

Progression in Learning Framework for Science – KS 1

The overarching aim for Science in the national curriculum is to ensure that all pupils:

- develop **scientific knowledge and conceptual understanding** through the specific disciplines of biology, chemistry and physics
- develop understanding of the **nature, processes and methods of science** through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the **uses and implications** of science, today and for the future.

The programmes of study for science are set out year-by-year for key stages 1 and 2 and describe a sequence of knowledge and concepts.

Scientific knowledge: to be able to:

- describe associated processes and key characteristics in common language
- be familiar and use technical terminology accurately and precisely
- build up an extended specialist vocabulary

Conceptual knowledge: to be able to:

- understand nature, processes and methods of science
- understand the uses and implications of science
- apply mathematical knowledge, e.g. collecting, presenting and analysing data.

Scientific Skills: to be able to:

- use scientific terminology
- observe
- use simple apparatus scientifically
- gathering information
- recording information
- analyse data

	Interface with EYFS	Yr 1 Autumn Small Steps	Yr 1 Spring Small Steps	Yr 1 Summer Small Steps	Yr 2 Autumn Small Steps	Yr 2 Spring Small Steps	Yr 2 Summer Small Steps	Interface with KS2
Working Scientifically	ELG Speaking Participate in discussions, offering their own ideas, using recently introduced vocabulary; Offer explanations	Observing closely, using simple equipment	Identifying and classifying	Set up and perform simple tests Explain what has been learnt from an investigation they have been involved in.	Using their observations and ideas to suggest answers to questions Know how to set up a fair test.	Gathering and recording data to help in answering questions Use equipment to help observe changes, eg thermometer, rain gauges, rulers etc	Experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions	Asking relevant questions and using different types of scientific enquiries to answer them Using straightforward scientific

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	for why things might happen,						Draw conclusions from fair tests and explain what has been found out.	evidence to answer questions or to support their findings.
Plants	<p>ELG: The Natural World Explore the natural world, making observations and drawings of plants; Know some similarities and differences between the natural world around them.</p>			<p><i>Know common names of flowers and plant structure (including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, truck, branches, stem)</i></p> <p><i>To observe and compare and contrast familiar plants, describing how they were able to identify and group them, drawing diagrams showing the parts of different plants including trees</i></p> <p><i>Can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees – these plants are the following daisy, buttercup, dandelion, bluebells, clover, nettles, wild foxglove(wild) – daffodils, tulips, roses, crocus, poppies, iris, pansies, lavender</i></p>			<p><i>To observe and describe how seeds and bulbs grow into mature plants seeds to grow raddish, lettuce, baby carrots, and baby beetroot.</i></p> <p><i>Can describe how plants need water, light and a suitable temperature to grow and stay healthy</i></p> <p><i>To observe and record, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb (see above list)</i></p>	<p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes</p>

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				<i>(garden) – oak, willow, birch, hazel, sycamore, horse chestnut, ash, (deciduous) Holly, pine, yew, cedar (evegreen)</i>				
Animals, including humans/ Living things and their habitats	ELG: The Natural World Explore the natural world around them, making observations and drawings of animals Know some similarities and differences between the natural world around them and contrasting environments	<i>Know common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets.</i> <i>Rainbow fish, goldfish, clownfish (fish) frog, newt, toad (amphibians) snake, lizard, tortoise (reptiles), budgie, chicken, pigeon (birds) humans, dog, cat (mammals)</i> <i>Can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals (see list above but add shark (fish) ,crocodile, alligator (reptiles) bear, cow, sheep, (mammals) penguin, duck, owl (birds)</i> <i>Can identify and name a variety of</i>			Autumn 1 Notice that animals, including humans have offspring which grow into adults <i>baby- adult, kitten-cat, puppy-dog calf-cow, lamb-sheep, piglet-pig, duckling-duck</i> Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) – <i>use list above</i> Describe the importance of exercise, eating the right amounts of different types of food, and hygiene <i>Exercise – keep fit, effect on bodies</i> <i>Healthy eating plates</i> <i>Washing of hands correctly and why</i>			Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
				Autumn 2				

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		<p>common animals that are carnivores, herbivores and omnivores <i>lion, fox, tiger, wolf (carnivores) horse, rabbit, cow, elephant, (herbivores) humans, pigs, hedgehogs, birds (omnivores)</i></p> <p>Learn the names of the main body parts <i>(head, neck, arms, elbows, hands, fingers, legs, knees, feet, toes, face, ears, eyes, hair, nose, mouth, teeth)</i></p> <p>through games, actions, songs and rhymes</p> <p>Name the 5 different senses and which part of the body is used for each sense <i>sight taste, touch, hearing, smell</i></p> <p>Can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense <i>(head, neck, arms, elbows, hands, fingers, legs, knees, feet, toes, face, ears,</i></p>			<p>Explore, compare the difference and classify between things that are living, dead and things that have never been alive</p> <p><i>Humans, animals, trees (living) fossil, leaf, paper (non-living) cutlery, computer, and water bottle.</i></p> <p>Can 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 <i>ocean sharks eat fish, fish eat the plants - water, desert camels, dingo, scorio - hot/sandy, mountain snow leopard, mountain goat, bighorn sheep – high climate, polar artic fox, artic wolf, polar bear, seals, whales – cold climate, forest rabbits, raccoons, foxes, squirrels, chipmunks,</i></p>			
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		<i>eyes, hair, nose, mouth, teeth – eyes/sight, nose/smell, tongue/taste, ears/hearing touch/hands or feet mainly associated with touch)</i>			<p><i>badgers, deer, bear, bobcats, moose sheltered, abundance of foliage for food , rainforest mountain gorilla, blue morpho butterfly, okapi, sloth, jaguar, capybara, macaw – camouflage, food supply chain.</i></p> <p>Can identify and name a variety of plants and animals in their habitats, including micro-habitats ocean, desert, mountain, polar, forest, rainforest – as above list</p> <p>Can 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><i>Food chain – plant, small animal, larger animal (eg seed, mouse, cat)</i></p>		
Everyday materials/	Understand some important processes and		<i>To distinguish between an object and the material from which it is</i>		<i>To compare and group together a variety of everyday materials on the</i>		Identifying differences, similarities or changes related

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<p>Uses of everyday materials</p>	<p>changes in the natural world around them, including changing states of matter</p>		<p>made <i>paper, pencil made from wood</i></p> <p><i>Can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</i></p> <p><i>Can describe the simple physical properties of a variety of everyday materials</i> <i>Rough, smooth, shiny, dull, hard, soft, stretchy, stiff, bendy, not bendy</i></p>			<p>basis of their simple physical properties <i>Waterproof, not waterproof, absorbent, not absorbent, transparent, opaque,</i></p> <p><i>To understand the uses of everyday materials so that they can become familiar with how some materials are used for more than one thing</i> <i>Table –metal, wood</i> <i>Window – glass, plastic</i> <i>Chair – plastic, metal</i> <i>Magnifying glass – glass, metal</i></p> <p><i>To compare the uses of everyday materials through identifying and classifying the uses of different materials</i> <i>Array of different objects to sort and group per the above sections.</i></p>		<p>to simple scientific ideas and processes</p> <p>Using straightforward scientific evidence to answer questions or to support their findings.</p> <p>Setting up simple practical enquiries, comparative and fair tests</p>
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						<p><i>Can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</i></p> <p><i>Experiments test for absorbency, waterproof, transparency, opaque</i></p> <p>Know how materials can be changed by squashing, bending, twisting and stretching.</p>	
<p>Seasonal changes</p>	<p>Understand some important processes and changes in the natural world around them, including the seasons</p>	<p>Name the four seasons in order – <i>Winter, Spring, Summer, Autumn</i></p>	<p>To observe changes across the four seasons <i>Winter – trees bare, change of clothes jumpers, coats, hats, gloves, daylight is shorter (8 hours in December, January) Shortest day of the year 21st December</i></p> <p><i>Spring – buds, blossom on trees, Change of clothing</i></p>	<p>To observe and describe weather associated with the seasons and how day length varies <i>Weather symbols, record data for each season</i> <i>Know how the daylight changes through each season, which has the least/most daylight hours</i></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>

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			<p><i>Summer – green leaves and fruit on trees</i> <i>Lighter clothing, swim suits, sun cream, sunglasses</i> <i>Hotter days</i> <i>June/July most daylight hours 16</i> <i>Longest day of year 21st June.</i></p> <p><i>Autumn - leaves fall of the trees, change colour red gold etc</i> <i>Start to wear warmer clothing</i> <i>Sunlight begins to get less.</i></p>				
Milestone 1 – Year 1 Autumn	<p>I am able to observe closely using simple equipment. I have become familiar with common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets. I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. I can identify and name a variety of common animals that are carnivores, herbivores and omnivores. I have had opportunities to learn the names of the main body parts (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth) through games, actions, songs and rhymes. I can name the 5 different senses and, which part of the body is used for each sense. I can identify, name, draw and label the basic parts of the human body and I can say which part of the body is associated with each sense. I know the names of the four seasons in a year and can say them in the correct order.</p>						
Milestone 2 – Year 1 Spring	<p>I am able to identify and classify by sorting into different groups. I can distinguish between an object and the material from which it is made. I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. I can describe the simple physical properties of a variety of everyday materials. I can observe changes across the four seasons.</p>						
Milestone 3 – Year 1 Summer	<p>I can perform simple tests. I have become familiar with common names of flowers and plant structure (including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem). I can observe and compare and contrast familiar plants, describing how I am able to identify and group them, drawing diagrams showing the parts of different plants including trees. I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. I can observe and describe weather associated with the seasons and how day length varies.</p>						
Milestone 1 – Year 2	<p>I can use observations and ideas to suggest answers to questions. I can observe and describe how seeds and bulbs grow into mature plants. I have noticed that animals, including humans have offspring that grow into adults. I can explore and compare the difference between things that are living, dead and things that have never been alive. I can identify that most living things live in habitats to which they are suited and I can describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. I can compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>						

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Milestone 2 – Year 2	I can gather and record data to help answer questions. I know how to find out and I can describe how plants need water, light and a suitable temperature to grow and stay healthy. I know how to find out about and I can describe the basic needs of animals, including humans, for survival (water, food and air). I can identify and name a variety of plants and animals in their habitats, including micro-habitats. I understand the uses of everyday materials and have become familiar with how some materials are used for more than one thing. I understand that some materials can be changed by squashing, bending, twisting and stretching.	
Milestone 3 – Year 2	I have had experience in different types of scientific enquiries, including practical activities, and I am beginning to recognise ways in which I might answer scientific questions. I can observe and record, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb. I can describe the importance of exercise, eating the right amounts of different types of food, and hygiene. I can describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and I can identify and name different sources of food. I can compare the uses of everyday materials through identifying and classifying the uses of different materials. I can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	