



## Science

| School Drivers  |  |   |
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| <b>Independent Learners</b><br>Resilient<br>Able to solve problems<br>Creative and curious<br>Critical thinkers | <b>21<sup>st</sup> Century Citizens</b><br>British values<br>Sense of community- Rights and Responsibilities<br>Understanding of the wider world | <b>Healthy Living</b><br>Healthy Eating<br>Healthy mind<br>Outdoor learning |

|   | Autumn 1  | Autumn 2  | Spring 1   | Spring 2  | Summer 1   | Summer 2   |
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| <b>Reception</b><br>Understand some important processes and changes in the natural world around them, including the seasons - Through Forest School Sessions and Outdoor Play Seasons observed across the year. | <b>Core learning:</b><br>Explore, observe and comment on changes in Autumn.<br>Explore, observe and comment on the natural environment local to our school.<br>Be able to name key body parts.<br><br><b>Vocabulary:</b> Autumn, change, fall, tree, leaf, fruit, vegetable, weather, rain, cold. <b>Key body parts:</b> head, body, legs, arms, neck, hands, feet. | <b>Core learning:</b><br>Observe seasonal change in Winter.<br><br>Be able to name animals native to Forest environments in the UK<br><br>Observe and comment on changes in state looking at freezing and melting in the natural world.<br><br><b>Vocabulary:</b> Freeze, melt, change, bake, hard, soft, slimy, smooth, Winter, ice, frost, snow Wood, fox, hedgehog, squirrel, badger, hibernator | <b>Core learning:</b><br>Understand that the Arctic is a cold place on Earth and is made from ice.<br><br>Understand that Africa is a warmer place.<br><br>Be able to name animals associated with each environment.<br><br><b>Vocabulary:</b> Africa, Kenya, Village, travel, fruit names, Jungle, Animal names: Elephant, lion, giraffe, Arctic, Ice, Polar bear | <b>Core learning:</b><br>Plant seeds and observe them as they grow.<br><br>Understand that farms have animals but also produce food.<br><br>Name some farm animals and their young.<br><br>Notice and observe new life and seasonal changes in Spring.<br><br><b>Vocabulary:</b> Foal, Horse, Kid, Goat, piglet, Pig, Lamb, Sheep, Chick, Chicken, Hen, Egg, incubate, hatch, calf, cow Barn, Coop, Sty, Grow, plant, root, , leaves, flower, fruit, soil, bean, stalk, weeds, Spring | <b>Core learning:</b><br>Name some common mini beasts found in the garden and forest environment.<br><br>Observe and name stages of the butterfly life cycle.<br><br>To observe seasonal changes in Spring.<br><br><b>Vocabulary:</b> snail, slug, beetle, worm, caterpillar, ladybird, butterfly, egg, cocoon, butterfly. | <b>Core learning:</b><br>Identify common animals associated with the beach and sea.<br><br>Explore floating and Sinking<br><br>Explore properties of magnets<br><br><b>Vocabulary:</b> Seaside, beach, rockpool, sea creatures: crab, fish, dolphin, Sun, hot, Summer. Magnet, Attracted. Float, sink. |

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| <p><b>Year 1</b></p> | <p><b>Everyday Materials</b><br/> Investigation: What materials are waterproof?<br/> <b>Core learning:</b><br/> Distinguish between an object and the material from which it is made<br/> Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock<br/> Describe the simple physical properties of a variety of everyday materials<br/> Compare and group together a variety of everyday materials on the basis of their simple physical properties.<br/> I can classify objects made of one material in different ways e.g. a group of object made of metal.<br/> I can classify in different ways one type of object made from a range of materials e.g. a collection of spoons made of different materials<br/> I can classify materials based on their properties (See vocab)<br/> I can test the properties of objects<br/> <b>Vocabulary:</b><br/> Object, material, <b>wood, plastic, glass, metal, water</b>, 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><b>Animals including humans</b><br/> Investigation: What makes a difference to how well you can hear a whistle when it is blown?<br/> <b>Core learning:</b><br/> Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.<br/> I can label parts of the body on pictures and diagrams<br/> I can explore objects using different senses<br/> <b>Vocabulary:</b><br/> elbows, ankles, knees</p> <p>head, body, eyes, ears, mouth, teeth, leg, parts of the body including those within the RSE policy, senses, touch, see, smell, taste, hear, fingers, skin, eyes, nose, ear, tongue</p> | <p><b>Plants</b><br/> Investigation: What is the best material to grow cress on?<br/> <b>Core learning:</b><br/> identify and name a variety of common wild and garden plants, including deciduous and evergreen trees<br/> I can name trees and other plants that they see regularly<br/> I 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 ·<br/> · identify and describe the basic structure of a variety of common flowering plants, including trees.<br/> I can point out trees which lost their leaves and those that kept them the whole year<br/> I 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<br/> <b>Vocabulary:</b><br/> Deciduous, Evergreen,<br/> Names of garden and wild flowering plants in the local area: Daisy, Buttercup, Dandelion, Daffodil<br/> Names of trees in the local area: Sycamore, Rowan, pine<br/> Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud</p> | <p><b>Animals including Humans</b><br/> Investigation: Which birds visit our garden?<br/> <b>Core learning:</b><br/> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals<br/> Identify and name a variety of common animals that are carnivores, herbivores and omnivores<br/> Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)<br/> I can name a range of animals which includes animals from each of the vertebrate groups<br/> I can describe the key features of these named animals<br/> I can label key features on a picture/diagram<br/> I can sort and group animals using similarities and differences<br/> I can use simple charts etc. to identify unknown animals<br/> <b>Vocabulary:</b><br/> tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves,<br/> <b>Fish:</b> Goldfish<br/> <b>Reptiles:</b> Snake, Lizard<br/> <b>Mammals:</b> Dog, Cat<br/> <b>Birds:</b> Robin, Parrot<br/> <b>Amphibians:</b> Frog<br/> <b>Herbivore, Omnivore, Carnivore,</b></p> |
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|                      | <p><b>Seasonal Changes</b> (Visited across year)<br/> Investigation: In which season do we have the most hours of sun? (Some readings will have been taken across the year to complete this)<br/> <b>Core learning:</b><br/> Observe changes across the four seasons<br/> Observe and describe weather associated with the seasons and how day length varies<br/> I can collect information about the weather regularly throughout the year. I can present this information in tables and charts to compare the weather across the seasons. I can name the 4 seasons. I can gather data about day length regularly throughout the year and present this to compare the seasons.<br/> <b>Vocabulary:</b> weather, sunny, rainy, raining, shower, windy, snowy, cloudy, hot, warm, cold, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, rainbow, seasons, winter, summer, spring, autumn, Sun, sunrise, sunset, day length</p> |   |  |  |   |
| <p><b>Year 2</b></p> | <p><b>Animals including Humans</b><br/> Investigation: How clean are your hands?<br/> <b>Core learning:</b><br/> Notice that animals, including humans, have offspring which grow into adults<br/> Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)<br/> Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.<br/> I can ask questions and use secondary sources to find out about the life cycles of some animals.<br/> Using secondary sources - I can observe animals growing over a period of time e.g. chicks, caterpillars, a baby.<br/> I can ask questions of a parent about how they look after their baby or ask pet owners questions about how they look after their pet.<br/> I can explore the effect of exercise on my body.</p>  | <p><b>Uses of Everyday Materials</b><br/> Investigation: Which material would be most suitable to build a house for the three little pigs?<br/> <b>Core learning:</b><br/> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.<br/> <br/> I can sort objects and materials using a range of properties<br/> I can choose an appropriate method for testing an object for a particular property<br/> I can use their test evidence to answer the questions about properties<br/> <b>Vocabulary:</b><br/> Names of materials - wood, metal, plastic, glass, brick, rock, paper, cardboard<br/> Properties of materials - as for Year 1 plus opaque, transparent and translucent, reflective, non-reflective, flexible, rigid Shape, push/pushing, pull/pulling,</p> | <p><b>Uses of Everyday Materials</b><br/> Investigation: Which material stretches the furthest?<br/> Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.<br/> <br/> I can sort objects and materials using a range of properties<br/> I can choose an appropriate method for testing an object for a particular property<br/> I can use their test evidence to answer the questions about properties.<br/> <b>Vocabulary:</b><br/> Names of materials - wood, metal, plastic, glass, brick, rock, paper, cardboard<br/> Properties of materials - as for Year 1 plus opaque, transparent and translucent, reflective, non-reflective, flexible,</p> | <p><b>Plants</b><br/> What does a plant need to be healthy?<br/> Investigate light, water and temperature.<br/> <b>Core learning:</b><br/> Observe and describe how seeds and bulbs grow into mature plants<br/> Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.<br/> <br/> I can make close observations of seeds and bulbs.<br/> <br/> I can classify seeds and bulbs.<br/> <br/> I can research and plan when and how to plant a range of seeds and bulbs.<br/> <br/> I can look after the plants as they grow<br/> <br/> I can make close observations and measurements of their</p> | <p><b>Living things and their habitats</b><br/> Investigation: Which environment is the best for minibeasts?<br/> <b>Core learning:</b><br/> Explore and compare the differences between things that are living, dead, and things that have never been alive<br/> 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.<br/> Identify and name a variety of plants and animals in their habitats, including micro-habitats<br/> 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.<br/> I can find a range of items outside that are living, dead and never lived<br/> I can name a range of animals and plants that live in a habitat and micro-habitats that they have studied<br/> I can talk about how the features of these animals and plants make them suitable to the habitat<br/> I can talk about what the animals eat in a habitat and how the plants provide shelter for them<br/> I can construct a food chain that starts with a plant and has the arrows pointing in the correct direction<br/> <b>Vocabulary:</b><br/> living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, water, air, survive, survival, names of local habitats (e.g. pond, woodland etc.), names of micro-habitats (e.g. under logs, in bushes etc.), conditions, light, dark, shady, sunny, wet, damp, dry, hot, cold, names of living things in the</p> |

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|               | <p>I can classify food in a range of ways, including using the Eatwell Guide. (DT link)</p> <p>I can investigate washing hands, using glitter gel.</p> <p>Vocabulary:<br/> offspring, reproduction, growth, <b>baby, toddler, child, teenager, adult, old person</b>, names of animals and their babies (e.g. chick/hen, kitten/cat, caterpillar/butterfly), survive, survival, <b>water food, air, exercise</b>, heartbeat, breathing, hygiene, germs, disease, food types (e.g. meat, fish, vegetables, bread, rice, pasta, dairy)</p> | twist/twisting, squash/squashing, bend/bending, stretch/stretching  | rigid Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching   | plants growing from seeds and bulbs.<br><br>I can make comparisons between plants as they grow.<br><br>Vocabulary:<br>light, shade, Sun, warm, cool, water, space, grow, healthy, bulb, germinate, shoot, seedling  | habitats and microhabitats studied ( <b>slugs, snails, worms, centipede, millipede, ant, fly</b> )   |  |
| <b>Year 3</b> | <b>Rocks</b><br>Investigation: Which rock is the hardest?<br>Which soil is the best soaker/drainer?<br>Core Learning:<br>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties<br>describe in simple terms how fossils are formed when things that have lived are trapped within rock  | <b>Forces and Magnets</b><br>Investigation:<br>Which materials are magnetic?<br>How strong is a magnet?<br>Core Learning:<br>compare how things move on different surfaces<br>Notice that some forces need contact between two objects, but magnetic forces can act at a distance<br>Observe how magnets attract or repel each other and attract some materials and not others<br>Compare and group together a variety of everyday materials on the basis of whether they are | <b>Animals Including Humans</b><br>Investigation:<br>Investigation: How much sugar is in the drinks I like?<br><br>Core Learning:<br>Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat | <b>Plants (Continued into Summer 1)</b><br>Investigation:<br>Do plants grow better with fertiliser?<br>Investigation: Which type of soil is best to grow tomatoes? (Clay, sandy, peaty)<br>Core Learning:<br>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers<br>Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, | <b>Plants</b><br>Investigation:<br>Do plants grow better with fertiliser?<br>Investigation: Which type of soil is best to grow tomatoes? (Clay, sandy, peaty)<br>Core Learning:<br>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers<br>Explore the requirements of plants for life and growth (air, light, water, nutrients | <b>Light</b><br>Investigation: What affects the size and shape of a shadow?<br>Core Learning:<br>recognise that they need light in order to see things and that dark is the absence of light<br>Notice that light is reflected from surfaces<br>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes |

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| <p>recognise that soils are made from rocks and organic matter.<br/>I can classify rocks in a range of ways, based on their appearance.<br/>I can devise a test to investigate how much water different rocks absorb.<br/>I can research using secondary sources how fossils are formed.<br/>I can observe soils closely.<br/>I classify soils in a range of ways based on their appearance.<br/>I can research the work of Mary Anning.<br/><b>Vocabulary:</b><br/>Rock, Fossil, Organism, Properties, Formation, Soil, Sandstone, Granite, Marble, Pumice, Crystals, Absorbent</p> | <p>attracted to a magnet, and identify some magnetic materials<br/>Describe magnets as having two poles<br/>Predict whether two magnets will attract or repel each other, depending on which poles are facing.<br/>I can carry out investigations to explore how objects move on different surfaces<br/>I can explore and classify what materials are attracted to a magnet.<br/>I can explore the way that magnets behave in relation to each other.<br/>I can explore how magnets work at a distance e.g. through the table, in water, jumping paper clips up off the table.<br/>I can devise an investigation to test the strength of magnets.<br/><b>Vocabulary:</b><br/>Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole.</p> | <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.<br/>I can use food labels to explore the nutritional content of a range of food items..<br/>I can use food labels to answer enquiry questions e.g. How much fat do different types of pizza contain? How much sugar is in soft drinks?<br/>I can plan a daily diet to contain a good balance of nutrients.<br/>I can use secondary sources to research the parts and functions of the skeleton.<br/>I can compare, contrast and classify skeletons of different animals.<br/><br/><b>Vocabulary:</b><br/>Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine</p> | <p>and room to grow) and how they vary from plant to plant<br/>Investigate the way in which water is transported within plants<br/>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.<br/>I can observe the effect of putting cut white carnations or celery in coloured water.<br/>I can investigate what happens to plants when they are put in different conditions e.g. in the cold, deprived of air, different types of soil, different fertilisers, varying amount of space.<br/>I can observe flowers carefully to identify the pollen.<br/>I can research different types of seed dispersal and classify the seeds.<br/><b>Vocabulary:</b><br/>pollen, insect/wind pollination, male, female, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal), air, nutrients, minerals, soil, absorb, transport</p> | <p>from soil, and room to grow) and how they vary from plant to plant<br/>Investigate the way in which water is transported within plants<br/>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.<br/>I can observe the effect of putting cut white carnations or celery in coloured water.<br/>I can investigate what happens to plants when they are put in different conditions e.g. in the cold, deprived of air, different types of soil, different fertilisers, varying amount of space.<br/>I can observe flowers carefully to identify the pollen.<br/>I can research different types of seed dispersal and classify the seeds.<br/><br/><b>Vocabulary:</b><br/>pollen, insect/wind pollination, male, female, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal), air, nutrients, minerals, soil, absorb, transport</p> | <p>Recognise that shadows are formed when the light from a light source is blocked by a solid object<br/>Find patterns in the way that the size of shadows change;<br/>I can clearly explain, giving examples, that objects are not visible in complete darkness<br/>I can describe and demonstrate how shadows are formed by blocking light<br/>I can describe, demonstrate and make predictions about patterns in how shadows vary<br/><b>Vocabulary:</b><br/>Light, Dark, Reflection, Shadow, Opaque, Light source, Refraction, Spectrum, Rainbow, Colour, Absence of light</p> |  |
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| Year 4 | Electricity  | Sound  | Animals including Humans   | Living things and Habitats   | States of Matter   |
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|        | <p>Investigation: Which materials make the best conductors and insulators?</p> <p>Core learning:</p> <p>identify common appliances that run on electricity</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>Identify whether or not 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>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>Recognise some common conductors and insulators, and associate metals with being good conductors.</p> <p>I can name the components in a circuit</p> <p>I can make electric circuits</p> | <p>Investigation: How far away can I hear a noise?</p> <p>Investigation: Which material is best to soundproof a room?</p> <p>Core learning:</p> <p>identify how sounds are made, associating some of them with something vibrating</p> <p>Recognise that vibrations from sounds travel through a medium to the ear</p> <p>Find patterns between the pitch of a sound and features of the object that produced it</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p> <p>I can name sound sources and state that sounds are produced by the vibration of the object</p> <p>I can state that sounds travel through different mediums such as air, water, metal</p> <p>I can give examples to demonstrate how the pitch of a sound are linked to the features of the object that produced it</p> <p>I can give examples of how to change the volume of a sound e.g. increase the size of vibrations by hitting or blowing harder</p> <p>I can give examples to demonstrate that sounds get</p> | <p>Investigation:</p> <p>How do different drinks affect your teeth? (Eggs)</p> <p>Describe the simple functions of the basic parts of the digestive system in humans</p> <p>Identify the different types of teeth in humans and their simple functions</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p> <p>I can sequence the main parts of the digestive system</p> <p>I can draw the main parts of the digestive system onto a human outline</p> <p>I can describe what happens in each part of the digestive system</p> <p>I can point to the three different types of teeth in their mouth and talk about their shape and what they are used for</p> <p>I can name producers, predators and prey within a habitat</p> | <p>Investigation:</p> <p>Pond Dipping Survey/Wildlife Survey</p> <p>Identify, classify, and tally what we find.</p> <p>Core learning:</p> <p>recognise that living things can be grouped in a variety of ways</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things</p> <p>I can observe plants and animals in different habitats throughout the year.</p> <p>I can compare and contrast the living things observed.</p> <p>I can use classification keys to name unknown living things.</p> <p>I can classify living things found in different habitats based on their features.</p> <p>I can create a simple identification key based on observable features.</p> <p>I can use secondary sources to find out about human impact, both positive and negative, on environments.</p> <p>Vocabulary:</p> | <p>Investigation: At what temperature does chocolate melt? How does this compare to other substances?</p> <p>Core Learning:</p> <p>Compare and group materials together, according to whether they are solids, liquids or gases</p> <p>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 (°C)</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p>I can name properties of solids, liquids and gases</p> <p>I can give everyday examples of melting and freezing</p> <p>I can give everyday examples of evaporation and condensation</p> <p>I can describe the water cycle</p> <p>Vocabulary: Solid, liquid, gas, heating, cooling, Celsius, evaporate, condensation, temperature.</p> |

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|                      | <p>I can control a circuit using a switch</p> <p>I can name some metals that are conductors</p> <p>I can name materials that are insulators</p> <p>Vocabulary:</p> <p>Electricity, Conductor, Insulator, Battery, Wire, Bulb, Switch, Symbol, Diagram, Circuit, Connection, Amps, Volts, Cell</p>   | <p>fainter as the distance from the sound source increases</p> <p>Vocabulary:</p> <p>Sound waves, Vibration, Ear, Faint, Loud, Source, Hearing, Volume, Wave, Pitch, Tone, Speaker</p>  | <p>I can construct food chains</p> <p>Vocabulary:</p> <p>Mouth, Tongue, Teeth, Oesophagus, Stomach, Small Intestine, Large Intestine, Herbivore, Carnivore, Canine, Incisor, Molar</p>  | <p>classification key group, Identify, environmental change dangers, endangered, extinct, Vertebrates, Fish, Amphibians, Reptiles, Birds, Mammals, Invertebrates, Snails, Slugs, Worms, Spiders, Insects, Environment, Habitats</p>   |  |
| <p><b>Year 5</b></p> | <p><b>Forces</b></p> <p>Investigation: Which parachute is most effective? - egg drop</p> <p>Investigation: Which lever is most effective?</p> <p>Investigating, lever length, fulcrum position and load.</p> <p>Investigation: How does ground friction affect movement?</p> <p>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</p> | <p><b>Earth and Space</b></p> <p>Investigation: Can you see the moon during the day?</p> <p>Core learning: describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>Describe the movement of the Moon relative to the Earth</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p> <p>I can show, using diagrams, the movement of the Earth and Moon</p> <p>I can explain the movement of the Earth and Moon</p> <p>I can show using diagrams the rotation of the Earth and how this causes day and night</p> <p>I can explain what causes day and night</p> <p>Vocabulary:</p> | <p><b>Properties and changes of materials: Spring Term</b></p> <p>Investigations: Which liquid has the highest density?</p> <p>Which metal is the strongest?</p> <p>Does it dissolve if I mix it with water?</p> <p>How will this material change when it is heated?</p> <p>Which materials conduct heat?</p> <p>Investigation: Which metals are magnetic?</p> <p>Investigation: What is the best way to purify water?</p> <p>Core learning: Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.</p> <p>Understand that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes</p> | <p><b>Living Things and Their Habitats</b></p> <p>Investigate plant reproduction such as flowers, seeds heads, berries and fruits. Record the numbers and types of pollinators they observe at different times of the year.</p> <p>Investigation: Use secondary sources to investigate the life span, gestation length and number of offspring of different animals. Make predications on these aspects for other animals.</p> <p>• describe the differences in the life cycles of a mammal, an</p> | <p><b>Animals including humans</b></p> <p><b>Investigation: How do we change as we grow?</b></p> <p>Core learning: To describe the changes as humans develop to old age. (Taught in consideration of PSHCE)</p> <p>I can explain the changes that takes place in boys and girls during puberty</p> <p>I can explain how a baby changes physically as it grows, and also what it is able to do</p> <p>Vocabulary: Foetus, Embryo, Womb, Gestation, Baby, Toddler, Teenager, Elderly, Growth, Development, Puberty</p> |

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|               | <p>and friction, that act between moving surfaces</p> <p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p> <p>I can demonstrate the effect of gravity acting on an unsupported object<br/>I can give examples of friction, water resistance and air resistance<br/>I can give examples of when it is beneficial to have high or low friction, water resistance and air resistance<br/>I can demonstrate how pulleys, levers and gears work</p> <p>Vocabulary:<br/>Lever, pulley, gears, effect, fulcrum, friction, gravity, forces, resistance</p> | <p>Space, Planets, Sun, Moon, Earth, Axis, Rotation, Day, Night, Phases of the Moon, star, constellation, Satellite</p>  | <p>I can use understanding of properties to explain everyday uses of materials, for example, how bricks, wood, glass and metals are used in buildings<br/>I can explain what dissolving means, giving examples<br/>I can name equipment used for filtering and sieving<br/>I can use knowledge of liquids, gases and solids to suggest how materials can be recovered from solutions or mixtures by evaporation, filtering or sieving<br/>I can describe some simple reversible and non-reversible changes to materials, giving examples</p> <p>Vocabulary:<br/>material properties, hardness, solubility, transparency (Transparent) conductivity (electrical and thermal), magnets. Solid, Liquids, Gasses Dissolve, Recover, Substance, Sieve, Filter, Evaporate</p> | <p>amphibian, an insect and a bird</p> <p>• describe the life process of reproduction in some plants and animals</p> <p>Vocabulary:<br/>Mammal, amphibian, insect, bird, reproduction, sexual, asexual, foetus, egg, live birth, metamorphosis, stigma, ovary, pollen.</p>  |  |
| <p>Year 6</p> | <p><b>Living Things and Habitats</b><br/>Investigate: What plants and trees grow in our school. How can we classify them?</p> <p>• describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-</p>   | <p><b>Evolution and inheritance</b><br/>Investigate: How has a birds beak adapted for its food type?</p> <p>Core learning:<br/>recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> | <p><b>Electricity</b><br/>Investigation: How can we change the brightness of a bulb without a dimmer?</p> <p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit<br/>Compare and give</p>   | <p><b>Animals including Humans</b><br/>Investigation: Pulse. How quickly can your pulse recover?<br/>Investigation: Will my heart rate change between rest, standing and exercise?</p> <p>Core learning:<br/>identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> | <p><b>Light</b><br/>Investigation: What makes the best light blocker/reflector?</p> <p>Core learning:<br/>recognise that light appears to travel in straight lines, · 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<br/>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> |



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| <p>organisms, plants and animals</p> <ul style="list-style-type: none"> <li>• give reasons for classifying plants and animals based on specific characteristics.</li> </ul> <p>I can give examples of animals in the five vertebrate groups and some of the invertebrate groups<br/> I can give the key characteristics of the five vertebrate groups and some invertebrate groups<br/> I can compare the characteristics of animals in different groups<br/> I can give examples of flowering and non-flowering plants</p> <p>Vocabulary:<br/> <b>Fossils, Offspring, Adaptation, Evolution, Characteristics, Reproduction, Genetics, Inheritance, mutation</b></p> | <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents<br/> Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p> <p>I can explain the process of evolution<br/> I can give examples of how plants and animals are suited to an environment<br/> I can give examples of how an animal or plant has evolved over time e.g. penguin, peppered moth<br/> I can give examples of living things that lived millions of years ago and the fossil evidence we have to support this<br/> I can give examples of fossil evidence that can be used to support the theory of evolution</p> <p>Vocabulary:<br/> <b>Fossils, Offspring, Adaptation, Evolution, Characteristics, Reproduction, Genetics, Inheritance, mutation</b></p> | <p>reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches<br/> Use recognised symbols when representing a simple circuit in a diagram.</p> <p>I can make electric circuits and demonstrate how variation in the working of particular components, such as the brightness of bulbs, can be changed by increasing or decreasing the number of cells or using cells of different voltages<br/> I can draw circuit diagrams of a range of simple series circuits using recognised symbols</p> <p>Vocabulary:<br/> <b>Electricity, Conductor, Insulator, Battery, Wire, Bulb, Switch, Symbol, Diagram, Circuit, Connection, Amps, Volts, Cell</b></p> | <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function<br/> Describe the ways in which nutrients and water are transported within animals, including humans.</p> <p>I can draw a diagram of the circulatory system and label the parts and annotate it to show what the parts do<br/> I can produce an explanation text which explains how the heart functions.</p> <p>Vocabulary:<br/> <b>circulatory system. Nutrients, Transport. Circulatory, Heart, Blood Vessels, Veins, Arteries, Oxygenated, Deoxygenated, Valve, Exercise, Respiration</b></p> | <p>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>I can describe, with diagrams or models as appropriate, how light travels in straight lines either from sources or reflected from other objects into our eyes<br/> I can describe, with diagrams or models as appropriate, how light travels in straight lines past translucent or opaque objects to form a shadow of the same shape</p> <p>Vocabulary:<br/> <b>Light, Dark, Light, Reflection, Shadow, Opaque, Light source, Refraction, Spectrum, Rainbow, Colour, Absence of light</b></p> |
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|                        | Curriculum End Points (NC)   | Curriculum End Points (Working Scientifically)   |
|------------------------|--|--|
| EYFS End Points        | Has had experiences which increase their knowledge and sense of the world around them - from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains.  | To be able to: <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>  |
| Key Stage 1 End Points | <ul style="list-style-type: none"> <li>Has experienced and observed phenomena, having looked more closely at the natural and humanly constructed world around them.</li> <li>Shows curiosity, asking questions about what they have noticed.</li> <li>Has developed understanding of scientific ideas through the use of different types of scientific enquiry to answer own questions, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative tests and finding things out using secondary sources of information. Is beginning to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways</li> </ul>  | To be able to: <p>ask simple questions and recognise that they can be answered in different ways</p> <ul style="list-style-type: none"> <li>observe closely, using simple equipment</li> <li>perform simple tests</li> <li>identifying and classifying</li> <li>use their observations and ideas to suggest answers to questions</li> <li>gathering and recording data to help in answering questions</li> </ul>   |
| Key Stage 2 End Points | <ul style="list-style-type: none"> <li>Has developed a deeper understanding of a wide range of scientific ideas through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically.</li> <li>Has encountered more abstract ideas and is beginning to recognise how these help them to understand and predict how the world operates.</li> <li>Is beginning to recognise that scientific ideas change over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative fair tests and finding things out using a wide range of secondary sources of information.</li> <li>Is able to draw conclusions based on their data and observations, using evidence to justify their ideas and their scientific knowledge and understanding to explain their findings.</li> </ul> | To be able to: <ul style="list-style-type: none"> <li>plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> <li>take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</li> <li>using test results to make predictions to set up further comparative and fair tests</li> <li>report and present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</li> <li>identify scientific evidence that has been used to support or refute ideas or arguments</li> </ul> |

