



Progression in Science Knowledge	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals, including humans	To be able to explore the natural world around them, making observations and drawing pictures of animals.	<p>To be able to identify, name draw and label the basic parts of the human body.</p> <p>To know which part of the body is associated with each sense (and that there are more than 5 senses!)</p> <p>To be able to identify and name a variety of common animals that are birds, fish, amphibians, reptiles and mammals.</p> <p>To be able identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>To be able to describe and</p>	<p>To know that animals, including humans, have offspring that grow into adults.</p> <p>To be able to find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>To know the importance for humans of eating the right amounts of different types of food.</p> <p>To know the importance for humans of exercise.</p> <p>To know the importance to humans of hygiene.</p>	<p>To know that animals cannot make their own food.</p> <p>To know that animals, including humans, need the right amounts and types of food.</p> <p>To know the ways in which nutrients and water are transported within animals, including humans.</p> <p>To know that humans and some animals have skeletons and muscles for support, protection and movement.</p>	<p>To be able to describe the simple functions of the basic parts of the digestive system in humans.</p> <p>To be able to identify the different types of teeth in humans and their simple functions.</p>	<p>*Taught alongside our RSHE policy on sex and relationships.</p> <p>To be able to describe the changes as humans develop from birth to old age.</p>	<p>To be able to Identify and name the main parts of the human circulatory system, and explain the functions of the heart, blood vessels and blood.</p> <p>To be able to describe the ways in which nutrients and water are transported within animals, including humans.</p>

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		<p>compare the structure of a variety of common animals.</p> <p>To be able to use secondary sources to find out more about animals (non-statutory).</p>					
Plants	<p>To be able to explore the natural world around them, making observations and drawing pictures of plants.</p>	<p>To be able to identify and describe the basic structure of a variety of common plants including roots, stem/trunk, leaves and flowers.</p> <p>To be able to identify and name a variety of common plants.</p> <p>To be able to classify trees as deciduous and evergreen.</p>	<p>To be able to observe how bulbs grow into mature plants.</p> <p>To be able to observe and describe how seeds grow into mature plants.</p> <p>To be able to find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>To be able to identify and describe the function of the roots.</p> <p>To be able to investigate the ways in which water is transported within plants.</p> <p>To be able to identify and describe the function of the stem.</p> <p>To be able to identify and describe the function of the leaves.</p> <p>To be able to explore the requirements of plants for life and growth (air, light, water, nutrients from soil).</p>			

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				To be able to identify and describe the function of the flower.			
Uses of everyday materials		<p>To be able to distinguish between an object and the material from which it is made.</p> <p>To be able to identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</p> <p>To be able to describe the simple physical properties of a variety of everyday materials.</p> <p>To be able to compare and group together a variety of everyday materials on the basis of their physical properties.</p>	<p>To be able 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>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>				
Seasonal changes	To be able to understand some important processes and changes in the natural world around them, including the seasons.	To be able to observe and describe weather associated with the seasons and how day length varies.					

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		To be able to observe changes across the four seasons.					
Living things and their habitats	To be able to recognise some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.		<p>To be able to explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>To be able to 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>To be able to 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>To be able to recognise that living things can be grouped in a variety of ways.</p> <p>To be able to explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>To be able to recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p>To be able to explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>To be able to describe the life process of reproduction in some plants and animals.</p>	<p>To be able 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.</p> <p>To be able to give reasons for classifying plants and animals based on specific characteristics.</p>

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			To be able to identify and name a variety of plants and animals in their habitats, including micro-habitats.				
Light				<p>To be able to recognise that they need light in order to see things and that dark is the absence of light.</p> <p>To be able to notice that light is reflected from surfaces.</p> <p>To be able to recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>To be able to recognise that shadows are formed when the light from a light source is blocked by a solid object.</p> <p>To be able to find patterns in the way that the sizes of shadows change.</p>			<p>To recognise that light appears to travel in straight lines.</p> <p>To be able 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.</p> <p>To be able 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.</p> <p>To be able to use the idea that light travels in straight lines to explain why shadows</p>

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							have the same shape as the objects that cast them.
Rocks				<p>To be able to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>To be able to recognise that soils are made from rocks and organic matter.</p>			
Forces				<p>To be able to compare how things move on different surfaces.</p> <p>To be able 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.</p> <p>To be able to notice that some forces need contact</p>		<p>To be able to explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>To be able to identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>To be able to recognise that some</p>	

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				<p>between two objects, but magnetic forces can act at a distance.</p> <p>To be able to predict whether two magnets will attract or repel each other, depending on which poles are facing.</p> <p>To be able to observe how magnets attract or repel each other and attract some materials and not others.</p> <p>To be able to describe magnets as having two poles.</p>		<p>mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	
Sound					<p>To be able to identify how sounds are made, associating some of them with something vibrating.</p> <p>To be able to recognise that vibrations from a sound travel through a medium to the ear.</p> <p>To be able to find patterns between the pitch of a sound and</p>		

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					<p>features of the object that produced it.</p> <p>To be able to find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>To be able to recognise that sounds get fainter as the distance from the sound source increases.</p>		
States of matter	To be able to understand some important processes and changes in the natural world around them, including the changing states of matter.				<p>To be able to compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>To be able 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 (°C).</p> <p>To be able to identify the part played by</p>		

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					evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.		
Electricity					<p>To be able to identify common appliances that run on electricity.</p> <p>To be able to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>To be able 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 be able to recognise some common conductors and insulators, and associate metals with being good conductors.</p>		<p>To be able to use recognised symbols when representing a simple circuit in a diagram.</p> <p>To be able to 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 be able 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>

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					To be able 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.		
Properties and changes of materials						<p>To be able to compare and group together everyday materials based on evidence from comparative and fair tests, including their conductivity of heat.</p> <p>To be able to understand that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>To be able to use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p>	

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						<p>To be able 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 be able to demonstrate that dissolving, mixing and changes of state are reversible changes.</p>	
Earth and space						<p>To be able to describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>To be able to describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>To be able to describe the movement of the Moon relative to the Earth.</p>	

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							To be able to use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.	
Evolution and inheritance								<p>To be able 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.</p> <p>To be able to recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>To be able to identify how animals and plants are adapted to suit their environment in different ways and</p>

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							that adaptation may lead to evolution.
Scientific Skill	Working Scientifically						
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Observing	To be able to make simple observations of the natural world.	To be able to observe closely, using simple equipment.	<p>To be able to use observations to suggest answers to questions.</p> <p>To be able to observe using simple equipment.</p> <p>To be able to observe using a microscope/hand lens.</p> <p>To be able to, with help, notice relationships (non-statutory).</p>	To be able to make systematic and careful observations.			
Sorting	To be able to sort animals, plants, objects based on simple differences.	<p>To be able to sort and group animals with some help (non-statutory).</p> <p>To be able to use simple features of a plant to sort and group them (non-statutory).</p>	To be able to sort objects using observable features (non-statutory).				
Recording	To be able to draw a picture recording	To be able to record data in a table.	To be able to record data (table).	To be able to record using drawings.	To be able to record findings using labelled diagrams.	To be able to communicate data using a scatter graph.	To be able to record results using a line graph.

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	their ideas about the natural world.	To be able to record data in simple ways (Venn diagram). To be able to record simple data in order to answer a question.	To be able to record data (flow diagram). To be able to record data (tally chart). To be able to record data (bar chart).	To be able to record findings as a bar chart. To be able to record data in a table. To be able to record data in a scatter graph (non-statutory). To be able to present information in a branching key.	To be able to record findings using drawings.	To be able to record data within tables. To be able to record data using line graphs. To be able to use scientific diagrams and labels.	To be able to record data in a table.
Enquiry (Questioning / Predictions)	To be able to choose ways to do things and find new ways. To be able to use what they already know to learn new things.	To be able to ask simple questions and recognise that they can be answered in different ways.	To be able to recognise that questions can be answered in a range of ways.	To be able to identify the correct type of enquiry to answer a question. To be able to make predictions for further values.	To be able to use results to make predictions. To be able to use a scientific enquiry to answer a question.	To be able to raise different types of questions (non-statutory). To be able to plan a scientific enquiry to answer a question. To be able to plan a scientific enquiry to answer a question.	To be able to plan pattern-seeking enquiry. To be able to plan an enquiry that will answer a question. To be able to present findings from an enquiry.
Identify /Classify	To identify and begin to use vocabulary related to different scientific topics.	To be able to identify and classify. To be able to use parts of the plant to identify and classify it.		To be able to identify changes related to scientific ideas.	To be able to identify differences, similarities or changes related to simple scientific ideas.		To be able to identify scientific evidence that has been used to support or refute ideas or arguments.

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							To be able to make a key to classify plants.
Testing		To be able to perform simple tests.	To be able to perform a simple test.	To be able to set up a simple comparative test. To be able to set up a simple fair-test. To be able to record findings in a bar chart. To be able to set up a simple practical enquiry.	To be able to set up a comparative test. To be able to set up a simple practical enquiry. To be able to set up simple fair tests.	To be able to use test results to make predictions to set up further fair-tests. To be able to plan a fair-test; identifying the control variables. To be able to recognise control variables when planning a fair-test.	To be able to plan a fair-test by recognising the control variables. To be able to use test results to make predictions to set up further comparative tests. To be able to use predictions to set up fair tests.
Measuring		To be able to make simple measurements with equipment (non-statutory).	To be able to use simple measurements (to gather data).	To be able to measure using beakers and syringes.	To be able to make systematic and careful measurements with a data logger. To be able to use a thermometer to take accurate measurements.	To be able to take repeated accurate measurements using a stopwatch. To take accurate measurements using a data-logger. To be able to measure accurately using a thermometer.	To be able to take repeat measurements of data with precision using a data-logger.
Data Gathering and Reporting		To be able to gather and record data to help answer a question.	To be able to gather and record data to help in answering a question.	To be able to report on findings from enquiries. To be able to gather and record data.	To be able to identify the correct type of enquiry to answer a question.	To be able to present conclusions. To be able to report and present findings	To be able to report causal relationships.

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			<p>To be able to use simple measurements to gather data.</p> <p>To be able to use simple secondary sources to find answers (non-statutory).</p>		<p>To be able to use evidence to support findings.</p> <p>To be able to gather, record, classify and present data in a variety of ways to help in answering questions</p> <p>To be able to report on findings from enquiries, including oral and written explanations.</p> <p>To be able to report on findings from an enquiry.</p>	<p>from enquiries, including conclusions, causal relationships and explanations.</p> <p>To be able to evaluate an enquiry in terms of the amount of trust one can have in it.</p> <p>To be able to recognise which secondary sources will be most useful to their research (non-statutory).</p>	<p>To be able to present findings from enquiries.</p> <p>To be able to recognise which secondary sources will be most useful to research ideas (non-statutory).</p> <p>To be able to use scientific evidence to support or refute on idea.</p> <p>To be able to identify scientific evidence that has been used to support or refute ideas or arguments.</p>
Explanations (Drawing Conclusions)	To offer explanations as to why things might have happened		To be able to talk about what they have found out and how they found it out (non-statutory).	<p>To be able to use evidence to answer questions.</p> <p>To be able to provide an oral explanation of findings.</p> <p>To be able to use results to draw simple conclusions.</p>	<p>To be able to use written explanations to report on findings from an enquiry.</p> <p>To be able to use results to draw simple conclusions.</p> <p>To be able to use straightforward scientific evidence to answer questions or</p>	<p>To be able to use evidence to refute or support an idea.</p> <p>To be able to identify scientific evidence that has been used to support or refute ideas or arguments.</p> <p>To be able to explain the degree of trust in results.</p>	To be able to explain the degree of trust can be had in results.

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				To be able to use straightforward scientific evidence to answer questions or to support their findings.	to support their findings.	To be able to explain findings.	
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KS2 Related Key Scientist to Cover				
Year Group	Year 3	Year 4	Year 5	Year 6
Key Scientist	1. William Smith 2. Isaac Newton	1. Thomas Edison and Nikola Tesla 2. Marie Curie (Chemist)	1. Katherine Johnson 2. Galileo Galilei	1. Charles Darwin and Mary Anning 2. Rosalind Franklin
Related Science Topic	1. Rocks 2. Forces	1. Electricity 2. States of Matter	1. Earth and Space 2. Forces	1. Evolution and Inheritance 2. Developing diversity!

KS1 Related Key Scientist to Cover			
Year Group	EYFS	Year 1	Year 2
Key Scientist	Mary Anning (Covered again in year 6)	Jane Goodall	Alexander Fleming
Related Science Topic	Understanding the world – the natural world (Dinosaurs!)	Living things and their habitats (not covered in year 1!)	Animals, including humans

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