and animals;</p> <ul style="list-style-type: none"> <li>• give reasons for classifying plants and animals based on specific characteristics.</li> </ul>
<b>Evolution and inheritance</b>						<b>Pupils should be taught to:</b>

						<ul style="list-style-type: none"><li>• recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago;</li><li>• recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents;</li><li>• identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to</li></ul>
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						evolution.
<b>Seasonal changes</b>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• observe changes across the 4 seasons;</li> <li>• observe and describe weather associated with the seasons and how day length varies.</li> </ul>					
<b>Forces</b>			<p><b>Forces and Magnets</b></p> <p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• compare how things move on different surfaces;</li> <li>• notice that some forces need contact between 2 objects, but magnetic forces can act at a distance;</li> <li>• observe how magnets attract or repel each other and attract</li> </ul>		<p><b>Forces</b></p> <p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object;</li> <li>• identify the effects of air resistance, water resistance and friction,</li> </ul>	

			<p>some materials and not others;</p> <ul style="list-style-type: none"> <li>• compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials;</li> <li>• describe magnets as having 2 poles;</li> <li>• predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</li> </ul>		<p>that act between moving surfaces;</p> <ul style="list-style-type: none"> <li>• recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.</li> </ul>	
<b>Light</b>			<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• recognise that they need light in order to see things and that dark is the absence of light;</li> </ul>			<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• recognise that light appears to travel in straight lines;</li> <li>• use the idea that light travels</li> </ul>



			<ul style="list-style-type: none"> <li>• notice that light is reflected from surfaces;</li> <li>• recognise that light from the sun can be dangerous and that there are ways to protect their eyes;</li> <li>• recognise that shadows are formed when the light from a light source is blocked by an opaque object;</li> <li>• find patterns in the way that the size of shadows change.</li> </ul>			<p>in straight lines to explain that objects are seen because they give out or reflect light into the eye;</p> <ul style="list-style-type: none"> <li>• explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes;</li> <li>• use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</li> </ul>
<b>Sound</b>				<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• identify how sounds are made, associating some of them</li> </ul>		

				<ul style="list-style-type: none"> <li>with something vibrating;</li> <li>• recognise that vibrations from sounds travel through a medium to the ear;</li> <li>• find patterns between the pitch of a sound and features of the object that produced it;</li> <li>• find patterns between the volume of a sound and the strength of the vibrations that produced it;</li> <li>• recognise that sounds get fainter as the distance from the sound source increases.</li> </ul>		
<b>Earth and Space</b>					<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• describe the movement of the Earth and other</li> </ul>	

					<p>planets relative to the sun in the solar system;</p> <ul style="list-style-type: none"> <li>• describe the movement of the moon relative to the Earth;</li> <li>• describe the sun, Earth and moon as approximately spherical bodies;</li> <li>• use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</li> </ul>	
<b>Electricity</b>				<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• identify common appliances that run on electricity;</li> <li>• construct a simple series electrical circuit, identifying and naming its</li> </ul>		<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit;</li> </ul>

				<p>basic parts, including cells, wires, bulbs, switches and buzzers;</p> <ul style="list-style-type: none"><li>• identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery;</li><li>• recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit;</li><li>• recognise some common conductors and insulators, and associate metals with being good conductors.</li></ul>		<ul style="list-style-type: none"><li>• compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches;</li><li>• use recognised symbols when representing a simple circuit in a diagram.</li></ul>
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<p><b>Materials</b></p>	<p>Everyday Materials</p> <p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• distinguish between an object and the material from which it is made;</li> <li>• identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock;</li> <li>• describe the simple physical properties of a variety of everyday materials;</li> <li>• compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> </ul>	<p>Uses of Everyday Materials</p> <p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses;</li> <li>• find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> </ul>	<p>Rocks</p> <p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• compare and group together different kinds of rocks on the basis of their appearance and simple physical properties;</li> <li>• describe in simple terms how fossils are formed when things that have lived are trapped within rock;</li> <li>• recognise that soils are made from rocks and organic matter.</li> </ul>	<p>States of Matter</p> <p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• compare and group materials together, according to whether they are solids, liquids or gases;</li> <li>• 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 (<math>^{\circ}\text{C}</math>);</li> <li>• identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation</li> </ul>	<p>Properties and Changes of Materials</p> <p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets;</li> <li>• know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution;</li> <li>• use knowledge of solids, liquids and gases to</li> </ul>	
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				with temperature.	decide how mixtures might be separated, including through filtering, sieving and evaporating; • give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic; • demonstrate that dissolving, mixing and changes of state are reversible changes; • explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible,	
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					including changes associated with burning and the action of acid on bicarbonate of soda.	
<b>Scientists and inventors</b>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• identify and name a variety of common wild and garden plants, including deciduous and evergreen trees;</li> <li>• describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets);</li> <li>• identify, name, draw and label the basic parts of the human body and say</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food;</li> <li>• find out and describe how plants need water, light and a suitable temperature to grow and stay healthy;</li> <li>• describe the importance for</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• identify that humans and some other animals have skeletons and muscles for support, protection and movement;</li> <li>• compare and group together different kinds of rocks on the</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• recognise that environments can change and that this can sometimes pose dangers to living things;</li> <li>• identify the different types of teeth in humans and their simple functions;</li> <li>• compare and group materials together, according to whether they are solids, liquids or gases;</li> <li>• observe that some materials change state</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird;</li> <li>• compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets;</li> </ul>	<p><b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>• give reasons for classifying plants and animals based on specific characteristics;</li> <li>• identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood;</li> <li>• recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function;</li> </ul>

	<p>which part of the body is associated with each sense;</p> <ul style="list-style-type: none"> <li>• describe the simple physical properties of a variety of everyday materials;</li> <li>• compare and group together a variety of everyday materials on the basis of their simple physical properties;</li> <li>• observe and describe weather associated with the seasons and how day length varies.</li> </ul>	<p>humans of exercise, eating the right amounts of different types of food, and hygiene;</p> <ul style="list-style-type: none"> <li>• identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses;</li> <li>• find out about people who have developed new materials (non-statutory).</li> </ul>	<p>basis of their appearance and simple physical properties;</p> <ul style="list-style-type: none"> <li>• describe in simple terms how fossils are formed when things that have lived are trapped within rock;</li> <li>• notice that light is reflected from surfaces;</li> <li>• observe how magnets attract or repel each other and attract some materials and not others.</li> </ul>	<p>when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C);</p> <ul style="list-style-type: none"> <li>• recognise that vibrations from sounds travel through a medium to the ear;</li> <li>• identify common appliances that run on electricity;</li> <li>• construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers;</li> <li>• recognise that a switch opens and closes a</li> </ul>	<ul style="list-style-type: none"> <li>• use knowledge of solids, liquids and gases to decide how mixtures might be separated, including filtering, sieving and evaporating;</li> <li>• describe the movement of the Earth, and other planets, relative to the Sun in the solar system;</li> <li>• find out about the work of naturalists and animal behaviourists (non-statutory);</li> <li>• describe how scientific ideas have changed over time (non-statutory).</li> </ul>	<ul style="list-style-type: none"> <li>• recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago;</li> <li>• use recognised symbols when representing a simple circuit in a diagram.</li> </ul>
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				circuit and associate this with whether or not a lamp lights in a simple series circuit.		
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