

SCIENCE PROGRESSION

Three and four year olds	Communication and language	<ul style="list-style-type: none"> • Understand 'why' questions, like: "Why do you think the caterpillar got so fat?"
	Personal, social and Emotional Development	<ul style="list-style-type: none"> • Make healthy choices about food, drink, activity and tooth brushing
	Understanding the world	<ul style="list-style-type: none"> • Use all their senses in hands-on exploration of natural materials. • Explore collections of materials with similar and/or different properties. • Talk about what they see, using a wide vocabulary. • Begin to make sense of their own life-story and family's history. • Explore how things work. • Plant seeds and care for growing plants. • Understand the key features of the life cycle of a plant and an animal. • Begin to understand the need to respect and care for the natural environment and all living things. • Explore and talk about different forces they can feel. • Talk about the differences between materials and changes they notice.
Reception	Communication and language	<ul style="list-style-type: none"> • 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.
	Personal, social and Emotional Development	<ul style="list-style-type: none"> • Know and talk about the different factors that support their overall health and well being: <ul style="list-style-type: none"> -regular physical activity - healthy eating -tooth brushing -sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian
	Understanding the world	<ul style="list-style-type: none"> • 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.

ELG	Communication and language	Listening, Attention and understanding	<ul style="list-style-type: none"> • Make comments about what they have heard and ask questions to clarify their understanding.
	Personal, Social and Emotional Development	Managing Self	<ul style="list-style-type: none"> • Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.
	Understanding the World	The Natural world	<ul style="list-style-type: none"> • 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.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Working Scientifically	<ul style="list-style-type: none"> • Ask simple questions. <p>Suggest ways of answering a question.</p> <p>Make relevant observations</p> <ul style="list-style-type: none"> • Conduct simple tests with support. <p>With prompting suggest how findings could be recorded.</p> <p>Recognise findings.</p> <p>Gather and record data.</p> <p>Use observations to suggest answers to questions.</p> <p>questions answers equipment</p> <p>gather measure record results</p>	<p>Ask simple questions.</p> <p>Recognise that questions can be answered in different ways. Observe closely using simple equipment Perform simple tests.</p> <p>Record and communicate their findings in a variety of ways and begin to use scientific language.</p> <p>Identify and classify</p> <p>Gather and record data to help answer questions. Use their observations and ideas to suggest answers to questions.</p> <p>pictogram tally chart block diagram Venn diagram table chart</p> <p>sort group test explore observe</p>	<ul style="list-style-type: none"> • Ask relevant questions when prompted • Set up simple, practical enquiries and comparative and fair tests. • Record findings in various ways. <p>With prompting suggest how findings may be tabulated</p> <p>With prompting use various ways of recording, grouping and displaying evidence.</p> <p>Make systematic observations using simple equipment.</p> <p>With prompting suggest conclusions from enquiries</p> <p>Suggest how findings could be reported.</p> <p>Suggest possible improvements or further questions to investigate.</p> <p>similarities</p>	<p>Ask relevant questions Plan different types of scientific enquiries to answer questions. Set up simple and practical enquiries and comparative and fair tests. Make systematic and careful observations using a range of equipment, including thermometers and data loggers.</p> <p>Take accurate measurements using standard units where appropriate.</p> <p>Record findings using simple scientific language drawings and labelled diagrams. Record findings using keys, bars charts and tables.</p> <p>Gather record classify and present data in a variety of ways to help answer the question.</p> <p>Report on findings from enquiries, including oral and written explanations of results and conclusions.</p>	<ul style="list-style-type: none"> • With prompting plan enquiries, including recognising and controlling variables where necessary. • Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work. • Take measurements, using a range of scientific equipment, with increasing accuracy and precision. <p>Record data and results.</p> <p>Take and process repeat readings.</p> <p>Record data using labelled diagrams, keys, bar charts.</p> <p>Use line graphs to record data.</p> <p>Report and present findings from enquiries, including conclusions and ,with prompting suggest casual relationships.</p>	<p>Plan enquiries, including recognising and controlling variables where necessary.</p> <p>Take measurements using a range of scientific equipment.</p> <p>Take measurements with increasing accuracy and precision.</p> <p>Take repeat readings when appropriate.</p> <p>Take precise measurements using standard units.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys.</p> <p>Record data using line graphs.</p> <p>Report and present findings from enquiries, including conclusions and ,with prompting suggest casual relationships.</p>

	<p>sort group</p> <p>test explore observe compare describe similar/similarities different/differences</p> <p>egg timers ruler tape measure metre stick beaker pipette syringe</p>	<p>compare describe similar/similarities different/differences order observe changes over time notice patterns</p> <p>link secondary sources hand lenses egg timers stop watch</p>	<p>differences changes identify classify order observe changes over time notice patterns fair tests careful accurate observations questions answers equipment gather measure record results evidence present data/evidence/results keys bar charts table results conclusions prediction support/not support thermometers data loggers magnifying glass microscope part</p>	<p>Report on findings from enquiries using displays or presentations.</p> <p>Identify differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Use straightforward scientific evidence to answer questions or support their findings.</p> <p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>increase decrease identify classify sort group order observe changes over time link secondary sources fair tests careful accurate observations appearance</p>	<p>With support present findings from enquiries orally and writing.</p> <p>Suggest further or comparative tests.</p> <p>opinion/fact comparative tests fair tests variables careful accurate accuracy precision degree of trust observations gather measure record results evidence present data/evidence/results keys classification keys bar charts scatter graphs line graphs table results conclusions</p>	<p>With support present findings from enquiries orally and writing.</p> <p>Explain degree of trust in results.</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>independent variable dependent variable controlled variable causal relationships repeat measurements</p>
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	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants.	<ul style="list-style-type: none"> Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen. Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers. Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. <p>Deciduous, Evergreen trees, Leaves, Flowers (blossom), Petals, Fruit, Roots, Bulb, Seed, Trunk, Branches, Stem</p>	<ul style="list-style-type: none"> Observe and describe how seeds and bulbs grow into mature plants. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they grow and stay healthy. <p>Seeds, Bulbs, Water, Light, Temperature, Growth</p>	<ul style="list-style-type: none"> Investigate the way in which water is transported within plants. Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. 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>Identify and describe the function of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>Air, Light, Water, Nutrients, Soil, Reproduction, Transportation, Dispersal, Pollination, Flower</p>		<ul style="list-style-type: none"> Relate knowledge of plants to studies of evolution and inheritance. 	<ul style="list-style-type: none"> Relate knowledge of plants to studies of all living things.
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understand animals and humans.	<ul style="list-style-type: none"> Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates. Identify and name a variety of common animals that 	<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.</p>	<ul style="list-style-type: none"> Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat. 	<ul style="list-style-type: none"> Construct and interpret a variety of food chains, identifying producers, predators and prey. 	<ul style="list-style-type: none"> Describe the changes as humans develop to old age. Identify and name the main parts of the human circulatory system, and describe the 	<ul style="list-style-type: none"> Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the importance of diet, exercise, drugs and

	<p>are carnivores, herbivores and omnivores.</p> <ul style="list-style-type: none"> Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets). 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>Fish, Reptiles, Mammals, Birds, Amphibians (+ examples of each) Herbivore, Omnivore, Carnivore, Leg, Arm, Elbow, Head, Ear, Nose, Back, Wings, Beak</p>	<ul style="list-style-type: none"> Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene. <p>Survival, Water, Air, Food, Adult, Baby, Offspring, Kitten, Calf, Puppy, Exercise, Hygiene</p>	<ul style="list-style-type: none"> Identify that humans and some animals have skeletons and muscles for support, protection and movement. <p>Movement, Muscles, Bones, Skull, Nutrition, Skeletons,</p>	<ul style="list-style-type: none"> Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. <p>Mouth, Tongue, Teeth, Oesophagus, Stomach, Small Intestine, Large Intestine, Herbivore, Carnivore, Canine, Incisor, Molar</p>	<p>functions of the heart, blood vessels and blood.</p> <ul style="list-style-type: none"> Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions. Describe the ways in which nutrients and water are transported within animals, including humans <p>Foetus, Embryo, Womb, Gestation, Baby, Toddler, Teenager, Elderly, Growth, Development, Puberty</p>	<p>lifestyle on the way the human body functions.</p> <ul style="list-style-type: none"> Describe the ways in which nutrients and water are transported within animals, including humans <p>Circulatory, Heart, Blood Vessels, Veins, Arteries, Oxygenated, Deoxygenated, Valve, Exercise, Respiration</p>
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Investigate living things.		<ul style="list-style-type: none"> Explore and compare the differences between things that are living, that are dead and that have never been alive. 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. Identify and name a variety of plants and animals in their habitats, including micro-habitats. 		<ul style="list-style-type: none"> Recognise that living things can be grouped in a variety of ways. Explore and use classification keys. Recognise that environments can change and that this can sometimes pose dangers to specific habitats in their habitats. <p>Vertebrates, Fish, Amphibians, Reptiles, Birds, Mammals, Invertebrates, Snails, Slugs, Worms, Spiders, Insects, Environment,</p>	<ul style="list-style-type: none"> Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals. <p>Mammal, Reproduction, Insect, Amphibian, Bird, Offspring</p>	<ul style="list-style-type: none"> Describe how living things are classified into broad groups according to common observable characteristics. Give reasons for classifying plants and animals based on specific characteristics <p>Classification, Vertebrates, Invertebrates, Micro-organisms, Amphibians, Reptiles, Mammals, Insects</p>

		<ul style="list-style-type: none"> 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>Living, Dead, Habitat, Energy, Food chain, Predator, Prey, Woodland, Pond, Desert</p>		Habitats		
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understand evolution and inheritance.	<ul style="list-style-type: none"> Identify how humans resemble their parents in many features. 		<ul style="list-style-type: none"> Identify how plants and animals, including humans, resemble their parents in many features. Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. 			<ul style="list-style-type: none"> Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. <p>Fossils, Adaptation, Evolution, Characteristics, Reproduction, Genetics</p>
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

<p>Investigate materials</p>	<ul style="list-style-type: none"> • Distinguish between an object and the material from which it is made. • Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock. • Describe the simple physical properties of a variety of everyday materials. • Compare and group together a variety of everyday materials on the basis of their simple physical properties. 	<p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> <ul style="list-style-type: none"> • Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses. 				
	<p>Year 1</p>	<p>Year 2</p>	<p>Year 3</p>	<p>Year 4</p>	<p>Year 5</p>	<p>Year 6</p>
<p>Properties of Materials</p>					<p>Group and compare together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity and response to magnets.</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</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>Demonstrate that dissolving, mixing and changes of state are reversible.</p> <p>Explain that some changes result in the formation of a new material 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> <p>Hardness, Solubility, Transparency, Conductivity, Magnetic, Filter, Evaporation, Dissolving, Mixing</p>	
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Forces and magnets			<ul style="list-style-type: none"> • Compare how things move on different surfaces. • Notice that some forces need contact between two objects, but magnetic forces can act at a distance. • Observe how magnets attract or repel each other and attract some materials and not others. • Compare and group together a variety of everyday materials, on the basis of whether they are attracted to a magnet, and 		<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <ul style="list-style-type: none"> • Identify the effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces. • Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect. 	

			<p>identify some magnetic materials.</p> <ul style="list-style-type: none">• Describe magnets as having two poles.• Predict whether two magnets will attract or repel each other, depending on which poles are facing. <p>Magnetic, Force, Contact, Attract, Repel, Friction, Poles, Push, Pull</p>		<p>Air resistance, Water resistance, Friction, Gravity, Newton, Gears, Pulleys</p>	
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	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Light and seeing.			<ul style="list-style-type: none"> • Recognise that they need light in order to see things and that dark is the absence of light. • Notice that light is reflected from surfaces. • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. • Recognise that shadows are formed when the light from a light source is blocked by a solid object. • Find patterns in the way that the size of shadows change. <p>Light, Shadows, Mirror, Reflective, Dark, Reflection</p>			<ul style="list-style-type: none"> • Understand that light appears to travel in straight lines. • Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eyes. • Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes. • 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>Refraction, Reflection, Light, Spectrum, Rainbow, Colour</p>
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Sound and hearing.				<ul style="list-style-type: none"> • Identify how sounds are made, associating some of them with something vibrating. 		

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Electricity				<ul style="list-style-type: none"> • Recognise that vibrations from sounds travel through a medium to the ear. • Find patterns between the pitch of a sound and features of the object that produced it. • Find patterns between the volume of a sound and the strength of the vibrations that produced it. • Recognise that sounds get fainter as the distance from the sound source increases. <p>Volume, Vibration, Wave, Pitch, Tone, Speaker</p>		
				<ul style="list-style-type: none"> • Identify common appliances that run on electricity. • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. • Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is in a simple series circuit based on whether the lamp is part of a complete loop with a battery. <p>Recognise some common conductors and insulators and associated metals with being good conductors</p> <p>Cells, Wires, Bulbs,</p>		<ul style="list-style-type: none"> • Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. • 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. • Use recognised symbols when representing a simple circuit in a diagram. <p>Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators, Amps, Volts, Cell</p>

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators		
Earth & Space.					<ul style="list-style-type: none"> Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. <p>Earth, Sun, Moon, Axis, Rotation, Day, Night, Phases of the Moon, star, constellation</p>	
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Seasonal Change	Observe changes across the four seasons Observe and describe h associated with the seasons an how the day length varies. Summer, Spring, Autumn, Winter, Sun, Day, Moon, Night, Light, Dark					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
States of matter.				Compare and group materials together according to whether they are solids liquids or gases. Observe that some materials change state when they are		

				<p>cooled or heated and measure and research the temperature at which this happens in degrees Celsius.</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p>Hardness, Solubility, Transparency, Conductivity, Magnetic, Filter, Evaporation, Dissolving, Mixing</p>		
Rocks			<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>Fossils, Soils, Sandstone, Granite, Marble, Pumice, Crystals, Absorbent</p>			