



Knowledge Progression

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals including humans	<p>Make connections between the features of their family and other families.</p> <p>Notice differences between people.</p> <p>Continue developing positive attitudes about the differences between people.</p> <p>Manage their own needs and personal hygiene.</p> <p>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.</p>	<p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets).</p> <p>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p>	<p>Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>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.</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p>Describe the changes as humans develop to old age.</p>	<p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p>
Plants	<p>Plant seeds and care for growing plants.</p> <p>Understand the key features of the life cycle of a plant and an animal.</p> <p>Begin to understand the need to respect and care for the natural environment and all living things.</p>	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p>	<p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<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</p>			

				play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.			
<u>Living things and their habitats</u>	<p>Explore and respond to different natural phenomena in their setting and on trips.</p> <p>Plant seeds and care for growing plants.</p> <p>Understand the key features of the life cycle of a plant and an animal.</p> <p>Begin to understand the need to respect and care for the natural environment and all living things.</p> <p>Explore the natural world around them.</p>		<p>Explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>Identify that most living things live in habitats to which they are 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> <p>Identify and name a variety of plants and animals in their habitats, including microhabitats.</p> <p>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.</p>		<p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explore and use classification keys to help group, identify, and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p>Describe the differences in the life cycles of a mammal, an amphibian, an insect, and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p>	<p>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants, and animals.</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p>
<u>Evolution and inheritance</u>							<p>Recognise that living things have changed over time, and fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally, offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and understand that adaptation may lead to evolution.</p>

<p>Seasonal Changes</p>	<p>Explore and respond to different natural phenomena in their setting and on trips.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Understand the effect of changing seasons on the natural world around them.</p>	<p>Observe changes across the four seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>					
<p>Forces</p>	<p>Explore and talk about different forces they can feel.</p>			<p>Compare how things move on different surfaces.</p> <p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>Observe how magnets attract or repel each other and attract some materials and not others.</p> <p>Compare and group together a variety of everyday materials based on whether they are attracted to a magnet and identify some magnetic materials.</p> <p>Describe magnets as having two poles.</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>		<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effects of air resistance, water resistance, and friction that act between moving surfaces.</p> <p>Recognise that some mechanisms, including levers, pulleys, and gears, allow a smaller force to have a greater effect.</p>	
<p>Light</p>				<p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that light from 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 an opaque object.</p> <p>Find patterns in the way that the size of shadows changes.</p>			<p>Recognise that light appears to travel in straight lines.</p> <p>Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.</p> <p>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.</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>

<p>Sound</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>		
<p>Earth and space</p>						<p>Describe the movement of the Earth and other planets relative to the sun in the solar system.</p> <p>Describe the movement of the moon relative to the Earth.</p> <p>Describe the sun, Earth, and moon as approximately spherical bodies.</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p>	
<p>Electricity</p>					<p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches, and buzzers.</p> <p>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.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors and insulators and associate metals with being good conductors.</p>		<p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>Compare and provide reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers, and the on/off position of switches.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>

<p>Materials</p>	<p>Explore materials with different properties.</p> <p>Explore natural materials, indoors and outside.</p> <p>Use all their senses in hands-on exploration of natural materials.</p> <p>Explore collections of materials with similar and/or different properties.</p> <p>Talk about the differences between materials and changes they notice.</p>	<p>Distinguish between an object and the material from which it is made is essential for understanding the composition of various items.</p> <p>Identify and name a variety of everyday materials, such as wood, plastic, glass, metal, water, and rock, helps in recognising the diverse substances around us.</p> <p>Describe the simple physical properties of a variety of everyday materials provides insights into their characteristics and behaviour.</p> <p>Compare and group together a variety of everyday materials based on their simple physical properties facilitates the classification and understanding of different substances.</p>	<p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper, and cardboard, for particular uses is crucial for making informed choices in various applications.</p> <p>Discover how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting, and stretching provides insights into the malleability and flexibility of different substances.</p>	<p>Compare and group together different kinds of rocks based on their appearance and simple physical properties allows for a systematic understanding of geological diversity.</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock sheds light on the fascinating process of preserving ancient life forms.</p> <p>Recognise that soils are made from rocks and organic matter underscores the connection between geological materials and the formation of the Earth's surface, contributing to our understanding of soil composition.</p>	<p>Compare and group materials together based on their state—whether they are solids, liquids, or gases—provides a fundamental classification for understanding the physical properties of substances.</p> <p>Observe that some materials change state when heated or cooled, and measuring or researching the temperature at which this happens in degrees Celsius (°C), allows for a deeper comprehension of the thermal characteristics of different substances.</p> <p>Identify the part played by evaporation and condensation in the water cycle and associating the rate of evaporation with temperature enhances our understanding of the atmospheric processes governing the transformation of water between liquid and gaseous states.</p>	<p>Compare and group together everyday materials based on their properties, such as hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets, provides a comprehensive understanding of the diverse characteristics of substances.</p> <p>Know that some materials will dissolve in liquid to form a solution and describing how to recover a substance from a solution is essential for understanding the processes of dissolution and separation.</p> <p>Use knowledge of solids, liquids, and gases to decide how mixtures might be separated, including through filtering, sieving, and evaporating, empowers individuals to manipulate and understand various combinations of substances.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood, and plastic, allows for informed decision-making regarding material selection in different applications.</p> <p>Demonstrate that dissolving, mixing, and changes of state are reversible changes underscores the dynamic nature of these processes.</p> <p>Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda, deepens the understanding of irreversible chemical transformations.</p>	
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Working Scientifically Progression

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		NC Coverage During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: asking simple questions and recognising that they can be answered in different ways; observing closely, using simple equipment; performing simple tests; identifying and classifying; using their observations and ideas to suggest answers to questions; gathering and recording data to help in answering questions.		NC Coverage During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: asking relevant questions and using different types of scientific enquiries to answer them; setting up simple practical enquiries, comparative and fair tests; making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers; gathering, recording, classifying and presenting data in a variety of ways to help in answering questions; recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables; reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions; using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions; identifying differences, similarities or changes related to simple scientific ideas and processes; using straightforward scientific evidence to answer questions or to support their findings.		NC Coverage During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary; taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate; recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs; using test results to make predictions to set up further comparative and fair tests; reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations; identifying scientific evidence that has been used to support or refute ideas or arguments.	
Asking and answering questions	Understand simple questions about 'who', 'what' and 'where' (but generally not 'why'). Ask questions to find out more and to check they understand what has been said to them.	Use everyday language/begin to use simple scientific words to ask or answer a scientific question.	Suggest ideas, ask simple questions and know that they can be answered/investigated in different ways including simple secondary sources, such as books and video clips.	Use ideas to pose questions, independently, about the world around them.	Suggest relevant questions and know that they could be answered in a variety of ways, including using secondary sources such as ICT. Answer questions using straight forward scientific evidence.	Raise different types of scientific questions, and hypotheses.	Pose/select the most appropriate line of enquiry to investigate scientific questions.
Making predictions	Know more, so feel confident about coming up with their own ideas. Make more links between those ideas.	Begin to say what might happen in an investigation.	Begin to make predictions.	Make predictions and begin to give a reason.	Make predictions and give a reason using simple scientific vocabulary.	Make predictions and give a reason using scientific vocabulary.	Make predictions and give a reason using scientific vocabulary. Base predictions on findings from previous investigations.
Making observations	Use all their senses in hands-on exploration of natural materials. Pay attention to more than one thing at a time, which can be difficult.	Observe objects, materials and living things and describe what they see.	Observe something closely and describe changes over time.	Make decisions about what to observe during an investigation.	Make systematic and careful observations.	Plan and carry out comparative and fair tests, making systematic and careful observations.	Make their own decisions about which observations to make, using test results and observations to make predictions or set up further comparative or fair tests.

<p><u>Equipment and measurements</u></p>	<p>Sort materials. For example, at tidy-up time, children know how to put different construction materials in separate baskets.</p>	<p>Use simple, nonstandard equipment and measurements in a practical task.</p>	<p>Use simple equipment, such as hand lenses or egg timers to take measurements, make observations and carry out simple tests.</p>	<p>Take accurate measurements using standard units.</p>	<p>Take accurate measurements using standard units and a range of equipment, including thermometers and data loggers.</p>	<p>Take measurements using a range of scientific equipment with increasing accuracy and precision.</p>	<p>Choose the most appropriate equipment in order to take measurements, explaining how to use it accurately.</p> <p>Decide how long to take measurements for, to ensure they are collecting enough data.</p>
<p><u>Identifying and classifying</u></p>	<p>Make connections between the features of their family and other families.</p> <p>Notice differences between people.</p> <p>Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc.</p> <p>Notice patterns and arrange things in patterns.</p> <p>Talk about the differences between materials and changes they notice.</p>	<p>Sort and group objects, materials and living things, with help, according to simple observational features.</p>	<p>Decide, with help, how to group materials, living things and objects, noticing changes over time and beginning to see patterns.</p>	<p>Talk about criteria for grouping, sorting and categorising, beginning to see patterns and relationships.</p>	<p>Identify similarities/differences/changes when talking about scientific processes.</p> <p>Use and begin to create simple keys.</p>	<p>Use and develop keys to identify, classify and describe living things and materials.</p>	<p>Identify and explain patterns seen in the natural environment.</p>
<p><u>Engaging in practical enquiry (investigating)</u></p>	<p>Explore and respond to different natural phenomena in their setting and on trips.</p> <p>Explore the natural world around them Explore materials with different properties.</p> <p>Describe what they see, hear and feel whilst outside.</p>	<p>Follow instructions to complete a simple test individually or in a group.</p>	<p>Do things in the correct order when performing a simple test and begin to recognise when something is unfair.</p>	<p>Discuss enquiry methods and describe a fair test.</p>	<p>Make decisions about different enquiries, including recognising when a fair test is necessary and begin to identify variables.</p>	<p>Plan a range of science enquiries, including comparative and fair tests.</p>	<p>Select and plan the most suitable line of enquiry, explaining which variables need to be controlled and why, in a variety of comparative and fair tests.</p>

	<p>Use all their senses in hands-on exploration of natural materials.</p> <p>Concentrate on achieving something that's important to them. They are increasingly able to control their attention and ignore distractions.</p> <p>Understand a question or instruction that has two parts, such as: "Get your coat and wait at the door"</p>						
<u>Recording and reporting findings</u>	Describe what they see, hear and feel whilst outside.	<p>Begin to record simple data.</p> <p>Talk about their findings and explain what they have found out.</p>	Gather data, record and talk about their findings, in a range of ways, using simple scientific vocabulary.	Record their findings using scientific language and present in note form, writing frames, diagrams, tables and charts.	Choose appropriate ways to record and present information, findings and conclusions for different audiences (e.g. displays, oral or written explanations).	Record data and results of increasing complexity using scientific diagrams, labels, classification keys, tables, bar and line graphs and models.	Choose the most effective approach to record and report results, linking to mathematical knowledge.
<u>Drawing conclusions</u>	<p>Describe what they see, hear and feel whilst outside.</p> <p>Articulate their ideas and thoughts in well-formed sentences.</p> <p>Describe events in some detail.</p>	Explain, with help, what they think they have found out.	Use simple scientific language to explain what they have found out.	Draw, with help, a simple conclusion based on evidence from an enquiry or observation.	Use recorded data to make predictions, pose new questions and suggest improvements for further enquiries.	<p>Use a simple mode of communication to justify their conclusions on a hypothesis.</p> <p>Begin to recognise how scientific ideas change over time.</p>	<p>Identify validity of conclusion and required improvement to methodology.</p> <p>Discuss how scientific ideas develop over time.</p>
<u>Analysing data</u> <u>Evaluating and raising further questions and predictions</u>	Talk about the differences between materials and changes they notice.	Use everyday or simple scientific language to ask and/or answer a question on given data.	Identify simple patterns and/or relationships using simple comparative language.	Gather, record and use data in a variety of ways to answer a simple question.	Identify, with help, changes, patterns, similarities and differences in data to help form conclusions. Use scientific evidence to support their findings.	Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas.	Identify and explain causal relationships in data and identify evidence that supports or refutes their findings, selecting fact from opinion.