































Science Long Term Plan Overview KS1
























Cycle A 2022/23	Autumn		Spring		Summer	
Theme Title	This is Me!	Toy Story	A Long, Long, Long Time Ago	Amelia Earhart	Down in the Garden	Seaside
Science Topic	Animals Including Humans – year 2	Everyday materials – year 1	Living things and their habitats – year 2	Electricity	Plants – year 1	Sound
Key Knowledge /vocabulary	Senses, organs, body parts, healthy, nutrition, healthy, unhealthy, exercise, diet.	Material, wood, plastic, glass, metal, water, rock, properties, compare, hard, soft, stretchy, stiff, dull, shiny, rough, smooth, bendy, waterproof, absorbent, opaque, transparent	Living, dead, habitats, animal, plant, habitat, microhabitat, food chain, food source,	Safety, appliance, dangerous, mains electricity, circuit, cells, wires, bulbs, switches, buzzers,	Plant, garden, wild, deciduous, evergreen, flowering plants, habitat, environment, leaves, flowers, petals, fruit, roots, bulb, seed, trunk., branches, stem, bud	Vibrations, loud, quiet, light, low, pluck, bang, shake, blow, distance, travel
Enquiry	 <p>Comparative tests Do amphibians have more in common with reptiles or fish?</p> <p>Do bananas make us run faster?</p>  <p>Identify & Classify Which offspring belongs to which animal?</p> <p>How would you group things to show which are living, dead, or have never been alive?</p>	 <p>Comparative tests Which materials are the most flexible?</p> <p>Which materials are the most absorbent?</p>  <p>Identify & Classify We need to choose a material to make an umbrella. Which materials are waterproof?</p> 	 <p>Comparative tests Which pets are the easiest to look after?</p> <p>Is there the same level of light in the evergreen wood compared with the deciduous wood?</p>  <p>Identify & Classify How would you group these plants and animals based on what habitat you would find them in?</p>	 <p>Comparative tests What makes a bulb shine brightly?</p>  <p>Identify & Classify What items do you need to make a bulb shine?</p>  <p>Observation over time What happens to a bulb over time?</p> 	 <p>Comparative tests Which type of compost grows the tallest sunflower? Which tree has the biggest leaves?</p>  <p>Identify & Classify How can we sort the leaves that we collected on our walk?</p>  <p>Observation over time</p>	 <p>Comparative tests How does the length of guitar string effect the volume?</p>  <p>Identify & Classify How do groups of musical instruments create sound?</p>  <p>Observation over time Does our hearing get better as we get older?</p>


	 <p>Observation over time How does a tadpole change over time?</p> <p>How much food and drink do I have over a week?</p>  <p>Pattern Seeking Which age group of children wash their hands the most in a day?</p>  <p>Research What food do you need in a healthy diet and why?</p> <p>What do you need to do to look after a pet dog/cat/lizard and keep it healthy?</p> <p>BIG Question – Assessment Opportunity Do living things change or stay the same?</p> <p>TAPS planning ideas: Looking after baby Prehistoric shapes</p>	<p>Observation over time What happens to materials over time if we bury them in the ground?</p> <p>What happens to shaving foam over time?</p>  <p>Pattern Seeking Is there a pattern in the types of materials that are used to make objects in a school?</p>  <p>Research How are bricks made?</p> <p>Which materials can be recycled?</p> <p>BIG Question – Assessment Opportunity What are the things I use made from?</p> <p>TAPS planning prepared: Liquid densities Protective measures Maritime medley Synthetic selection Unusual plant pots.</p>	 <p>Observation over time How does the school pond change over the year? (Bearcroft visits???)</p>  <p>Pattern Seeking What conditions do woodlice prefer to live in?</p> <p>Which habitat do worms prefer – where can we find the most worms?</p>  <p>Research How are the animals in Australia different to the ones that we find in Britain?</p> <p>How does the habitat of the Arctic compare with the habitat of the rainforest?</p> <p>What ideas did botanist Arthur Tansley have about habitats in 1935?</p>	<p>Pattern Seeking What happens to the temperature of a light bulb as it is left on?</p>  <p>Research What objects at home need electricity?</p> <p>BIG Question – Assessment Opportunity What items do you need to make an electrical circuit?</p>	<p>How does a daffodil bulb change over the year?</p> <p>How does my sunflower change each week?</p> <p>How does the oak tree change over the year?</p>  <p>Pattern Seeking Do trees with bigger leaves lose their leaves first in autumn?</p> <p>Is there a pattern in where we find moss growing in the school grounds?</p>  <p>Research What are the most common British plants and where can we find them?</p> <p>How did Beatrix Potter help our understanding of mushrooms and toadstools?</p> <p>BIG Question – Assessment Opportunity How many types of plant are there?</p>	 <p>Pattern Seeking</p>  <p>Research How does a hearing test work?</p> <p>BIG Question – Assessment Opportunity How is sound made?</p>
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	<p>Say cheese Spooky animals How would you make a shelter for a human? What if we couldn't smell things?</p>	<p>What if your school banned paper?</p>	<p>BIG Question – Assessment Opportunity Why do different animals live in different places?</p> <p>TAPS planning ideas: Sandy adventurers Busy bee Australian animals Mystery markings Savannah sidekicks How would you survive in a rainforest?</p>		<p>TAPS planning ideas: Rich pickings Spring flowers Types of apple Time warp plants Types of leaves Do you need big seeds to grow big plants?</p>	
<p>Objectives Covered</p>	<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 (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p>	<p>Distinguish between an object and the material from which it is made</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> <p>Describe the simple physical properties of a variety of everyday materials</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties</p>	<p>Explore and compare the differences between things that are living, dead, and things that have never been alive</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 each other</p> <p>Identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p>Describe how animals obtain their food from plants and other</p>	<p>Identify common appliances that run on electricity. Know that electricity can be dangerous.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p>	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees</p>	<p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Sounds can be made in a variety of ways (pluck, bang, shake, blow) using a variety of things (instruments, everyday materials, body).</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p> <p>Sounds travel away from their source in all directions.</p> <p>Recognise that vibrations from sounds</p>

			animals, using the idea of a simple food chain, and identify and name different sources of food			travel through a medium to the ear.
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Cycle B 2023/24	Autumn		Spring		Summer	
Theme Title	Fire and Ice	Pirates	Where the Wild Things Are	The Wright Brothers	Field to Fork	Wonderful World
Science Topic	Animals including humans – year 1	Uses of everyday materials – year 2 Seasonal changes – Autumn <i>(See season enquiry ideas at the bottom of the cycle)</i>	Light Seasonal changes – Winter	Forces	Plants – year 2 Seasonal changes – Spring	Space Seasonal changes – Summer
Key Knowledge / Vocabulary	Fish, amphibians, reptiles, birds, mammals, carnivores, herbivore, omnivore, senses, head, neck, arms, elbow, legs, knee, face, ears, eyes, hair, mouth, teeth	Suitability, wood, metal, plastic, glass, brick, rock, paper, cardboard, uses, squashing, bending, twisting, stretching, purpose, observation Season, autumn	Opaque, translucent, transparent, reflection, mirror shadow Season, winter	Push, pull, force, friction, balance, speed up, slow down, still	Seed, bulb, water, light, temperature, growth, reproduction Season, spring	Day, night, planet, nocturnal, light, dark, seasons, Autumn, Winter, Spring, Summer
Enquiry	 Comparative tests Is our sense of smell better when we cannot see?	 Comparative tests Which shapes make the strongest paper bridge?	 Comparative tests When is the lightest part of the day?	 Comparative tests Which material would be best for the roof of the little pig's house?	 Comparative tests Do cress seeds grow quicker inside or outside?	 Comparative tests

	 <p>Identify & Classify How can we organise all the zoo animals?</p> <p>What are the names for all the parts of our bodies?</p>  <p>Observation over time How does my height change over the year?</p>  <p>Pattern Seeking Do you get better at smelling as you get older?</p>  <p>Research Do all animals have the same senses as humans?</p> <p>BIG Question – Assessment Opportunity What are animals like?</p> <p>TAPS planning ideas:</p>	<p>Which material would be best for the roof of the little pig's house?</p>  <p>Identify & Classify Which materials will float and which will sink?</p> <p>Which materials will let electricity go through them, and which will not?</p> <p>Which materials are shiny and which are dull?</p>  <p>Observation over time How long do bubble bath bubbles last for?</p> <p>What will happen to our snowman?</p>  <p>Pattern Seeking How do materials change with heat? leave outside in sunshine/windowsill/radiator</p> <p>How does amount of water affect the strength of a kitchen towel?</p>	 <p>Identify & Classify What objects produce light?</p>  <p>Observation over time When are shadows biggest?</p>  <p>Pattern Seeking How do clouds in the sky effect our light?</p>  <p>Research Why is it dangerous to look at the sun?</p> <p>BIG Question – Assessment Opportunity What objects make or reflect light?</p>	 <p>Identify & Classify Which materials will float and which will sink?</p>  <p>Observation over time Would a paper boat float forever?</p>  <p>Pattern Seeking How does changing the force change the speed of a toy car?</p>  <p>Research Why do objects float or sink?</p> <p>BIG Question – Assessment Opportunity How can we change how things move</p>	 <p>Identify & Classify How can we identify the trees that we observed on our tree hunt?</p>  <p>Observation over time What happens to my bean after I have planted it?</p>  <p>Pattern Seeking Do bigger seeds grow into bigger plants?</p>  <p>Research How does a cactus survive in a desert with no water?</p> <p>BIG Question – Assessment Opportunity</p>	 <p>Identify & Classify What planets make our solar system?</p>  <p>Observation over time How does the shape of the moon change over a month?</p>  <p>Pattern Seeking Is there a pattern in the temperature of the planets as they get further away from the sun?</p>  <p>Research What are planets made from?</p> <p>BIG Question – Assessment Opportunity What makes up our solar system?</p>
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	<p>Unexpected eggs Special delivery Baby animals Hot-steppers Bird feeders What if humans hibernated? What if my bones were bendy?</p>	 <p>Research How have the materials we use changed over time? How are plastics made?</p> <p>BIG Question – Assessment Opportunity</p> <p>TAPS planning prepared: Bonkers Bubbles Burly bridges Functional footwear Unusual houses Wonderful wheels Which is the bendiest? What if every material was rigid, or stretchy, or transparent?</p>			<p>What should I do to grow a healthy plant?</p> <p>TAPS planning ideas: Shooting sprouts Winter scenes Brown and sticky Brill gills Curious crown What if plants could move from one place to another?</p>	
Objectives Covered	<p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)</p>	<p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p> <p><i>Observe changes across the season of Autumn</i></p> <p><i>Observe and describe weather associated with</i></p>	<p>Pupils recognise different light sources, including the sun</p> <p>Pupils recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>Pupils recognise that shadows are formed when the light from a light source is blocked by a solid object</p>	<p>There are different types of forces</p> <p>Notice that some forces need contact between two objects.</p> <p>Compare how some things move on different surfaces</p>	<p>Observe and describe how seeds and bulbs grow into mature plants</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p> <p><i>Observe changes across the season of Spring</i></p> <p><i>Observe and describe weather associated with Spring and how day length varies to the other seasons</i></p>	<p>To be able to identify the differences between day and night.</p> <p>To understand some key characteristics of night and day.</p> <p>Observe changes across the four seasons.</p> <p>Observe and describe the weather associated with the seasons and how day length varies.</p>

	<p>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>	<p><i>Autumn and how day length varies to the other seasons</i></p>	<p>Notice that light is reflected from surfaces</p> <p>Recognise that they need light in order to see things and that dark is the absence of light</p> <p>Observe changes across the season of <i>Winter</i></p> <p>Observe and describe weather associated with <i>Winter</i> and how day length varies to the other seasons</p>			<p>Observe changes across the season of <i>Summer</i></p> <p>Observe and describe weather associated with <i>Summer</i> and how day length varies to the other seasons</p>
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Seasonal changes

<u>Comparative tests</u>	<u>Identify & Classify</u>	<u>Observation over time</u>	<u>Pattern Seeking</u>	<u>Research</u>	<u>BIG Question – Assessment Opportunity</u>
<p>In which season does it rain the most?</p> 	<p>How could you organise all the objects in the solar system into groups?</p> 	<p>How does the colour of a UV bead change over the day?</p> 	<p>Does the wind always blow the same way?</p> 	<p>Are there plants that are in flower in every season? What are they?</p> 	<p>What is it like in Winter, Spring, Summer and Autumn?</p>