



Whole School Progression of Knowledge

Science – Learning all about the world around us. We observe, describe and experiment to find out facts about the universe.

Subject Knowledge					
Nursery	Plants	Electricity/Light/Forces/Sound	Materials		Living Things
	<p>Use all their senses in hands-on exploration of natural materials.</p> <p>Explore collections of materials with similar and/or different properties.</p> <p>Plant seeds and care for growing plants.</p> <p>Understand the key features of the life cycle of a plant and an animal.</p> <p>Begin to understand the need to respect and care for the natural environment and all living things.</p>	<p>Explore how things work.</p> <p>Talk about the differences in materials and changes they notice.</p> <p>Explore and talk about different forces they can feel.</p>	<p>Use all their senses in hands-on exploration of natural materials.</p> <p>Explore collections of materials with similar and/or different properties.</p> <p>Talk about the differences between materials and changes they notice.</p>		<p>Understand the key features of the life cycle of a plant and an animal.</p> <p>Begin to understand the need to respect and care for the natural environment and all living things.</p> <p>Use all their senses in hands-on exploration of natural materials.</p> <p>Begin to make sense of their own life-story and family's history.</p> <p>Explore collections of materials with similar and/or different properties.</p>
Reception	Earth and Space	Animals/Humans	Materials/Light/Forces/Sound	Seasons	Living Things and their habitats
	<p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p>	<p>Recognise some environments that are different to the one in which they live.</p> <p>Talk about members of their immediate family and community.</p> <p>Name and describe people who are familiar to them.</p>	<p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p>	<p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Understand the effect of changing seasons on the natural world around them.</p>	<p>Draw information from a simple map.</p> <p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Recognise some environments that are different to the one in which they live</p>
	Plants	Animals including Humans	Everyday Materials (Y1) Uses of Everyday Materials (Y2)	Seasonal Change	Living Things and their Habitats
KS1 NC	<p><u>Year 1</u></p> <ul style="list-style-type: none"> Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees Identify and describe the basic structure of a variety of common flowering plants, including trees. <p><u>Year 2</u></p> <ul style="list-style-type: none"> Observe and describe how seeds and bulbs grow into mature plants 	<p><u>Year 1</u></p> <ul style="list-style-type: none"> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals Identify and name a variety of common animals that are carnivores, herbivores and omnivores Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, 	<p><u>Year 1</u></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 	<p><u>Year 1</u></p> <ul style="list-style-type: none"> Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies. 	<p><u>Year 2</u></p> <ul style="list-style-type: none"> Explore and compare the differences between things that are living, dead, and things 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

	<ul style="list-style-type: none"> Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. 	<p>birds and mammals, including pets)</p> <ul style="list-style-type: none"> 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><u>Year 2</u></p> <ul style="list-style-type: none"> Notice that animals, including humans, have offspring which grow into adults Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. 	<p>basis of their simple physical properties.</p> <p><u>Year 2</u></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, paper and cardboard for particular uses Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 		<ul style="list-style-type: none"> Identify and name a variety of plants and animals in their habitats, including microhabitats 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.
	Plants	Animals including Humans	Everyday Materials (Y1) Uses of Everyday Materials (Y2)	Seasonal Change	Living Things and their Habitats
Year 1	<p>Can name trees and other plants that they see regularly. Can describe some of the key features of these trees and plants e.g. the shape of the leaves, the colour of the flower/blossom.</p> <p>Can point out trees which lost their leaves and those that kept them the whole year.</p> <p>Can point to and name the parts of a plant, recognising that they are not always the same e.g. leaves and stems may not be green.</p> <p>Make close observations of leaves, seeds, flowers etc.</p> <p>Compare two leaves, seeds, flowers etc. Classify leaves, seeds, flowers etc. using a range of characteristics.</p> <p>Identify plants by matching them to named images.</p> <p>Make observations of how plants change over a period of time.</p> <p>When further afield, spot plants that are the same as those in the local area studied regularly, describing the key</p>	<p>Can name a range of animals which includes animals from each of the vertebrate groups.</p> <p>Can describe the key features of these named animals.</p> <p>Can label key features on a picture/diagram.</p> <p>Can write descriptively about an animal. Can write a What am I? riddle about an animal.</p> <p>Can describe what a range of animals eat.</p> <p>During PE lessons, can follow instructions involving parts of the body.</p> <p>Can label parts of the body.</p> <p>Can explore objects using different senses.</p> <p>Make first-hand, close observations of animals from each of the groups.</p> <p>Compare two animals from the same or different groups.</p> <p>Classify animals using a range of</p>	<p>Can label a picture or diagram of an object made from different materials.</p> <p>Can describe the properties of different materials.</p> <p>Classify objects made of one material in different ways e.g. a group of object made of metal.</p> <p>Classify in different ways one type of object made from a range of materials e.g. a collection of spoons made of different materials.</p> <p>Classify materials based on their properties.</p> <p>Test the properties of objects e.g. absorbency of cloths, strength of party hats made of different papers, stiffness of paper plates, waterproofness of shelters. Can use their test evidence to answer the questions about properties e.g. "Which cloth is the most absorbent?"</p> <p>Can choose an appropriate method for testing an object for a particular property.</p> <p>Can sort objects and materials using a range of properties.</p>	<p>Can name the four seasons and identify when in the year they occur.</p> <p>Can describe weather in different seasons over a year.</p> <p>Can describe days as being longer (in time) in the summer and shorter in the winter.</p> <p>Can describe other features that change through the year.</p> <p>Collect information about the weather regularly throughout the year. Present this information in tables and charts to compare the weather across the seasons.</p> <p>Collect information, regularly throughout the year, of features that change with the seasons e.g. plants, animals, humans. Present this information in different ways to compare the seasons.</p> <p>Gather data about day length regularly throughout the year and present this to compare the seasons.</p> <p>Use the evidence gathered to describe the general types of weather and changes in the day length over the</p>	

	<p>features that helped them.</p> <p>Can sort and group parts of plants using similarities and differences.</p> <p>Can use simple charts etc. to identify plants.</p> <p>Can collect information on features that change during the year.</p> <p>Can use photographs to talk about how plants change over time.</p>	<p>features.</p> <p>Identify animals by matching them to named images.</p> <p>Classify animals according to what they eat.</p> <p>Make first-hand close observations of parts of the body e.g. hands, eyes. Compare two people. Take measurements of parts of their body. Compare parts of their own body. Can name body parts correctly when talking about measurements and comparisons e.g. "My arm is x straws long." "My arm is x straws long and my leg is y straws long. My leg is longer than my arm." "We both have hands, but his are bigger than mine." "These people have brown eyes and these have blue."</p> <p>Can talk about their findings from investigations using appropriate vocabulary e.g. "My fingers are much better at feeling than my toes" "We found that the crisps all taste the same."</p> <p>Look for patterns between people e.g. Do people with big hands have big feet?</p> <p>Classify people according to their features.</p> <p>Investigate human senses e.g. Which part of my body is good for feeling, which is not? Which food/flavours can I identify by taste? Which smells can I match?</p> <p>Can sort and group animals using similarities and differences.</p> <p>Can use simple charts etc. to identify unknown animals.</p> <p>Can create a drawing of an imaginary animal labelling its key features.</p> <p>Can use secondary resources to find out</p>		<p>seasons.</p> <p>Use their evidence to describe some other features of their surroundings, e.g. themselves, animals, plants that change over the seasons.</p> <p>Demonstrate their knowledge in different ways e.g. making a weather forecast video, writing seasonal poetry, creating seasonal artwork.</p>	
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		<p>what animals eat, including talking to experts e.g. pet owners, zookeepers etc.</p> <p>Can use first-hand close observations to make detailed drawings.</p>			
	Plants	Animals including Humans	<p>Everyday Materials (Y1)</p> <p>Uses of Everyday Materials (Y2)</p>	Seasonal Change	Living Things and their Habitats
Year 2	<p>Research and plan when and how to plant a range of seeds and bulbs.</p> <p>Look after the plants as they grow – weeding, thinning, watering etc.</p> <p>Can nurture seeds and bulbs into mature plants identifying the different requirements of different plants.</p> <p>Make close observations and measurements of their plants growing from seeds and bulbs.</p> <p>Make comparisons between plants as they grow.</p> <p>Can describe how plants that they have grown from seeds and bulbs have developed over time.</p> <p>Make close observations of seeds and bulbs.</p> <p>Can identify plants that grew well in different condition.</p> <p>Can spot similarities and differences between bulbs and seeds.</p> <p>Classify seeds and bulbs.</p>	<p>Can describe how animals, including humans, have offspring which grow into adults, using the appropriate names for the stages.</p> <p>Can state the basic needs of animals, including humans, for survival.</p> <p>Can state the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p>Explore the effect of exercise on their bodies.</p> <p>Investigate washing hands, using glitter gel/pepper.</p> <p>Can measure/observe how animals, including humans, grow.</p> <p>Ask people questions and use secondary sources to find out about the life cycles of some animals.</p> <p>Can describe, including using diagrams, the life cycle of some animals, including humans and their growth to adults e.g. by creating a life cycle book for a younger child.</p> <p>Observe animals growing over a period of time e.g. chicks, caterpillars, a baby.</p> <p>Ask questions of a parent about how they look after their baby.</p> <p>Ask pet owners questions about how they look after their pet.</p> <p>Show what they know about looking after a baby/animal by creating a parenting/pet owners' guide.</p> <p>Explain how development and health</p>	<p>Can name an object, say what material it is made from, identify its properties and make a link between the properties and a particular use.</p> <p>Can classify materials.</p> <p>Can sort materials using a range of properties.</p> <p>Can label a picture or diagram of an object made from different materials.</p> <p>For a given object can identify what properties a suitable material needs to have.</p> <p>Can explain using the key properties why a material is suitable or not suitable for a purpose.</p> <p>Make suggestions about alternative materials for a purpose that are both suitable and unsuitable.</p> <p>Test the properties of materials for particular uses e.g. compare the stretchiness of fabrics to select the most appropriate for Elastigirl's costume, test materials for waterproofness to select the most appropriate for a rain hat.</p> <p>Can begin to choose an appropriate method for testing a material for a particular property.</p> <p>Can use their test evidence to select appropriate material for a purpose e.g. Which material is the best for a rain hat?</p> <p>Whilst changing the shape of an object can describe the action used.</p> <p>Can use the words flexible and/or stretchy to describe materials that can be changed in shape and stiff and/or rigid for those that cannot.</p> <p>Can recognise that a material may come</p>		<p>Explore the outside environment regularly to find a range of items outside that are living, dead and never lived.</p> <p>Classify objects found in the local environment.</p> <p>Can name a range of animals and plants that live in a habitat and micro-habitats that they have studied.</p> <p>Can give key features that mean the animal or plant is suited to its micro-habitat.</p> <p>Observe animals and plants carefully, drawing and labelling diagrams.</p> <p>Can talk about how the features of these animals and plants make them suitable to the habitat.</p> <p>Can talk about what the animals eat in a habitat and how the plants provide shelter for them.</p> <p>Can explain in simple terms why an animal or plant is suited to a habitat e.g. the caterpillar cannot live under the soil like a worm as it needs fresh leaves to eat; the seaweed we found on the beach cannot live in our pond because it is not salty.</p> <p>Create simple food chains from information given e.g. in picture books (Gruffalo etc.)</p> <p>Can construct a simple food chain for a familiar local habitat that starts with a plant and has the arrows pointing in the correct direction. Use first hand experiences. Using a food chain can explain what animals eat.</p>

		might be affected by differing conditions and needs being met/not met.	in different forms which have different properties.		
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Vocabulary Progression					
Nursery	Plants	Electricity/Light/Forces/Sound	Materials		Living Things
	<p>Model and encourage children to use vocabulary such as: plant, leaf, stem, trunk, branch, root, bark, flower, petal, seed, berry, fruit, vegetable, bulb, plant, hole, dig, water, weed, grow, shoot, die, dead, soil</p> <p>Expose children to supplementary vocabulary such as: Seedling, healthy, unhealthy, strong, sturdy, wilting, decay, mould, life cycle</p>	<p>Model and encourage children to use vocabulary such as: battery, plug, socket, electricity, wire, sound, light, move light, torch, bulb, lamp, spotlight, shiny, bright, brighter, brightest, Sun, shine, glow, mirror object, float, sink, water, up, down, top, bottom, push, pull, magnet, spring, squash, bend, twist, stretch, turn, spin, smooth, rough, fast, slow sound, noise, loud, quiet, high, low, music, bang, blow, pluck, soft, hard, fast, slow, names of instruments</p> <p>Expose children to supplementary vocabulary such as: mains electricity, device, appliance, electrical light source, reflective, non-reflective, dim, dimmer, dimmest rising, falling, attract, repel, faster, slower, pulley, gear, elastic</p>	<p>Model and encourage children to use vocabulary such as: mix, stir, cook, hot, oven, microwave, change, burn, melt, hard, runny, set, freeze, freezer, cold, blended, hard, soft, bendy, stiff, wobbly, wood, plastic, paper, card, fabric</p> <p>Expose children to supplementary vocabulary such as: solid, liquid, rigid, stronger, weaker</p>		<p>Model and encourage children to use vocabulary such as: egg, chick, bird, caterpillar, cocoon, chrysalis, butterfly, frog spawn, tadpole, froglet, frog, grow, change, names of animals and their young, fur, feathers, scales, tail, wings, beak, claws, paws, hooves, swim, walk, run, jump, jump, fly, patterns, spots, stripes, baby, toddler, child, adult, old person, smell, taste, touch, feel, hear, see, blind, deaf, natural, plant, animal, leaves, seeds, conkers, acorns, twigs, bark, shells, feathers, pebbles, stones, same, different</p> <p>Expose children to supplementary vocabulary such as: life cycle, mane, webbed fee, senses, elderly, die (if appropriate) living, dead, similar</p>

		musician, notes, vibrate, vibration, pitch, rhythm, pulse, volume			
Reception	Earth and Space	Animals/Humans	Materials/Light/Forces/Sound	Seasons	Living Things and their habitats
	<p>Model and encourage children to use vocabulary such as: Sun, Moon, Earth, star, planet, sky, day, night, space, round, bounce, float</p> <p>Expose children to supplementary vocabulary such as: sunrise, sunset, astronaut, astronomer, constellation, orbit, nocturnal, slow-motion, magnify</p>	<p>Model and encourage children to use vocabulary such as: names of animals, live, on land, in water, jungle, desert, North Pole, South Pole, sea, hot, cold, wet, dry, snow, ice hair (black, brown, dark, light, blonde, ginger, grey, white, long, short, straight, curly), eyes (blue, brown, green, grey), skin (black, brown, white), big/tall, small/short, bigger/smaller, baby, toddler, child, adult, old person, old, young, brother, sister, mother, father, aunt, uncle, grandmother, grandfather, cousin, friend, family, boy, girl, man, woman</p> <p>Expose children to supplementary vocabulary such as: environment, polar regions, ocean, camouflage bald, elderly, wrinkles, male, female, freckles</p>	<p>Model and encourage children to use vocabulary such as: ice, water, frozen, icicle, snow, melt, wet, cold, slippery, smooth, big, bigger, biggest, smaller, smallest, hard, soft, bendy, rigid, wood, plastic, paper, card, metal, strong, weak, hot, apply heat, waterproof, soggy, not waterproof, best, change, change back</p> <p>sunny, light, shadow, shady, clouds, torch, see-through, non-see through, source, light source</p> <p>float, sink, up, down, top, bottom, surface, move, roll, drop, fly, turn, spin, fall, fast, slow, faster, slower, fastest, slowest, further, furthest, wind, air, water, blow, bounce</p> <p>sound, noise, listen, hear, music, voices, bird song, traffic, sirens, thunder, high, low, loud, quiet, soft, volume, crackle, thunder, hum, buzz, roar</p> <p>Expose children to supplementary vocabulary such as: solid, liquid, gas, most suited casting a shadow, pale, dark, transparent, opaque</p> <p>force, rotate, solid, liquid, gravity source, crescendo, vibration, pitch</p>	<p>Model and encourage children to use vocabulary such as: spring, summer, autumn, winter, seasons, sunny, cloudy, hot, warm, cold, shower, raining, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, windy, rainbow, animals, young, plants, flowers</p> <p>Expose children to supplementary vocabulary such as: hibernate, migrate, snowflake</p>	<p>Model and encourage children to use vocabulary such as: plant, tree, bush, flower, vegetable, herb, weed, animal, names of plants and animals they see, name of a contrasting environment e.g. beach, forest</p> <p>Expose children to supplementary vocabulary such as: environment</p>
Year 1	Plants	Animals including Humans	Everyday Materials (Y1) Uses of Everyday Materials (Y2)	Seasonal Change	Living Things and their Habitats
	<p>Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud</p> <p>Names of trees in the local area</p> <p>Names of garden and wild flowering plants in the local area</p>	<p>Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves</p> <p>Names of animals experienced first-hand from each vertebrate group</p> <p>Parts of the body including those linked to PSHE teaching</p> <p>Senses – touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue. Although we often use our fingers and hands to feel objects, the children should understand that we can feel with many parts of our body.</p> <p>Name specific birds and fish. (They do not need to use the terms mammal, reptiles etc. or know the key characteristics of each, although they</p>	<p>Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through.</p>	<p>Weather (sunny, rainy, windy, snowy etc.)</p> <p>Seasons (winter, summer, spring, autumn)</p> <p>Sun, sunrise, sunset, day length</p>	

		<p>will probably be able to identify birds and fish, based on their characteristics.)</p> <p>The children also do not need to use the words carnivore, herbivore and omnivore. If they do, ensure that they understand that carnivores eat other animals, not just meat.</p>			
Year 2	Plants	Animals including Humans	Everyday Materials (Y1) Uses of Everyday Materials (Y2)	Seasonal Change	Living Things and their Habitats
	<p>As for Year 1 plus light, shade, sun, warm, cool, water, grow, healthy Name of seeds and bulbs planted.</p>	<p>Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly), exercise, heartbeat, breathing, hygiene, germs, disease, food types (examples – meat, fish, vegetables, bread, rice, pasta)</p>	<p>Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboard Properties of materials – as for Year 1 plus opaque, transparent and translucent, reflective, nonreflective, flexible, rigid</p>		<p>Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed. Names of local habitats e.g. pond, woodland etc. Names of micro-habitats e.g. under logs, in bushes etc.</p>