

Science Progression

Year Group	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Area of Study						
Biology	To point out some differences between different animals To classify common animals (birds, fish, amphibians, reptiles, mammals) To describe how an animal is suited to its environment To identify parts of the human body and say which part of the body is associated with each sense To name, draw and label the basic parts of the human body To classify animals by what they eat (carnivore, herbivore, omnivore) To sort some animals by body covering, for example, scales, fur and skin and describe and compare the observable features of animals from a range of groups	To describe the importance of exercise, balanced diet and hygiene for humans To describe the basic needs of animals for survival and the main changes as young animals, including humans, grow in to adults To identify and name different sources of food	To identify that animals, including humans, need the right types and amount of nutrition To understand that animals cannot make their own food; they get nutrition from what they eat To identify that humans and some other animals have skeletons and muscles for support (musculoskeletal), protection and movement	To name and describe the functions of the main parts of the digestive system To identify the different types of teeth in humans and their simple functions To construct and interpret a variety of food chains, identifying producers, predators and prey	To describe the changes as humans develop to old age	To name, locate and describe the functions of the main parts of the digestive, musculoskeletal, and circulatory systems, and can describe and compare different reproductive processes and life cycle, in animals To describe the effects of diet, exercise, drugs and lifestyle on how their bodies function To construct and interpret food chains and webs To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood To describe the ways in which nutrients and water are transported within animals, including humans
All living things and their habitats	To identify and name a range of common wild and garden plants including deciduous and evergreen trees To name the petals, stem, leaf and root of a plant	To identify whether things are alive, dead or have never lived To identify and name a variety of plants and animals and describe how they are suited to different habitats To group animals according to what they eat, describe how animals get their food from other animals and/or from plants and use simple food chains to describe these relationships To describe and compare the observable features of animals from a range of groups To describe basic needs of plants for survival and the impact of changing these and the main changes as seeds and bulbs grow in to mature plants To identify and name a variety of plants and describe how they are suited to different habitats	To identify and describe the functions of different parts of flowering plants, for example, roots, stem/trunk, leaves and flowers To 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 To investigate the way in which water and nutrients are transported within plants To explore the part that flowers play in the life cycle of flowering Plants, including pollination, seed formation and seed dispersal	To recognise that living things can be grouped in a variety of ways To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment To recognise that environments can change and that this can sometimes pose dangers to living things To explain how environmental changes may have an impact on living things	To name, locate and describe the functions of the main parts of plants, including those involved in reproduction To describe the differences in life cycles of a mammal, an amphibian, as insect and a bird To describe the life process of reproduction processes and life cycles in some plants and animals	To 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 To name locate and describe the functions of the main parts of plants including those involved in reproduction and transporting water and nutrients To use the observable features of plants, animals and micro-organisms to group, classify and identify them into broad groups, using keys or in other ways To give reasons for classifying plants and animals based on specific characteristics
Evolution and Inheritance						To recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution

					To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents To explain how environmental changes may have an impact on living things To use the basic ideas of inheritance, variation and adaption to describe how living things have changed over time and evolved; and describe how fossils are formed and provide evidence for evolution
Chemistry Materials and states of matter	<p>To explain what material objects are made from and group them</p> <p>To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock</p> <p>To explain why a material might be useful for a specific job</p> <p>To describe the simple physical properties of a variety of everyday materials e.g. hard/soft; stretchy/stiff; shiny/dull; rough smooth; waterproof/not waterproof; bendy/ not bendy; absorbent/ not absorbent; opaque/ transparent</p> <p>To sort materials in to groups on the basis of their simple physical properties</p>	<p>To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <p>To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>		<p>To describe the characteristics of different states of matter and group materials on this basis</p> <p>To compare and group materials together, according to whether they are solids, liquids or gases</p> <p>To 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</p> <p>To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</p>	<p>To group and identify materials in different ways according to their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets, based on first-hand observation; and justify the use of different everyday materials for different uses, based on their properties</p> <p>To know that some materials will dissolve in liquid to form a solution</p> <p>To describe how to recover a substance from a solution</p> <p>To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>To identify and describe what happens when dissolving occurs in everyday situations; and describe how to separate mixtures and solutions into their components</p> <p>To demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>To 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</p>
Rocks			<p>To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>To describe in simple terms how fossils are formed when things that have lived are trapped within rock</p>		

			To recognise that soils are made from rocks and organic matter			
Physics Seasonal changes	To observe changes across the four seasons To observe and describe weather associated with the seasons and how day length varies					
Forces and Magnets			To compare how things move on different surfaces To notice that some forces need contact between two objects, but magnetic forces can act at a distance To observe how magnets attract or repel each other and attract some materials and not others To 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 To describe magnets as having two poles To predict whether two magnets will attract or repel each other, depending on which poles are facing		To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object To identify the effects of air resistance, water resistance and friction, that act between moving surfaces To recognise that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect	
Light			To recognise that they need light in order to see things that dark is the absence of light To notice that light is reflected from surfaces To recognise that light from the sun can be dangerous and that there are ways to protect their eyes To recognise that shadows are formed when the light from a light source is blocked by an opaque object To find patterns in the way that the size of shadows change			To 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 To 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 To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them
Sound				To understand that sounds are associated with vibrations, and that they require a medium to travel through, to explain how sounds are made and heard To describe the relationship between the pitch of a sound and the features of its source; and between the volume of a sound, the strength of the vibrations and the distance from its source To recognise that sounds get fainter as the distance from the sound source increases		
Electricity				To identify common appliances that run on electricity		To use simple apparatus to construct and control a series circuit, and describe how

				<p>To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>To 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>To 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>To recognise some common conductors and insulators and associate metals with being good conductors</p>		<p>the circuit may be affected when changes are made to it</p> <p>To use recognised symbols when representing a simple circuit in a diagram</p> <p>To use 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>To 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</p>
Earth and space					<p>To describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>To describe the movement of the Moon relative to the Earth</p> <p>To describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>To use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</p>	
Working scientifically	<p>To talk about what they see, touch, smell hear or taste</p> <p>To ask simple questions and recognise that they can be answered differently</p> <p>To use simple equipment to help make observations</p> <p>To perform a simple test</p> <p>To tell other people about what they have done</p> <p>To identify and classify things they observe</p> <p>To explain what has been found out</p> <p>To show they work using pictures, labels and captions</p> <p>To record findings using standard units</p> <p>To put some information in a chart or table</p>	<p>To ask their own questions about what they notice</p> <p>To use different types of scientific enquiry to gather and record data, using simple equipment where appropriate, to answer questions including:</p> <ul style="list-style-type: none"> -Observing changes over time -Noticing similarities, differences and patterns -Grouping and classifying things -Carrying out simply comparative tests -Finding things out using secondary sources of information <p>To use appropriate scientific language from the national curriculum to communicate their ideas in a variety of ways, what they do and what they find out</p> <p>To say whether things happened as they expected</p> <p>To use text, diagrams, pictures, charts, tables to record their observations</p> <p>To suggest how, and use prompts, to find things out</p>	<p>To ask relevant questions and use different scientific enquires to answer them</p> <p>To plan a fair test and explain why it is fair</p> <p>To explain why they need to collect information to answer a question</p> <p>To make systematic and careful observations and where appropriate, take accurate measurements using standard units</p> <p>To record their observations in different ways, for example, labelled diagrams, charts etc.</p> <p>To explain what they have found out and use their measurements to say whether it helps to answer their question</p> <p>To use a range of equipment including a thermometer and data logger</p>	<p>To ask relevant questions and use different types of scientific enquires to answer them</p> <p>To set up simple practical enquires, comparative and fair tests</p> <p>To decide which information needs to be collected and decide which is the best way for collecting it</p> <p>To take measurements using different equipment and units of measure and record what they have found in a range of ways</p> <p>To make accurate measurements using standard units</p> <p>To explain their findings in different ways, for example, display, presentation, writing</p> <p>To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>To make predictions based on something they have found out</p> <p>To record and present what they have found using scientific language, drawings, labelled diagrams, keys, bar charts and tables</p>	<p>To plan different types of scientific enquires to answer questions, including recognising and controlling variables where necessary</p> <p>To take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> <p>To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p>To use test results to make predictions to set up further comparative and fair tests</p> <p>To report and present 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</p> <p>To identify scientific evidence that has been used to support or refute ideas or arguments</p>	<p>To ask your own questions about the scientific phenomena you are studying, and select and plan the most appropriate ways to answer these questions, or those of others, recognising and controlling variables where necessary - including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests, and finding things out using a wide range of secondary sources of information</p> <p>To use a range of scientific equipment to take accurate and precise measurements or readings, with repeat readings where appropriate.</p> <p>To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p>To use appropriate scientific language and ideas from the national curriculum to explain, evaluate and communicate their methods and findings.</p> <p>To describe and evaluate own and other people's scientific ideas related to topics, using evidence from a range of sources</p> <p>To draw conclusion, explain and evaluate their methods and findings, communicating these in a variety of ways</p>

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