



Science – A Progression of Knowledge & Skills				
Year group	term	topic	skills	knowledge
EL2	aut	Me and My Family	<b>Yearly composite</b> to enjoy exploring natural materials both indoors and outdoors to notice and talk about changes, such as the weather (rain, sun etc) to understand and respond appropriately to a 'what' question	
			<b>Natural world (Understanding the World)</b> to notice detailed features of objects in their environment  <b>Speaking (Communication and Language)</b> to learn new words very rapidly and is able to use them in communicating	
	spr	Me and My World	<b>Natural world (Understanding the World)</b> to talk about some of the things they have observed such as plants, animals, natural and found objects  <b>Speaking (Communication and Language)</b> to use a variety of questions (e.g. what, where, who)	
	sum	Me Growing Up	<b>Natural world (Understanding the World)</b> to enjoy playing with small world reconstructions, building on first-hand experiences, e.g. visiting farms, garages, train tracks, walking by river or lake  <b>Listening, attention &amp; understanding (Communication and Language)</b> to understand who, what, where in simple questions (e.g. Who's that? Who can? What's that? Where is?)	
YN	aut	Me & My Family	<b>Yearly Composite</b> to enjoy exploring and talking about changes they see, such as the seasons. to understand and respond appropriately to a 'why' question.  <b>Natural world (Understanding the World)</b> to comment and ask questions about aspects of their familiar world such as the place where they live or the natural world  to things happen and how things work  to explore and talk about different forces they can feel  <b>Health and Self-care (Physical Development)</b> to observe and describe in words or actions the effects of physical activity on their bodies.  to name and identify different parts of the body  to know that I see with my eyes, I hear with my ears, I smell with my nose and I touch with my fingers and hands.  <b>Speaking (Communication and Language)</b> to use talk to explain what is happening and anticipate what might happen next	
			<b>Vocabulary</b>	





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		<p><b>Natural world (Understanding the World)</b> city / London / road / house / park / canal / river / tree / animal</p> <p>push / pull / resistance</p> <p><b>Health and Self-care (Physical Development)</b> see / hear / smell / taste / touch / eyes / ears / tongue / hands / nose / finger thumb / toe / head / arm / leg / elbow / knee</p> <p><b>Speaking (Communication and Language)</b> now / next / I think / I believe</p>
spr	Me & My World	<p><b>People, Culture and Communities (Understanding the World)</b> to talk about different environments such as mountains, deserts, forests and the ocean.</p> <p><b>Natural world (Understanding the World)</b> to developing an understanding of growth, decay and changes over time</p> <p>to show care and concern for living things and the environment</p> <p><b>Speaking (Communication and Language)</b> to question why things happen and give explanations. Asks e.g. who, what, when, how</p> <p><b>Vocabulary:</b> <b>People, Culture and Communities (Understanding the World)</b> mountain / desert / forest / ocean / snow / sand / dry / tree / river / leaves / waves / water</p> <p><b>Natural world (Understanding the World)</b> grow / change / die / rot / worm protect / rubbish / care / healthy</p>
sum	Me Growing Up	<p><b>Natural world (Understanding the World)</b> to begin to understand the effect their behaviour can have on the environment</p> <p>to understand the key features of change e.g. the life cycle of an animal or a plant</p> <p>to know plants need soil, water and sunlight to grow.</p> <p>to plant seeds and care for growing plants.</p> <p><b>Listening, Attention and Understanding (Communication and Language)</b> to begin to understand why and how questions</p> <p><b>Vocabulary:</b> <b>Natural world (Understanding the World)</b> damage / world / protect / health / harm</p> <p>seeds / parent / egg</p> <p>root / leaf / stem</p> <p>soil vocabulary (mud, earth, stones, pebbles, sand etc)</p>





Year group	term	topic	skills	knowledge
YR	aut	Me & My Family	<p><b>Yearly Composite</b> to talk about features of their own physical environment and draw comparisons with other places and locations</p> <p>to make observations of animals and plants and can explain the changes that occur at different stages</p> <p><b>The Natural World (Understanding the World)</b> to look closely at similarities, differences, patterns and changes in nature</p> <p>to draw pictures of animals and plants that they see around them</p> <p>to know that the weather is different at different times of the year.</p> <p>to know there are 4 seasons: autumn, winter, spring, summer.</p> <p>to know days are longer in spring and summer than in autumn and winter.</p> <p><b>Health and Self-care (Physical Development)</b> to describe a range of different food textures and tastes when cooking and notice changes when they are combined or exposed to hot and cold temperatures</p> <p><b>Speaking (Communication and Language)</b> to extend vocabulary, especially by grouping and naming, exploring the meaning and sounds of new words</p> <p>to express a point of view</p> <p>to understand 'why' questions, like: "Why do you think the caterpillar got so fat?"</p>	
			<p><b>Vocabulary</b></p> <p><b>The Natural World (Understanding the World)</b> fall / leaves / weather / hibernate / temperature</p> <p>sunshine / heat / rain / cold / snow / mild / puddle / daylight</p> <p><b>Health and Self-care (Physical Development)</b> texture / taste / sticky / crunchy / soft / chewy / sweet / sour / salty / hard / cook / heat up / cool down</p>	
	spr	Me & My World	<p><b>The Natural World (Understanding the World)</b> to know about similarities and differences in relation to places, objects, materials and living things</p> <p>to talk about the features of their own immediate environment and how environments might vary from one another</p> <p>to describe what they see, hear and feel whilst outside</p> <p>to draw pictures of animals and plants that they see around them</p>	





		<p>to know the features of Spring (In Spring, the days become longer, temperatures rise, buds appear on some trees, plants start to flower (daffodils), and animals are more noticeable.)</p> <p><b>Vocabulary</b>  <b>The Natural World (Understanding the World)</b>  hard / soft / shiny / dull / rough / smooth / light / heavy / insect / legs / wings / head / tail / beak</p> <p>building / road / field / countryside / city / town</p> <p>Spring season vocabulary (buds, flowers, daylight)</p>
sum	Me Growing Up	<p><b>The Natural World (Understanding the World)</b>  to make observations of animals and plants, learn their names and explain and talk about changes</p> <p>to talk about the changing seasons and their effect on the natural world (Temperatures rise and fall with the seasons, there are differing levels of sunlight and rain, days are shorter or longer. Some plants lose their leaves in autumn/winter. Snow may fall, ice may appear in the winter.)</p> <p><b>Listening, Attention and Understanding (Communication and Language)</b>  to understand questions such as <i>who; why; when; where</i> and <i>how</i></p> <p><b>Vocabulary:</b>  <b>The Natural World (Understanding the World)</b>  Summer season vocabulary (bloom, seed, grow, plant, sunshine)</p>
<p><b><u>Early learning goals: The Natural World</u></b></p> <p>Children at the expected level of development will:</p> <ul style="list-style-type: none"> <li>- Explore the natural world around them, making observations and drawing pictures of animals and plants;</li> <li>- 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;</li> <li>- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</li> </ul>		





Year group	term	topic	skills	knowledge
Y1	aut	Once Upon a Time	<b>Everyday Materials</b> <b>Unit Composite:</b> To distinguish between an object and a material from which it is made.	
			<b>Seasonal Changes</b> <b>Unit Composite:</b> To know what makes each season unique.	
			<b>Everyday Materials</b>  To identify and classify:  - identify similarities and differences and talk about them - record sorting in sorting circles or tables - use simple scientific language to talk about how things are similar or different  <b>Seasonal Changes</b>  To observe closely using simple equipment:  - identify simple changes and talk about them - sequence changes - with help, identify changes to observe and measure and suggest how to do it e.g. change in temperature at various times in the year - record in words or pictures	<b>Everyday Materials</b>  To name different materials (wood, plastic, glass, metal, water and rock)  Know the properties of everyday materials (wood, plastic, glass, metal, water and rock)  <b>Seasonal Changes</b>  To observe and describe weather and length of day in relation to the seasons  Through observation, know what makes each season unique (differences and similarities)
<b>Vocabulary:</b> <b>Everyday Materials:</b> wood, plastic, glass, metal, water, rock, sharp, blunt, waterproof, absorbent, flexible, rigid  <b>Seasonal Changes:</b> petal, fruit, berry, trunk, branch, stem, bark, stalk, bud names of trees in the local area names of garden and wild flowering plants in the local area				
			<b>Animals</b> <b>Unit Composite:</b> I can describe and compare types of animals and their diets.  <b>Seasonal Changes:</b> <b>Unit Composite:</b> To know what makes each season unique.	
			<b>Animals</b> To identify and classify: - identify similarities and differences and talk about them	<b>Animals</b> Know the names of some common animals and species (fish, amphibians, reptiles, birds, mammals and invertebrates)





	spr	Animal Kingdom	<ul style="list-style-type: none"> <li>- make comparisons between simple features of living things</li> <li>- record sorting in sorting circles or tables</li> <li>- use simple scientific language to talk about how things are similar or different</li> </ul> <p><b>Seasonal Changes</b></p> <p>To observe closely using simple equipment:</p> <ul style="list-style-type: none"> <li>- identify simple changes and talk about them</li> <li>- sequence changes</li> <li>- with help, identify changes to observe and measure and suggest how to do it e.g. change in temperature at various times in the year</li> <li>- ask questions about how or why things are different</li> <li>- record in words or pictures</li> </ul> <p>Pattern seeking</p> <ul style="list-style-type: none"> <li>- identify simple patterns and talk about them</li> <li>- make links between two sets of observations</li> </ul>	<p>To describe and compare common animals (fish, amphibians, reptiles, birds, mammals, including pets)</p> <p>Identify and name a variety of carnivores, herbivores and omnivores</p> <p><b>Seasonal Changes</b></p> <p>Through observation: Know what makes each season unique - differences and similarities.</p> <p>To observe and describe weather and length of day in relation to the seasons</p>
			<p><b>Vocabulary</b></p> <p>body, mouth, teeth, claw, fin, scales, feathers, fur, paws, hooves</p> <p>examples of animals from the different animals classes: mammal (cat, monkey), reptile (turtle, snake), amphibian (frog, newt) fish (clown fish, shark) birds (owl, eagle)</p> <p>omnivore, carnivore, herbivore</p> <p>pets (common pets)</p>	
			<p><b>Humans</b> <b>Unit Composite:</b> To identify different body parts and describe their uses.</p> <p><b>Plants:</b> <b>Unit Composite:</b> To name and describe a range of common plants.</p> <p><b>Seasonal Changes</b> <b>Unit Composite:</b> To know what makes each season unique.</p>	

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		<p style="text-align: center;"><b>Humans</b></p> <p>To identify and classify:</p> <ul style="list-style-type: none"> <li>- make comparisons between simple features of living things (e.g. compare handspan, eye colour, hair colour)</li> <li>- use simple scientific language to talk about how things are similar or different</li> </ul> <p><b>Plants</b></p> <p>To identify and classify:</p> <ul style="list-style-type: none"> <li>- make comparisons between simple features of living things e.g. colour, shape and size of leaves</li> <li>- record observations in words and pictures</li> <li>- sort objects by observable features e.g. leaves and/or flowers</li> <li>- use simple scientific language to talk about how things are similar or different</li> </ul> <p><b>Seasonal Changes</b></p> <p>To observe closely using simple equipment:</p> <ul style="list-style-type: none"> <li>- identify simple changes and talk about them</li> <li>- Sequence changes</li> <li>- with help, identify changes to observe and measure and suggest how to do it (e.g. change in temperature at various times in the year)</li> <li>- ask questions about how or why things are different</li> <li>- record in words or pictures</li> </ul> <p>Pattern seeking:</p> <ul style="list-style-type: none"> <li>- identify simple patterns and talk about them</li> <li>- make links between two sets of observations</li> </ul>	<p style="text-align: center;"><b>Humans</b></p> <p>To know, identify, name, label and draw basic parts of the human body e.g. head, shoulders, knees and toes</p> <p>To know which parts of the body are associated with each sense e.g. nose and smell</p> <p><b>Plants</b></p> <p>To describe the basic structure of plants and trees (roots, stem/trunk, leaves, flowers)</p> <p>To name common plants including evergreen and deciduous trees (plants: rose, dandelion, daisy, nettle, buttercup, dock leaf / trees: horse chestnut, silver birch, poplar trees)</p> <p><b>Seasonal Changes</b></p> <p>To observe and describe weather and length of day in relation to the seasons</p> <p>Through observation, know what makes each season unique (differences and similarities)</p>
<p><b>Vocabulary:</b></p> <p>rose, dandelion, daisy, nettle, buttercup, dock leaf, trees: horse chestnut, silver birch, poplar</p> <p>all other vocabulary covered in previous year groups, teach as appropriate</p>			





Year group	term	topic	skills	knowledge
Y2	aut	Fire! Fire!	<b>Use of Everyday Materials</b> <b>Unit Composite:</b> To know about everyday materials and how they can be used and changed.	
			<b>Use of Everyday Materials</b>  To identify and classify:  - make comparisons between simple features of materials e.g. which materials would you use to rebuild after the Great Fire and why? - begin to use simple scientific language e.g. sturdy, rough, hard, soft, malleable etc - record observations in a simple table e.g. properties of materials	<b>Use of Everyday Materials</b>  To know about different everyday materials and explain their suitability for use  To know that the shape of some materials can be changed by twisting, bending, squashing, stretching e.g. making and manipulating play-dough or 'how long can you stretch a curly wurly?'  <i>(Materials must be taught early in the term, as children will be challenged to choose materials to make a bucket (Great Fire of London).)</i>  <b>Plants</b>  <i>Don't forget to plant bulbs in November ready for Spring and Summer time learning!</i>
			<b>Vocabulary:</b> <b>Use of Everyday Materials</b> names of materials – (concrete, fabric, brick, stone, rubber)  properties of materials – as for Y1 plus: opaque, transparent and translucent, flexible, rigid, absorbent  other: shape, push, pull, twist, squash, bend, stretch	
Y2	spr	The Secret Garden	<b>Living things and their habitats</b> <b>Unit Composite:</b> To know that different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other  <b>Animals including humans</b> <b>Unit Composite:</b> To describe the survival needs of different animals, including humans	
			<b>Living things and their habitats and animals including humans</b>  Identify and classify:  - sort objects by observable and behavioural features  Research:	<b>Living things and their habitats</b>  To identify and name a variety of plants and animals  To identify and name a variety of habitats, including micro-habitats  To describe what conditions: - animals need to survive: exercise, heat, diet)





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		<ul style="list-style-type: none"> <li>- use books and electronic media to find things out e.g. animals and their habitats</li> <li>- Record in words and pictures what I found out e.g. a simple food chain</li> <li>- begin to use scientific language to talk about what I found out e.g. consumer, producer</li> <li>-with help, make suggestions about how to find things out</li> </ul>	<ul style="list-style-type: none"> <li>- plants need to survive (sunshine, carbon dioxide, nutrients, soil etc)</li> </ul> <p>To know that different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other</p> <p>To describe how animals obtain their food from plants and other animals (food chain)</p> <p>To know some producers and consumers</p> <p><b>Animals including humans</b></p> <p>To know the importance of exercise, diet and hygiene for humans.</p> <p>To find out about different animals survival needs (water, air, food)</p> <p><b>Plants</b></p> <p><i>Don't forget to check in on your planted bulbs!</i></p>
		<p><b>Vocabulary:</b></p> <p><b>Living things and their habitats</b>          living, dead, never been alive, suited, basic needs, food chain, shelter, diet</p> <p>names of local habitats e.g. pond, woodland</p> <p>names of micro-habitats e.g. under logs, in bushes</p> <p>heartbeat, breathing, germs, disease, food types (examples – meat, fish, vegetables, bread, rice, pasta)</p>	
sum	Globetrotters	<p><b>Living things and their habitats</b></p> <p><b>Unit Composite:</b> To understand the different life cycles of animals and plants</p> <p><b>Plants:</b></p> <p><b>Unit Composite:</b> To describe how plants grow</p>	
		<p><b>Living things and their habitats</b></p> <p>Identify and classify:</p> <ul style="list-style-type: none"> <li>- sort objects by observable and behavioural features e.g. on a local walk, identify and record things that are living, once-lived, never-lived</li> </ul> <p><b>Animals including humans</b></p>	<p><b>Living things and their habitats</b></p> <p>To explore and compare living, dead and things that have never been alive (e.g. on a local walk, identify and record things that are living, once-lived, never-lived)</p> <p>To know how different living things give birth to their offspring (live birth / eggs etc).</p> <p><b>Animals including humans</b></p>





		<p>Research:</p> <ul style="list-style-type: none"> <li>- use books and electronic media to find things out (e.g. animals and their offspring)</li> </ul> <p><b>Plants</b></p> <p>Observing:</p> <ul style="list-style-type: none"> <li>- use non-standard units and simple equipment to record changes e.g. unifix to measure plant growth</li> <li>- sequence changes e.g. plant growth</li> </ul> <p>Fair and comparative testing:</p> <ul style="list-style-type: none"> <li>- with help, I notice link between cause and effect e.g. different conditions on plant growth</li> <li>- with help, notice simple variables to change and measure e.g. different conditions on plant growth</li> <li>- plan simple comparative tests e.g. growing hyacinth bulbs in water/light, no water/light, water/no light, no water/no light</li> <li>- use simple scientific language to describe simple causal relationships</li> <li>- say if the relationship is what was expected (early prediction skills)</li> </ul> <p>Pattern seeking:</p> <ul style="list-style-type: none"> <li>- ask questions about why and how things are linked</li> </ul>	<p>To know animals have offspring which grow into adults.</p> <p><b>Plants</b></p> <p>To know what plants need to grow (water, light, suitable temperature)</p> <p>To see how bulbs and seeds grow into mature plants</p>
		<p><b>Vocabulary:</b>  offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly)</p>	





Year group	term	topic	skills	knowledge
	aut	Invaders and Settlers	<b>Rocks</b> <b>Unit Composite:</b> To describe and compare rocks and fossils, based on their characteristics.	
			<b>Rocks</b> Identify and classify:  - talk about what criteria I will use to sort and classify things - carry out simple tests to sort and classify according to properties or behaviour (e.g. rock hardness) - use simple keys and branching databases to identify things (e.g. rocks and/or fossils)	<b>Rocks</b> To know that soils are made from rocks and organic matter  To know and describe how fossils are formed when things that are lived are trapped within rock (...and that this provides us with a fossil record - the evidence of the history of living things - as artefacts provide us with evidence of Roman and Viking life)  To compare and group rocks based on their appearance and simple physical properties
			<b>Vocabulary:</b> <b>Rocks</b> fossil, marble, chalk, granite, sandstone, slate, igneous, sedimentary, metamorphic	
Y3	spr	Super Humans	<b>Animals, including humans</b> <b>Unit composite:</b> To know that humans need to get nutrition (by eating) to keep their bodies healthy and support the functions of the skeleton and muscles.  <b>Sound</b> <b>Unit composite:</b> To understand how we hear, and what factors affect the sounds we hear.  <b>Light</b> <b>Unit composite:</b> To understand how light allows us to see, and how shadows are formed and changed.	
			<b>Animals, including humans</b>  Research:  - use information sources to find the information I need - record what I found out in my own words - present information in different ways - talk about what the information and data means using some scientific language  Observing:  - talk about things changing and recognise when questions can be answered by observing over time e.g. what happens to a tooth when submerged in a sugary drink	<b>Animals, including humans</b>  To know that humans need the right types and amount of nutrition or a balanced diet (the eat well plate)  To know that humans get nutrition from what they eat, and cannot make their own food (they are consumers, not producers)  To know that humans and some other animals have skeletons and muscles for support, protection and movement





		<p>- draw simple conclusions from the changes I observed</p> <p><b>Sound</b></p> <p>Research:</p> <ul style="list-style-type: none"> <li>- use information sources to find the information I need</li> <li>- record what I found out in my own words</li> </ul> <p>Pattern seeking:</p> <ul style="list-style-type: none"> <li>- talk about patterns using scientific language</li> <li>- talk about where patterns might be found and recognise when questions can be investigated by pattern seeking</li> </ul> <p>Sorting and classifying:</p> <ul style="list-style-type: none"> <li>- carry out simple tests to sort and classify according to properties</li> </ul> <p>Observing:</p> <ul style="list-style-type: none"> <li>- begin to use and interpret graphs produced by data loggers e.g. measuring decibels at different locations, times of day, different distances from source etc</li> </ul> <p>Comparative and fair testing:</p> <ul style="list-style-type: none"> <li>- talk about links between cause and effect and (with help) pose a fair test question e.g. do you think the wind makes a difference to what we hear? (teacher's whistle in the playground)</li> <li>- help to plan a comparative or fair test</li> <li>- decide what data to collect</li> <li>- decide what equipment to use and how to make observations</li> </ul> <p><b>Light</b></p> <p>Comparative and fair testing:</p> <ul style="list-style-type: none"> <li>- talk about links between cause and effect and (with help) pose a fair test question e.g. do all opaque objects cast a shadow?</li> </ul>	<p><b>Sound</b></p> <p>To identify how sounds are made, associating some of them with something vibrating</p> <p>To recognise that vibrations from sound travel through a medium to the ear e.g. metal coat hangers and string attached to ears</p> <p>To find patterns between the volume of a sound and the strength of the vibrations that produced it e.g. cornflour and water on a speaker top</p> <p>To know that sounds get fainter as the distance from the sound source increases</p> <p>To find patterns between the pitch of a sound and features of the object that produced it e.g. pinching a balloon lip, musical instruments</p> <p><b>Light</b></p> <p>To recognise that we need light in order to see things and that darkness is the absence of light</p> <p>To notice that light is reflected from surfaces</p>
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		<ul style="list-style-type: none"> <li>- help to plan a comparative or fair test</li> <li>- decide what data to collect</li> <li>- decide what equipment to use and how to make observations</li> </ul> <p>Research:</p> <ul style="list-style-type: none"> <li>- use information sources to find the information I need e.g. dangers of the sun</li> </ul> <p>Sorting and classifying:</p> <ul style="list-style-type: none"> <li>- talk about what criteria I will use to sort and classify things</li> <li>- carry out simple tests to sort and classify according to properties e.g. opaque, translucent and transparent</li> </ul>	<p>To recognise that light from the sun can be dangerous and that there are ways to protect the eyes</p> <p>To recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>To find patterns in the way the size of shadows change</p>
<p><b>Vocabulary:</b></p> <p><b>Animals, including humans</b> nutrition, carbohydrates, sugars, protein, vitamins, fibre, fat, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, joints</p> <p><b>Sound</b> soundwave, vibrate, faint, pitch, insulate (against sound)</p> <p><b>Light</b> light source, absence of light, transparent, translucent, opaque, matt, surface, shadow, reflect</p>			
sum	Rainforest Explorers	<p><b>Plants</b> <b>Unit composite:</b> To understand a plant's structure, and how this supports its survival.</p> <p><b>Living things and habitats</b> <b>Unit composite:</b> To group living things and discuss how their environments impact them.</p>	
		<p><b>Plants</b></p> <p>Observing:</p> <ul style="list-style-type: none"> <li>- talk about things changing and recognise when questions can be answered by observing over time (e.g. plant growth)</li> <li>- decide what observations to make, how often and what equipment to use (including standard units of measurement)</li> <li>- make records using tables and bar charts</li> <li>- draw simple conclusions from changes observed</li> <li>- talk about changes using some scientific language e.g. names of plant parts</li> </ul>	<p><b>Plants</b></p> <p>To explore a plant's requirements for life and growth (air, light, water, nutrients from soil) and how they vary from plant to plant</p> <p>To identify and describe the functions of parts of flowering plants, related to its requirements to live (roots, stem/trunk, leaves, flowers)</p> <p>To investigate the way water is transported within plants (e.g. celery or tulips in food dye)</p> <p>To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p>





		<p>- suggest improvements to the ways I observe</p> <p><b>Living Things and their Habitats</b> Identify and Classify (reading and making diagrams and keys) - talk about things that can be grouped and recognise when questions can be answered by sorting and classifying - use Carroll diagrams, Venn diagrams and more complex tables to sort things - use simple keys and branching databases to identify things - make simple branching databases (keys) for things that have clear differences - talk about similarities and differences I identify using some scientific language Research (researching environmental change) - use information sources to find the information I need - use someone else's data - record what I found out in my own words - present information in different ways - draw conclusions from what I found out from different sources - talk about what information and data means using some scientific language</p>	<p><b>Living things and their habitats</b></p> <p>To recognise that living things can be grouped in a variety of ways</p> <p>To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>To recognise that environments can change and that this can sometimes pose dangers to living things.</p>
<p><b>Vocabulary:</b></p> <p><b>Plants</b> nutrients from soil, transport, absorb, evaporate</p> <p>photosynthesis, pollen, pollination (animal and wind), seed formation, dispersal (seed, wind, animal)</p> <p><b>Living things and their habitats</b> classification, classification key, environment, habitat, human impact, positive impact, negative impact, hibernate, migrate</p>			





Year group	term	topic	skills	knowledge
Y4	aut	Robots	<p><b>Electricity</b>  <b>Unit composite:</b> To understand how electrical circuits work - why does a bulb light up or not?</p> <p><b>Forces and magnets</b>  <b>Unit composite:</b> To know, compare and group materials based on whether they are magnetic or not and explain why</p>	
			<p><b>Electricity</b></p> <p>Observing:</p> <ul style="list-style-type: none"> <li>- use equipment accurately with support</li> <li>- record data appropriately</li> </ul> <p>Identifying and classifying:</p> <ul style="list-style-type: none"> <li>- talk about what criteria to use to sort and classify things e.g. conductor/not a conductor</li> <li>- carry out simple tests to sort and classify according to properties or behaviour</li> <li>- draw simple conclusions about the things I have sorted and classified</li> </ul> <p>Fair and comparative testing:</p> <ul style="list-style-type: none"> <li>- talk about links between cause and effect and (with help) pose a fair test question</li> <li>- help to plan a comparative or fair test e.g. How does changing parts of our circuit affect the brightness of the bulb?</li> <li>- decide what data to collect</li> <li>- decide what equipment to use and how to make observations- draw simple conclusions</li> </ul> <p><b>Forces and magnets:</b></p> <p>Identifying and classifying:</p> <ul style="list-style-type: none"> <li>- talk about what criteria I will use to sort and classify things</li> <li>- carry out simple tests to sort and classify according to properties or behaviour</li> </ul>	<p><b>Electricity</b></p> <p>To identify common appliances that run on electricity</p> <p>To construct a simple series of electrical circuits, identifying and naming their parts (cells, wires, bulbs, switches and buzzers)</p> <p>To identify whether a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</p> <p>To recognise some common conductors and insulators and associate metals with being good conductors</p> <p>To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</p> <p><b>Forces and magnets:</b></p> <p>To know magnets have two poles</p> <p>To know that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>To know how magnets attract and repel some materials and not others</p>





			<ul style="list-style-type: none"> <li>- draw simple conclusions about the things I have sorted and classified</li> <li>- talk about what criteria I will use to sort and classify</li> </ul>	<p>To predict whether magnets will attract or repel each other, depending on which poles are facing</p> <p>To know the names of some magnetic materials</p>
<p><b>Vocabulary:</b></p> <p><b>Electricity</b> electrical appliance/device, mains, plug, electrical circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator,</p> <p><b>Forces and magnets:</b> contact force, non-contact force, magnetic force, magnet (bar, ring, horseshoe, button), attract, repel, iron, North Pole, South Pole</p>				
spr	All the World's a Stage	<p><b>Animals including Humans</b> <b>Unit composite:</b> To identify and explain how humans receive nutrition</p>		
			<p><b>Animals including Humans</b></p> <p>Identifying and classifying:</p> <ul style="list-style-type: none"> <li>- carry out simple tests to sort and classify according to properties of behaviour (teeth: what are the characteristics of the teeth of a carnivore/herbivore: explore this practically)</li> <li>- talk about the similarities and differences I identified using some scientific language</li> </ul> <p>Observation of a model:</p> <ul style="list-style-type: none"> <li>- talk about things changing and recognise when questions can be answered by observing overtime</li> <li>- draw simple conclusions from the changes observed</li> </ul> <p>Research digestive system:</p> <ul style="list-style-type: none"> <li>- talk about how things are and the way they work</li> <li>- use information sources to find the information I need</li> <li>use someone else's data</li> <li>- record what I found out in my own words</li> <li>- present information in different ways</li> </ul>	<p><b>Animals including Humans</b></p> <p>To know that different types of teeth have different functions</p> <p>To know the simple functions of the basic parts of the digestive system and describe them (humans)</p>





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		<p><b>Vocabulary:</b>  <b>Animals including Humans</b>  digestive system, digestion, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, incisor, canine, molar, premolars</p>	
sum	Extreme Earth	<p><b>States of matter</b>  <b>Unit composite:</b> To describe how materials change state, giving examples.</p>	
		<p><b>States of matter</b></p> <p>Observing over time:</p> <ul style="list-style-type: none"> <li>- talk about things changing and recognise when questions can be answered by observing over time</li> <li>- decide what observations to make, how often and what equipment to use</li> <li>- use a range of equipment to collect data using standard measures</li> <li>- make records using tables and bar charts</li> <li>- talk about changes using some scientific language</li> <li>- suggest improvements to the way I observe</li> </ul> <p>Identify and classify:</p> <ul style="list-style-type: none"> <li>- carry out simple tests to sort and classify according to properties or behaviour e.g. condensation and evaporation</li> <li>- draw simple conclusions about the things I have sorted and classified</li> </ul> <p>Research:</p> <ul style="list-style-type: none"> <li>- use information sources to find the information I need</li> <li>- use someone else's data</li> <li>- record what I found out in my own words</li> <li>- talk about information and data using scientific language</li> </ul>	<p><b>States of matter</b></p> <p>To compare and group materials together according to whether they are solids, liquids or gases.</p> <p>To observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius.</p> <p>To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>
		<p><b>Vocabulary:</b>  <b>States of matter</b>  solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, condensation, water cycle</p>	





Year group	term	topic	skills	knowledge
Y5	aut	Meet the Greeks!	<p><b>Forces</b>  <b>Unit composite:</b> To understand and describe the effect of forces on objects.</p> <p><b>Forces</b></p> <p>Pattern seeking:            e.g. egg drop</p> <ul style="list-style-type: none"> <li>- recognise when variables cannot be controlled and decide when pattern seeking will help to answer a question</li> <li>- use equipment accurately to collect observations</li> <li>- record data appropriately and accurately</li> <li>- recognise patterns in results</li> <li>- recognise the effect of sample size on reliability</li> <li>- talk about and explore cause and effect patterns using scientific knowledge and understanding</li> <li>- evaluate how well I looked for patterns</li> </ul>	<p><b>Forces</b></p> <p>To know and compare how things move differently on different surfaces (surface friction), e.g. toy cars on different surfaces</p> <p>Know and explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>Identify the effects of air resistance, water resistance and friction on objects</p> <p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect e.g. Invasion of Troy - catapults, pulleys etc</p>
			<p><b>Vocabulary:</b>  <b>Forces</b>            force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears</p>	
	spr	Space Race	<p><b>Properties and changes of materials</b>  <b>Unit composite:</b> To understand how materials can change state, and how this relates to their uses.</p> <p><b>Earth and Space</b>  <b>Unit composite:</b> To understand the shape and movement of the planets in our solar system</p> <p><b>Properties and changes of materials</b></p> <p>Identify and classify:</p> <ul style="list-style-type: none"> <li>- use a series of test to sort and classify materials</li> <li>- use secondary sources to identify and classify things</li> <li>- draw valid conclusions when sorting and classifying</li> <li>- recognise the significance of sorting and classifying</li> </ul> <p>Observation over time:</p>	<p><b>Properties and changes of materials</b></p> <p>To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>To know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution</p> <p>To demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>To explain that some changes result in the formation of new materials, and that this</p>





		<ul style="list-style-type: none"> <li>- talk about and explain changes using scientific knowledge and understanding</li> <li>- recognise the significance of things changing over time</li> <li>- decide when observing changes over time will help to answer questions</li> <li>- use equipment accurately without support</li> <li>- record data appropriately</li> <li>- recognise the effect of changing the time and number of observations (rule of three)</li> </ul> <p>Comparative and fair tests:</p> <ul style="list-style-type: none"> <li>- recognise when variables need to be controlled and decide when a comparative and fair test is the best way to answer a question</li> <li>- plan a comparative or fair test, selecting variables to measure change to keep the same</li> <li>- identify causal relationships</li> <li>- explain causal relationships using scientific knowledge and understanding</li> </ul> <p><b>Earth and Space</b></p> <p>Research:</p> <ul style="list-style-type: none"> <li>- decide when research using secondary sources will help to answer my questions e.g. why does the Earth experience day and night?</li> <li>- recognise how data has been obtained</li> </ul> <p>Observing:</p> <ul style="list-style-type: none"> <li>- decide when observing changes over time will help to answer my questions</li> <li>- present data in line graphs e.g. length of day over a period of time</li> <li>- observe and/or create models to help explain complex ideas e.g. the movement of the Earth</li> </ul>	<p>kind of change is not usually reversible, including changes associated with burning</p> <p>To compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets and the action of acid on bicarbonate of soda</p> <p>To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials including wood and plastic</p> <p><b>Earth and Space</b></p> <p>To know that the Sun, Earth and Moon are approximately spherical bodies</p> <p>To know how the Earth's rotation can explain day and night</p> <p>To know the movement of the Moon relative to Earth</p> <p>To know the movement of the Earth, and other planets, relative to the Sun in the solar system</p>
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		relative to the sun/phases of the moon	
		<p><b>Vocabulary:</b>  <b>Properties and changes of materials</b>            thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve reversible/non-reversible change, burning, rusting, new material</p> <p><b>Earth and Space</b>            Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune) spherical, solar system, rotates, revolve, star, orbit, planets, satellite, gravity</p>	
		<p><b>All living things and their habitats</b>  <b>Unit composite:</b> To describe and compare the life cycles of a range of animals</p> <p><b>Animals, including humans</b>  <b>Unit composite:</b> To describe the changes as humans develop to old age, including changes experienced in puberty</p>	
sum	Eco-Warriors	<p><b>All living things and their habitats and animals, including humans</b></p> <p>Research:</p> <ul style="list-style-type: none"> <li>- decide when research using secondary sources will help to answer questions</li> <li>- use relevant information and data from a range of secondary sources</li> <li>- talk about and explain my research using scientific knowledge and understanding</li> </ul> <p>Observing over time:</p> <ul style="list-style-type: none"> <li>- recognise the significance of things changing over time</li> <li>- talk about and explain changes using scientific knowledge and understanding</li> <li>- record data appropriately</li> <li>- present data in line graphs</li> <li>- interpret changes in data</li> </ul>	<p><b>Living things and their habitats</b></p> <p>To describe the differences in the life cycles of a mammal, amphibian, an insect and a bird</p> <p>To describe reproduction in some plants and animals</p> <p><b>Animals, including humans</b></p> <p>To describe the changes as humans develop to old age including changes experienced in puberty</p>
		<p><b>Vocabulary:</b></p> <p><b>Living things and their habitats</b>            life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings</p> <p><b>Animals, including humans</b>            vocabulary to describe changes during puberty (see current RSE unit)</p>	





Year group	term	topic	skills	knowledge
Y6	aut	The World at War	<p><b>Light</b>  <b>Unit composite:</b> To understand that light (travelling in straight lines) causes shadows and allows us to see.</p> <p><b>Electricity</b>  <b>Unit composite:</b> To draw diagrams of electrical circuits and describe changing functions of their components.</p>	
			<p><b>Light and electricity</b></p> <p>Fair Test:            Light: Which material will make the best blackout blind?            Electricity: What is the most effective circuit for an air raid siren?</p> <ul style="list-style-type: none"> <li>- recognise when variables need to be controlled and decide when a comparative or fair test is the best way to answer a question</li> <li>- plan a comparative or fair test, selecting variables to measure change and keep the same</li> <li>- decide what equipment to use to make my measurements as accurate as possible</li> <li>- record data appropriately and accurately</li> <li>- draw valid conclusions based on the data</li> <li>- evaluate the effectiveness of my comparative and fair testing, recognising variables that were difficult to control</li> </ul> <p><b>Electricity</b></p> <p>To 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</p>	<p><b>Light</b></p> <p>To recognise that light appears to travel in straight lines</p> <p>To use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye</p> <p>To 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> <p>To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them</p> <p><b>Electricity</b></p> <p>To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</p> <p>To use recognised symbols when representing a simple circuit in a diagram</p>
		Rivers of Time	<p><b>Vocabulary:</b></p> <p>straight lines, light rays.</p> <p>circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage</p> <p><b>Living things and habitats</b></p> <p><b>Unit composite:</b> To categorise living things based on their characteristics</p> <p>To understand the habits of animals that live near water.</p>	





		<p style="text-align: center;"><b>Living things and their habitats</b></p> <p>Identifying and classifying:</p> <ul style="list-style-type: none"> <li>- use secondary sources to identify and classify things</li> <li>- make my own keys and branching databases with four or more items</li> <li>- use more than one piece of scientific evidence to identify and classify things</li> <li>- talk about and explain what i have done using scientific knowledge</li> <li>- evaluate how well my keys worked</li> </ul>	<p style="text-align: center;"><b>Living things and their habitats</b></p> <p>To know animals are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals</p> <p>To give reasons for classifying plants and animals based on specific characteristics</p> <p>To focus on the living things discoverable in rivers, to link to the topic. To understand that some mammals make their homes predominantly in or near water (otter, water vole etc)</p>
		<p><b>Vocabulary:</b></p> <p>vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering and non-flowering, dichotomous key, Venn diagram</p> <p>otter, stoat, weasel, water vole, beaver, marsh birds, alligator, crocodile, eel</p>	
sum	Who am I?	<p><b>Evolution and inheritance</b></p> <p><b>Unit composite:</b> To know living things adapt to their environments, and over long periods of time this creates evolution</p> <p><b>Animals including humans</b></p> <p><b>Unit composite:</b> To understand the working of the circulatory system, and the impact of diet and exercise on the body</p>	
		<p><b>Evolution and inheritance</b></p> <p>Observing:</p> <ul style="list-style-type: none"> <li>- observing secondary sources: the fossil record</li> <li>- recognise the significance of things changing over time</li> <li>- talk about and explain changes using scientific knowledge and understanding</li> </ul> <p>Research:</p> <ul style="list-style-type: none"> <li>- decide when research using secondary sources will help answer questions</li> <li>- recognise how data has been obtained</li> <li>- start to notice when information and data is biased or based on opinions rather than fact</li> <li>- recognise that some scientific questions may not have been answered definitively</li> </ul> <p>Identifying and classifying:</p> <ul style="list-style-type: none"> <li>- use secondary sources to identify and classify things</li> </ul>	<p><b>Evolution and inheritance</b></p> <p>To know that living things have changed over time</p> <p>To know that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>To know that living things produce offspring of the same kind but normally offspring vary and are not identical to their parents</p> <p>To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p>





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		<p>- use more than one piece of scientific evidence to identify and classify things</p> <p><b>Animals including humans</b></p> <p>Research:</p> <ul style="list-style-type: none"> <li>- decide when research using secondary sources will help answer questions</li> <li>- recognise how data has been obtained</li> <li>- present my finding in suitable formats</li> <li>- draw valid conclusions from my research</li> <li>- evaluate how well my research has answered my questions</li> </ul>	<p><b>Animals including humans</b></p> <p>To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>To describe the ways in which nutrients and water are transported within animals, including humans</p>
		<p><b>Vocabulary:</b></p> <p>offspring, reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils, evolution, evolved</p> <p>heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs and lifestyle</p>	

