

Science Progression

<p>KS 1 Working scientifically</p> <p>asking simple questions and recognising that they can be answered in different ways</p> <p>observing closely, using simple equipment</p> <p>performing simple tests</p> <p>identifying and classifying</p> <p>using their observations and ideas to suggest answers to questions</p> <p>gathering and recording data to help in answering questions.</p>	<p>Year 3 and 4 working scientifically</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>gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>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</p>	<p>Year 5 and 6 Working scientifically</p> <p>planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p> <p>taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> <p>recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p>using test results to make predictions to set up further comparative and fair tests</p> <p>reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in</p>
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			<p>using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>identifying differences, similarities or changes related to simple scientific ideas and processes</p> <p>using straightforward scientific evidence to answer questions or to support their findings.</p> <p>Tweezers, thermometers, data logger</p>	<p>oral and written forms such as displays and other presentations</p> <p>identifying scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Microscope, data logger</p>			
CM topic with plants coverage	<p>Are all leaves the same?</p> <p>Do pinecones know it's raining?</p> <p>How do leaves change?</p> <p>The enchanted woodland</p> <p>What's in a bud?</p>	<p>Can seeds grow anywhere?</p> <p>How do plants grow in winter?</p> <p>How does grass grow?</p> <p>The scented garden</p>	<p>Do plants have legs?</p> <p>What are flowers for?</p> <p>Why are trees tall?</p>				
Plants	Y1	Y2	Y3				

	<p>identify and name a variety of common wild and garden plants, including deciduous and evergreen trees The enchanted woodland</p> <p>identify and describe the basic structure of a variety of common flowering plants, including trees. The enchanted woodland</p> <p>Seasonal changes: observe changes across the four seasons How do leaves change?</p> <p>observe and describe weather</p>	<p>observe and describe how seeds and bulbs grow into mature plants - All</p> <p>find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. - All except: How does grass grow?</p>	<p>identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers – What are flowers for?</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 – Do plants have legs?</p> <p>investigate the way in which water is transported within plants - Why are trees tall?</p>			
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	associated with the seasons and how day length varies. Do pinecones know it's raining?		explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. - Do plants have legs? And What are flowers for?			
	Can you leap like a frog? What can worms sense? What is camouflage for? Why do we have two eyes? Whose poo? Dinosaur planet	Do insects have a favourite colour? Do snails have noses? How do germs spread? Why should I exercise? What is the lifecycle of the ladybird? Wiggle and crawl	Scrumdiddlyumptious Which is the juiciest fruit? What are our joints for?	What is spit for? How does toothpaste protect teeth? Can worms sense danger? What do squirrels eat?	Do we slow down as we get older? Time traveller	How does blood flow? What's in blood?
Animals including humans	identify and name a variety of common animals including fish, amphibians,	Animals including humans - Y2 notice that animals, including	Animals including humans - Y3 identify that animals, including	Animals including humans -Y4 describe the simple functions	Animals including humans – Y5 describe the changes as	Animals including humans –Y6 identify and name the main parts of

	<p>reptiles, birds and mammals What can worms sense?</p> <p>identify and name a variety of common animals that are carnivores, herbivores and omnivores Dinosaur planet</p> <p>describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) Dinosaur planet</p> <p>identify, name, draw and label the basic parts of the human body</p>	<p>humans, have offspring which grow into adults - What is the lifecycle of the lady bird? Wiggle and crawl</p> <p>find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Do insects have a favourite colour? Do snails have noses?</p> <p>describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. How do germs spread?</p>	<p>humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat Scrumdiddlyumptious Which is the juiciest fruit?</p> <p>identify that humans and some other animals have skeletons and muscles for support, protection and movement What are our joints for?</p>	<p>of the basic parts of the digestive system in humans What is spit for?</p> <p>identify the different types of teeth in humans and their simple functions – How does toothpaste protect teeth?</p> <p>construct and interpret a variety of food chains, identifying producers, predators and prey. Can worms sense danger? What do squirrels eat?</p>	<p>humans develop to old age. Do we slow down as we get older? Time traveller</p>	<p>the human circulatory system, and describe the functions of the heart, blood vessels and blood How does blood flow? What's in blood?</p> <p>recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function How does blood flow?</p> <p>describe the ways in which nutrients and water are transported within animals, including humans. - What in blood?</p>
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	and say which part of the body is associated with each sense. What can worms sense?	Why should I exercise?				
	Can you be a superhero? How does it feel? Moon zoom! What keeps us dry?	Land Ahoy!		How do smells get up your nose? Misty mountain Where does water go? Potions	Do all solids dissolve? Can you clean dirty water? Why does a compass always point north? Stargazers How do rockets lift off? Why does milk go off?	
Every day materials/ States of matter / Properties and changes of material	distinguish between an object and the material from which it is made Moon zoom! identify and name a variety of	Uses of every day materials - y2 identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic,		States of matter Y4 compare and group materials together, according to whether they are solids, liquids or gases How do smells get up	Properties and changes of material Y5 compare and group together everyday materials on the basis of their properties, including their	

	<p>everyday materials, including wood, plastic, glass, metal, water, and rock Moon zoom!</p> <p>describe the simple physical properties of a variety of everyday materials Moon zoom!</p> <p>compare and group together a variety of everyday materials on the basis of their simple physical properties. Moon zoom!</p>	<p>glass, brick, rock, paper and cardboard for particular uses Land Ahoy!</p> <p>find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching Land Ahoy!</p>		<p>your nose? Potions</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) How do smells get up your nose? Potions</p> <p>identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Misty mountain</p>	<p>hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets Do all solids dissolve?</p> <p>know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution Do all solids dissolve?</p> <p>use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving</p>	
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				<p>Where does water go?</p>	<p>and evaporating Can you clean dirty water?</p> <p>give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>Why does a compass always point north? Stargazers</p> <p>demonstrate that dissolving, mixing and changes of state are reversible changes How do rockets lift off? Why does milk go off?</p>	
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					<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. How do rockets lift off? Why does milk go off?</p>	
		<p>How many arms does an octopus have? Where do snails live? Wriggle and Crawl</p>		<p>What do squirrels eat? Misty Mountain</p>	<p>Sow, grow, farm</p>	<p>Why are things classified? Frozen kingdom Darwin's delight</p>

		Do snails have noses?				
Living things and their habitats		<p>Y2 explore and compare the differences between things that are living, dead, and things that have never been alive How many arms does an octopus have?</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</p>		<p>Year 4 recognise that living things can be grouped in a variety of ways What do squirrels eat?</p> <p>explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment What do squirrels eat?</p> <p>recognise that environments can change and that this can sometimes pose dangers to living</p>	<p>Year 5 describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Sow, grow, farm</p> <p>describe the life process of reproduction in some plants and animals. Sow, grow, farm</p>	<p>Year 6 describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals Why are things classified? Frozen kingdom Darwin's delight</p> <p>give reasons for classifying plants and animals</p>

		<p>each other Where do snails live?</p> <p>identify and name a variety of plants and animals in their habitats, including microhabitats Wriggle and Crawl Where do snails live?</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. Wriggle and Crawl Do snails have noses?</p>		<p>things. Misty Mountain</p>		<p>based on specific characteristics. Why are things classified?</p>
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Rocks	<p>Year 3 – Rocks, relics and rumbles (all)</p> <p>compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>recognise that soils are made from rocks and organic matter.</p>					
			<p>Why do cat's eyes glow at night? What are sunglasses for? Why do shadow's change?</p>			<p>How have eyes evolved? How does light travel? What colour is a shadow?</p>
Light			<p>recognise that they need light in order to see things and that dark is the absence of light Why do cat's eyes glow at night?</p> <p>notice that light is reflected from surfaces Why do cat's eyes glow at night?</p>			<p>recognise that light appears to travel in straight lines How have eyes evolved?</p> <p>use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light</p>

			<p>recognise that light from the sun can be dangerous and that there are ways to protect their eyes What are sunglasses for?</p> <p>recognise that shadows are formed when the light from a light source is blocked by an opaque object Why do shadow's change?</p> <p>find patterns in the way that the size of shadows change. Why do shadow's change?</p>			<p>into the eye How have eyes evolved?</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 How does light travel?</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. What colour is a shadow?</p>
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			Mighty metals		Scream machine	
Forces and magnets			<p>compare how things move on different surfaces</p> <p>Mighty metals</p> <p>notice that some forces need contact between two objects, but magnetic forces can act at a distance Mighty metals</p> <p>observe how magnets attract or repel each other and attract some materials and not others Mighty metals</p> <p>compare and group together a variety of everyday</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>Scream machine</p> <p>identify the effects of air resistance, water resistance and friction, that act between moving surfaces Scream machine</p> <p>recognise that some mechanisms, including levers, pulleys and gears, allow a smaller</p>	

			<p>materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials Mighty metals</p> <p>describe magnets as having two poles ☐ predict whether two magnets will attract or repel each other, depending on which poles are facing. Mighty metals</p>		<p>force to have a greater effect. Scream machine</p>	
Sound	<p>Year 4 Sound How can we change a 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>					
CM				<p>Can you make a circuit from playdough? How do plugs work?</p>		<p>Can you send a coded message?</p>
Electricity				<p>identify common appliances that run on electricity How do plugs work?</p> <p>construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers Can you make a circuit from playdough?</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 Can you send a coded message?</p> <p>compare and give reasons for variations in how components function, including the</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 Can you make a circuit from playdough?</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 Can you make a circuit from playdough?</p> <p>recognise some common</p>		<p>brightness of bulbs, the loudness of buzzers and the on/off position of switches Can you send a coded message?</p> <p>use recognised symbols when representing a simple circuit in a diagram. Can you send a coded message?</p>
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				conductors and insulators, and associate metals with being good conductors. How do plugs work?		
Earth and space	<p>Year 5 Stargazers</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>					
Evolution and inheritance	<p>Year 6 Darwin's delights</p> <p>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>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 that adaptation may lead to evolution.</p>					