



# Science KS1

For specific progression of scientific skills for each year group see working scientifically skills ladders.

Outdoor learning is a focus throughout each unit. Seasonal changes unit to be carried out throughout year.

TOPIC	SCIENCE	KNOWLEDGE	KEY SKILLS	KEY VOCABULARY
<p>CYCLE A EXCITING ENGINEERS AND INTERESTING INVENTORS</p> <p>AUTUMN</p>	<p>ANIMALS INCLUDING HUMANS</p> <p><b>HEALTH</b></p>	<p><u>Y1 - Part 1 - Basic Structure and Senses</u></p> <ul style="list-style-type: none"> <li>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> <li>Recognise that humans are animals.</li> <li>Compare and describe differences in their own features (eye, hair, skin colour, etc.).</li> <li>Recognise that humans have many similarities.</li> </ul> <p><u>Y2 - How we grow and stay healthy</u></p> <ul style="list-style-type: none"> <li>Notice that humans have offspring which grow into adults.</li> <li>Find out about and describe the basic needs of humans for survival (water, food and air).</li> <li>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</li> <li>Medicines can be useful when we are ill.</li> <li>Medicines can be harmful if not used properly.</li> </ul>	<p><u>Part 1 - Basic Structure and Senses</u></p> <ul style="list-style-type: none"> <li><b>Compare and contrast</b> animals (humans) at first hand or through videos and photographs.</li> <li><b>Grouping and classifying</b> by saying how things are similar and different.</li> <li><b>Using their senses</b> to compare different textures, sounds and smells.</li> <li><b>Communicate their findings</b> through annotations, tally charts, pictograms and graphs.</li> </ul> <p><u>How we grow and stay healthy</u></p> <ul style="list-style-type: none"> <li><b>Observing, through video or first-hand observation and measurement</b>, how humans grow.</li> <li><b>Recording</b> their findings using charts.</li> <li><b>Asking questions</b> about what things animals [humans]. need for survival &amp; what humans need to stay healthy and</li> <li><b>Suggesting ways to find answers to their questions.</b></li> </ul> <p><b>Focus Skills</b></p> <ul style="list-style-type: none"> <li>Ask Q's and plan enquiry</li> <li>Evaluate - body parts and handspans</li> </ul> <p><b>COMPARATIVE TESTING - IS OUR SENSE OF SMELL BETTER WHEN WE CANT SEE?</b></p> <p><b>Tally Chart and Pictogram - Class Eye Colour</b></p> <p><b>Egg timers/Timers</b></p>	<p>Words linking to the senses: e.g. sense, eye, sight, see, ear, hearing, smell, nose, touch, feel</p> <p>Parts of the body for humans: arm, head, leg, body, etc.</p> <p>Comparative language: tall/taller/tallest, long/longer/longest, similar to, different from</p> <p>Describe, observe, compare</p> <p>Expressions making generalisations e.g. 'we all...'</p> <p>Words relating to health e.g. diet, variety, germ, healthy/unhealthy, medicines, safety, packaging, exercise.</p>
<p>CYCLE A OUR WONDERFUL WORLD</p>	<p>LIVING THINGS AND THEIR HABITATS, INCLUDING LIFE CYCLES - Y2</p>	<ul style="list-style-type: none"> <li>Explore and compare the differences between things that are living, dead, and things that have never been alive.</li> </ul>	<ul style="list-style-type: none"> <li><b>Sorting and classifying</b> things as to whether they are living, dead or were never alive.</li> <li><b>Recording</b> their findings using charts</li> </ul>	<p>Animals, plants, habitat/micro-habitat, living/dead/never been alive, suited to, survive, basic needs, food chain, seashore, ocean, woodland, rainforest</p>

<p>SPRING</p>	<p>ENVIRONMENT</p>	<ul style="list-style-type: none"> <li>• <u>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.</u></li> <li>• <u>Identify and name a variety of plants and animals in their habitats, including micro-habitats.</u></li> <li>• <u>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.</u></li> <li>• Different kinds of plants and animals live in different kinds of places.</li> <li>• There are different kinds of habitat near school which need to be cared for</li> <li>• Habitats provide the preferred conditions for the animals/plants that live there (compare local habitats and less familiar examples).</li> <li>• <u>Observe living things in their habitats during different seasonal changes</u></li> </ul>	<ul style="list-style-type: none"> <li>• <u>Describing</u> how they decided where to place things,</li> <li>• <u>Exploring questions</u> such as: 'Is a flame alive? Is a deciduous tree dead in winter?'</li> <li>• <u>Talking about ways of answering their questions.</u></li> <li>• <u>Constructing a simple food chain</u> that includes humans (e.g. grass, cow, human);</li> <li>• <u>Describing</u> the conditions in different habitats and micro-habitats (under log, on stony path, under bushes);</li> <li>• <u>Finding out how</u> the conditions <b>affect</b> the number and type(s) of plants and animals that live there.</li> </ul> <p><b>Focus Skills</b></p> <ul style="list-style-type: none"> <li>• Set up enquiry – daisy footprints</li> <li>• Record – woodlice habitats</li> </ul> <p><b>RESEARCH – HOW DOES THE HABITAT OF THE ARCTIC COMPARE WITH THE HABITAT OF THE RAINFOREST?</b></p>	<p>Expressions to describe location e.g. within, under, next</p> <p>Comparative phrases: smaller than, larger than, longer than, shorter than, more..., long, longer, longest, small, smaller, smallest, similar to, different from</p> <p>Expressions making generalisations e.g. 'most have...'</p>
<p>CYCLE A OUR WONDERFUL WORLD</p> <p>SPRING</p>	<p>ANIMALS INCLUDING HUMANS</p> <p>ANIMALS INCLUDING HUMANS</p>	<p><u>Y1 -- Part 2 – Animals (other animals)</u></p> <ul style="list-style-type: none"> <li>• <u>Identify and name a variety of common animals including some fish, some amphibians, some reptiles, some birds and some mammals.</u></li> <li>• <u>Identify and name a variety of common animals that are carnivores, herbivores and omnivores (i.e. according to what they eat).</u></li> <li>• <u>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, and including pets).</u></li> <li>• Find out and describe how animals look different to one another.</li> <li>• <u>Group together animals according to their different features.</u></li> <li>• <u>Recognise similarities between animals:</u></li> <li>• <u>Structure: head, body, way of moving, senses, body covering, tail.</u></li> <li>• Animals have senses to explore the world around them and to help them to survive.</li> <li>• Recognise that animals need to be treated with care and sensitivity to keep them alive and healthy.</li> </ul>	<p><u>Part 2 – Animals (other animals)</u></p> <ul style="list-style-type: none"> <li>• <b>Compare and contrast</b> animals at first hand or through videos and photographs.</li> <li>• <u>Describing</u> how they identify and group them.</li> <li>• <u>Grouping</u> animals according to what they eat.</li> <li>• <u>Using their senses.</u></li> </ul> <p><u>Animal survival and growth</u></p> <ul style="list-style-type: none"> <li>• <b>Observing, through video or first-hand observation and measurement</b>, how different animals grow</li> <li>• <b>Asking questions</b> about what things animals need for survival <b>suggesting ways to find answers to their questions.</b></li> <li>• <u>Describing</u> the main changes as young animal offspring grow into adults (at least: <u>between egg and adult bird; between egg and adult insect; between baby and adult mammal</u>)</li> </ul> <p><b>Focus Skills</b></p>	<p>Parts of the body for animals: head, leg, body, beak, wing, senses (eyes, ears, nose, mouth/mouth parts, hands/paws/claws/talons), etc.</p> <p>Features linked to movement e.g. fly, swim, crawl, run, climb, etc.</p> <p>Features linked to body covering e.g. feathers, fur, scales, colour, camouflage, etc.</p> <p>Common animal types: mammal, bird, fish, amphibians, reptiles</p> <p>Comparative language: tall/taller/tallest, long/longer/longest, similar to, different from</p> <p>Describe, observe, compare, because</p> <p>Expressions making generalisations e.g. 'most have...'</p>

		<ul style="list-style-type: none"> <li>Animals are alive; they move, feed, grow, use their senses and reproduce.</li> </ul> <p><u>Y2 - Animal survival and growth</u></p> <ul style="list-style-type: none"> <li><u>Notice that animals have offspring which grow into adults.</u></li> <li><u>Find out about and describe the basic needs of animals for survival (water, food and air).</u></li> </ul>	<p><b>Interpret and report - animal classification</b></p> <p><b>IDENTIFYING AND CLASSIFYING - HOW CAN WE ORGANISE ALL THE ZOO ANIMALS?</b></p> <p><b>Venn Diagram - Grouping animals (carnivore, herbivore, omnivore)</b></p>	
<p>CYCLE A HERE, THERE AND EVERYWHERE</p> <p>SUMMER</p>	<p>PLANTS  PLANTS</p>	<p><u>Y2 - Growth</u></p> <ul style="list-style-type: none"> <li><u>Observe and describe how seeds and bulbs grow into mature plants</u></li> <li><u>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy (and how changing these affects the plant)</u></li> <li>Plants are living and eventually die</li> </ul>	<ul style="list-style-type: none"> <li><b>Observing and recording</b>, with some accuracy, the growth of a variety of plants as they <b>change over time</b> from a seed or bulb, or</li> <li><b>Observing</b> similar plants <b>at different stages</b> of growth;</li> <li><b>Setting up a comparative test</b> to show that plants need light and water to stay healthy</li> </ul> <p><b>Focus Skills</b> <b>Observe and measure - compare growth</b></p> <p><b>PATTERN SEEKING - DO BIGGER SEEDS GROW INTO BIGGER PLANTS?</b></p> <p><b>OBSERVING OVER TIME - WHAT HAPPENS TO MY BEANS AFTER I HAVE PLANTED IT?</b></p> <p><b>Making their own rain gauge - to measure and record rainfall</b></p> <p><b>Magnifying glasses</b></p> <p><b>Rulers to measure height of plant growth</b></p>	<p>Words and phrases for making comparisons: e.g. tall/taller/tallest, long/longer/longest, like, similar to, different from, etc.</p> <p>Labelling features: root, stem, leaf, flower, seeds, seedlings, plants, branch, twig, trunk, and weed.</p> <p>Names for plants e.g. daisy, dandelion, oak tree</p> <p>Words and phrases relating to living and non-living things and life processes e.g. living, non-living, alive, not alive, dead, healthy, produce new plants, grow</p> <p>Compare, describe, because</p>
<p>CYCLE B CASTLES, BATTLES AND WAR</p> <p>AUTUMN</p>	<p>EVERYDAY MATERIALS- Y1  MATERIALS</p>	<ul style="list-style-type: none"> <li><u>Distinguish between an object and the material from which it is made.</u></li> <li><u>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, rock, brick, paper and cardboard.</u></li> <li><u>Describe the simple physical properties of a variety of everyday materials.</u></li> <li><u>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</u></li> </ul>	<ul style="list-style-type: none"> <li><b>Performing simple tests to explore questions</b>, for example: 'What is the best material for an umbrella? ...for lining a dog basket? ...for curtains? ...for a bookshelf? ...for a gymnast's leotard?'</li> </ul> <p><b>Focus Skills</b> <b>Set up enquiry and interpret and report - float and sink</b></p> <p><b>Identifying and classifying Q: Which materials will float and which will sink?</b></p>	<p>Common materials: e.g. metal, plastic, wood, paper, glass, clay, rock, brick, fabric, sand, papers, cork, shell, water, elastic, foil</p> <p>Words used to describe materials and their properties e.g. hard/soft, rough/smooth, shiny/dull, bendy/not bendy, stretchy/stiff, waterproof/not waterproof, absorbent/not absorbent, magnetic, transparent, opaque, float, wet, squashy, strong.</p> <p>Words and phrases for making comparisons e.g. the same as, different from, harder, smoother, stretchiest, roughest, etc.</p> <p>Group, sort, sorting rings, describe, compare, because</p>

			<p><b>Comparative testing Q: Which materials are the most flexible?</b></p> <p><b>Range of materials</b></p>	
<p>CYCLE B LONDON'S CALLING</p> <p>SPRING</p>	<p>USES OF MATERIALS - Y2</p> <p><b>MATERIALS</b></p>	<ul style="list-style-type: none"> <li>• <u>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, rock, paper and cardboard for particular uses</u></li> <li>• <u>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching (applying a force)</u></li> <li>• Some materials can be found naturally; others have to be made</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Comparing</b> the uses of everyday materials in and around the school with materials found in other places (at home, the journey to school, on visits, and in stories, rhymes and songs);</li> <li>• <b>Observing closely,</b></li> <li>• <b>Identifying and classifying</b> the uses of different materials, and</li> <li>• <b>Recording their observations.</b></li> <li>• <b>Thinking about</b> unusual and creative uses for everyday materials.</li> </ul> <p><b>Focus Skills</b></p> <ul style="list-style-type: none"> <li>• Record - materials hunt</li> <li>• Ask Q's and plan enquiry - waterproof</li> <li>• Evaluate - boat materials</li> </ul> <p><b>Observing over time Q: Would a paper boat float forever?</b></p> <p><b>Pattern seeking Q: Is there a pattern in the types of materials that are used to make objects in a school?</b></p> <p><b>Playdough/clay - test force</b></p> <p><b>A range of materials</b></p>	<p>Common materials: e.g. metal, plastic, wood, paper, glass, clay, rock, brick, fabric, sand, papers, cork, shell, water, elastic, foil</p> <p>Words used to describe materials and their properties recapped from Y1 unit e.g. hard/soft, rough/smooth, shiny/dull, bendy/not bendy, stretchy/stiff, waterproof/not waterproof, absorbent/not absorbent, magnetic, transparent, opaque, float, wet, squashy, strong/breaks easily, wobbly, sticky, uncomfortable</p> <p>Uses of materials, properties of materials</p> <p>Words and phrases for making comparisons e.g. the same as, different from, harder, smoother, stretchiest, roughest, etc.</p> <p>Group, sort, sorting rings, describe, compare, because</p>
<p>CYCLE B OUR WILD PLANET</p> <p>SUMMER</p>	<p>PLANTS - Y1</p> <p><b>PLANTS</b></p>	<p><u>Basic Names and Structure</u></p> <ul style="list-style-type: none"> <li>• <u>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</u></li> <li>• <u>Identify and describe the basic structure of a variety of common flowering plants, including trees (at least: flower, leaf, root, stem, trunk, seed, branch and petal).</u></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Observing closely,</b> perhaps using magnifying glasses.</li> <li>• <b>Comparing and contrasting</b> familiar plants.</li> <li>• Describing how they were able to <b>identify and group</b> them, and</li> <li>• <b>Drawing diagrams</b> showing the parts of different plants including trees.</li> <li>• <b>Keeping records</b> of how plants have <b>changed over time</b>, for example the leaves falling off trees and buds opening.</li> <li>• <b>Comparing and contrasting</b> what they have found out about different plants.</li> </ul>	<p>Labelling features: plant, seedling, tree, leaf, flower, blossom, petals, fruit, root, bulb, seed, stem, branch, twig, trunk.</p> <p>Common names for plants: e.g. daisy, dandelion, oak tree, etc</p> <p>Categories of plants: e.g. deciduous, evergreen, wild plant, indoor plant, herb, weed, vegetable/fruit/salad crop, etc.</p> <p>Words related to working scientifically: Compare (same, different), observe, describe, record, group, name/identify, change</p>

Focus Skills

Observe and measure - plant structure  
leaf look

RESEARCH - WHAT ARE THE MOST COMMON  
BRITISH PLANTS AND WHERE CAN WE FIND  
THEM?

Outdoor observations