

## Science Curriculum

This document should be used for medium and short term planning using White Rose Science.

	Autumn	Spring	Summer
Early Years	<b>Understanding the World:</b> ELG: The Natural World Children at the expected level of development will: - Explore the natural world around them, making observations and drawing pictures of animals and plants; 15 - 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; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.		
	<b>Autumn term</b>	<b>Spring term</b>	<b>Summer term</b>
Year 1	<b>Term 1</b> <b>Understand animals and humans/ The Human Body</b> This concept involves becoming familiar with different types of animals, humans and the life processes they share. <ul style="list-style-type: none"> <li>Identify name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> <li>Notice that animals, including humans, have offspring which grow into adults.</li> <li>Investigate and describe the basic needs of animals, including humans, for survival (water, food and air).</li> <li>Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.</li> </ul> Exercise investigation Using non-fiction books to compare animals Drawing around the human body and labeling.  Key vocabulary	<b>Term 3</b> <b>Understand animals and humans/ Animals</b> This concept involves becoming familiar with different types of animals, humans and the life processes they share. <ul style="list-style-type: none"> <li>Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates.</li> <li>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</li> <li>Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets).</li> <li>Notice that animals, including humans, have offspring which grow into adults.</li> <li>Investigate and describe the basic needs of animals, including humans, for survival (water, food and air).</li> <li>Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.</li> </ul> Key vocabulary	<b>Term 5</b> <b>Understand plants</b> This concept involves becoming familiar with different types of plants, their structure and reproduction. <ul style="list-style-type: none"> <li>Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen.</li> <li>Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.</li> <li>Observe and describe how seeds and bulbs grow into mature plants.</li> <li>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul> Growing a bean plant Comparing bulbs and seeds with magnifying glasses and observation drawings. Tasting fruit and vegetables and looking at their seeds.  <b>Key vocabulary</b> Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud

	<p>Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves</p> <p>Senses, touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue</p>	<p>Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves</p> <p>Senses, touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue</p>	<p>Names of trees in the local area</p> <p>Names of garden and wild flowering plants in the local area</p>
	<p><b>Understand the Earth's movement in space</b></p> <p>This concept involves understanding what causes seasonal changes, day and night.,</p> <ul style="list-style-type: none"> <li>• Observe the apparent movement of the Sun during the day.</li> <li>• Observe changes across the four seasons.</li> <li>• Observe and describe weather associated with the seasons and how day length varies.</li> </ul> <p>Creating shadows Space themed book art Create a day and night wheel including nocturnal animals.</p> <p><b>Key vocabulary</b> Weather (sunny, rainy, windy, snowy etc.), seasons (Winter, Summer, Spring, Autumn), sun, sunrise, sunset, day length</p>	<p><b>Planting A- Prep work</b></p>	<p><b>Planting C</b></p>

	<p><b>Term 2</b>  <b>Investigate materials</b>          This concept involves becoming familiar with a range of materials, their properties, uses and how they may be altered or changed.</p> <ul style="list-style-type: none"> <li>• Distinguish between an object and the material from which it is made.</li> <li>• Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</li> <li>• Describe the simple physical properties of a variety of everyday materials.</li> <li>• Compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> <li>• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> <li>• Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses.</li> </ul> <p>Feely bag of different materials.          Which materials are waterproof investigation.          Umbrella investigation</p> <p><b>Key vocabulary</b>          Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see through, not see through</p>	<p><b>Term 4</b>  <b>Understand the Earth's movement in space/ Seasonal Changes</b>          This concept involves understanding what causes seasonal changes, day and night.</p> <ul style="list-style-type: none"> <li>• Observe the apparent movement of the Sun during the day.</li> <li>• Observe changes across the four seasons.</li> <li>• Observe and describe weather associated with the seasons and how day length varies.</li> </ul> <p><b>Create a senses wheel</b>  <b>Record data and inset life in summer</b>  <b>Create rain catchers</b>  <b>Key Vocabulary</b>          Season, Weather, Winter, Spring, Summer, Autumn, Dark, Hot, Bright, Cold, Chilly, Warm, Snow/y, Rain/y, Fogg/y, Hailing, Change, Evergreen, Deciduous, Buds, Leaves, Blossom, Measure, Rainfall, Hibernation, North, South, East, West, Temperature, Liquid, Gauge</p>	<p><b>Term 6</b>  <b>Understand the Earth's movement in space/ Seasonal Changes</b>          This concept involves understanding what causes seasonal changes, day and night.</p> <ul style="list-style-type: none"> <li>• Observe the apparent movement of the Sun during the day.</li> <li>• Observe changes across the four seasons.</li> <li>• Observe and describe weather associated with the seasons and how day length varies.</li> </ul> <p><b>Create a senses wheel</b>  <b>Record data and inset life in summer</b>  <b>Create rain catchers</b>  <b>Key Vocabulary</b>          Season, Weather, Winter, Spring, Summer, Autumn, Dark, Hot, Bright, Cold, Chilly, Warm, Snow/y, Rain/y, Fogg/y, Hailing, Change, Evergreen, Deciduous, Buds, Leaves, Blossom, Measure, Rainfall, Hibernation, North, South, East, West, Temperature, Liquid, Gauge</p>
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	<p><b>Understand the Earth's movement in space</b> This concept involves understanding what causes seasonal changes, day and night.,</p> <ul style="list-style-type: none"> <li>• Observe the apparent movement of the Sun during the day.</li> <li>• Observe changes across the four seasons.</li> <li>• Observe and describe weather associated with the seasons and how day length varies.</li> </ul> <p>Creating shadows Space themed book art Create a day and night wheel including nocturnal animals.</p> <p><b>Key vocabulary</b> Weather (sunny, rainy, windy, snowy etc.), seasons (Winter, Summer, Spring, Autumn), sun, sunrise, sunset, day length</p>	<p><b>Sustainability Unit- Where does my food come from?</b></p> <p><b>Planting B</b></p>	<p><b>Sustainability unit- Growing and Cooking</b></p>
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	<b>Autumn term</b>	<b>Spring term</b>	<b>Summer term</b>
Year 2	<b>Term 1</b> <b>Understand animals and humans</b> This concept involves becoming familiar with different types of animals, humans and the life processes they share. <ul style="list-style-type: none"> <li>Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates.</li> <li>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</li> <li>Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets).</li> <li>Identify name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> <li>Notice that animals, including humans, have offspring which grow into adults.</li> <li>Investigate and describe the basic needs of animals, including humans, for survival (water, food and air).</li> <li>Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.</li> </ul> <a href="#">Human and animals lifecycle wheel</a> <a href="#">Poster of healthy of "what makes me healthy"</a> <a href="#">Draw around bodies and label body parts</a> Key vocabulary  Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves Senses, touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue	<b>Term 3 &amp; 4</b> <b>Understand plants- Light and dark</b> This concept involves becoming familiar with different types of plants, their structure and reproduction. <ul style="list-style-type: none"> <li>Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen.</li> <li>Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.</li> <li>Observe and describe how seeds and bulbs grow into mature plants.</li> <li>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul> <a href="#">Growing a plant</a> <a href="#">Planting bulbs</a> <a href="#">Create a tree classification</a>  <b>Key vocabulary</b> Leaf, flower, blossom, petal, fruit, berry, root, seed, 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>Term 5</b> <b>Understand plants- bulbs and seeds</b> This concept involves becoming familiar with different types of plants, their structure and reproduction. <ul style="list-style-type: none"> <li>Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen.</li> <li>Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.</li> <li>Observe and describe how seeds and bulbs grow into mature plants.</li> <li>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul> <a href="#">Growing a plant</a> <a href="#">Planting bulbs</a> <a href="#">Create a tree classification</a>  <b>Key vocabulary</b> Leaf, flower, blossom, petal, fruit, berry, root, seed, 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>Term 2</b>		<b>Term 6</b>

	<p><b>Investigate materials</b> This concept involves becoming familiar with a range of materials, their properties, uses and how they may be altered or changed.</p> <ul style="list-style-type: none"> <li>• Distinguish between an object and the material from which it is made.</li> <li>• Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</li> <li>• Describe the simple physical properties of a variety of everyday materials.</li> <li>• Compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> <li>• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> <li>• Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses.</li> </ul> <p>Feely bag of materials Investigate materials around the school and why they are used. Changing shapes- play doh Junk models for recycling- Stomp.</p> <p><b>Key vocabulary</b> Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see through, not see through</p>	<p><b>Term 4</b> <b>Investigate living things- Living Things and their habitats</b> This concept involves becoming familiar with a wider range of living things, including insects and understanding life processes.</p> <ul style="list-style-type: none"> <li>• Explore and compare the differences between things that are living, that are dead and that have never been alive.</li> <li>• 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.</li> <li>• Identify and name a variety of plants and animals in their habitats, including micro-habitats.</li> <li>• 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.</li> </ul> <p>Investigate habitats around the school Model food chains Top trump animals</p> <p><b>Key vocabulary:</b> Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, names of local habitats e.g. pond, woodland etc., names of micro-habitats e.g. under logs, in bushes etc.</p>	<p><b>Understand animals and humans- Lifecycles</b> This concept involves becoming familiar with different types of animals, humans and the life processes they share.</p> <ul style="list-style-type: none"> <li>• Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates.</li> <li>• Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</li> <li>• Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets).</li> <li>• Identify name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> <li>• Notice that animals, including humans, have offspring which grow into adults.</li> <li>• Investigate and describe the basic needs of animals, including humans, for survival (water, food and air).</li> <li>• Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.</li> </ul> <p>Human and animals lifecycle wheel Poster of healthy of "what makes me healthy" Draw around bodies and label body parts</p> <p><b>Sustainability unit- Wildlife</b></p>
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	<b>Autumn term</b>	<b>Spring term</b>	<b>Summer term</b>
Year 3	<b>Term 1</b> <b>Understand animals and humans</b> This concept involves becoming familiar with different types of animals, humans and the life processes they share. <ul style="list-style-type: none"> <li>Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat.</li> <li>Identify that humans and some animals have skeletons and muscles for support, protection and movement.</li> </ul> <p>Life size skeleton and their labels/ play doh skeletons.            Healthy eating leaflet            Investigating labels on food</p> <p><b>Key vocabulary:</b>            Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints</p>	<b>Term 3</b> <b>Investigate materials</b> This concept involves becoming familiar with a range of materials, their properties, uses and how they may be altered or changed. <p><b>Fossils and Soils</b></p> <ul style="list-style-type: none"> <li>Compare and group together different kinds of rocks on the basis of their simple, physical properties.</li> <li>Relate the simple physical properties of some rocks to their formation (igneous or sedimentary).</li> <li>Describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock.</li> <li>Recognise that soils are made from rocks and organic matter.</li> </ul> <p>Observation of sedimentary rock with water.</p> <p>Wormery</p> <p>Investigate different soils.</p> <p><b>Key vocabulary:</b>            Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil</p>	<b>Term 5</b> <b>Understand plants</b> This concept involves becoming familiar with different types of plants, their structure and reproduction. <ul style="list-style-type: none"> <li>Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers.</li> <li>Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.</li> <li>Investigate the way in which water is transported within plants.</li> <li>Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</li> </ul> <p>Growing plants in different environments.            Celery investigation            Lifecycle of a flower wheel</p> <p><b>Key vocabulary</b>            Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal – wind dispersal, animal dispersal, water dispersal</p>
	<b>Term 2</b> <b>Investigate materials</b> This concept involves becoming familiar with a range of materials, their properties, uses and how they may be altered or changed.	<b>Term 4</b> <b>Understand light and seeing</b> This concept involves understanding how light and reflection affect sight.	<b>Term 6</b> <b>Understand movement, forces and magnets</b> This concept involves understanding what causes motion.

	<p><b>Rocks</b></p> <ul style="list-style-type: none"> <li>• Compare and group together different kinds of rocks on the basis of their simple, physical properties.</li> <li>• Relate the simple physical properties of some rocks to their formation (igneous or sedimentary).</li> <li>• Describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock.</li> <li>• Recognise that soils are made from rocks and organic matter.</li> </ul> <p>Observation of sedimentary rock with water.</p> <p>Wormery</p> <p>Investigate different soils.</p> <p><b>Key vocabulary:</b> Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil</p>	<ul style="list-style-type: none"> <li>• Recognise that they need light in order to see things and that dark is the absence of light.</li> <li>• Notice that light is reflected from surfaces.</li> <li>• Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</li> <li>• Recognise that shadows are formed when the light from a light source is blocked by a solid object.</li> <li>• Find patterns in the way that the size of shadows change.</li> </ul> <p>Shadow investigation at different times of the day. Creating sunglasses from the best materials. Shadow puppets</p> <p><b>Key vocabulary:</b> Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous</p>	<ul style="list-style-type: none"> <li>• Compare how things move on different surfaces.</li> <li>• Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</li> <li>• Observe how magnets attract or repel each other and attract some materials and not others.</li> <li>• Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.</li> <li>• Describe magnets as having two poles.</li> <li>• Predict whether two magnets will attract or repel each other, depending on which poles are facing.</li> </ul> <p>Magnet and materials investigation Car and ramp challenge Magnetic treasure hunt</p> <p><b>Key vocabulary:</b> 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>
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	Autumn term	Spring term	Summer term
Year 4	<p><b>Term 1</b>  <b>Living things and their Habitats- Group and Classify living things</b>            Recognise that living things can be grouped in a variety of ways.            Explore and use classification keys.            Recognise that environments can change and that this can sometimes pose dangers to specific habitats</p> <p>Classification keys  <a href="#">Top trump animals cards for classification</a></p> <p><b>Key vocabulary</b></p> <p>Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate</p> <p><b>Data Collection</b></p>	<p><b>Term 3</b>  <b>Sound</b>            This concept involves understanding how sound is produced, how it travels and how it is heard.</p> <p>Identify how sounds are made,            find patterns between the pitch of a sound            find patterns between the volume of a sound            and the strength of the vibrations that produced</p> <p>sound proofing boxes  <a href="#">instruments and vibrations.</a></p> <p><b>Key vocabulary</b>            Sound, vibration, volume, pitch, soundwave, base, tone</p> <p><b>Data Collection</b></p>	<p><b>Term 5</b>  <b>Data Collection</b>  <b>Living things and their Habitats- Habitats</b>            Recognise that living things can be grouped in a variety of ways.            Explore and use classification keys.            Recognise that environments can change and that this can sometimes pose dangers to specific habitats</p> <p>Classification keys  <a href="#">Top trump animals cards for classification</a></p> <p><b>Key vocabulary</b></p> <p>Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate</p>

	<p><b>Term 2</b> <b>States of Matter</b> 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 the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics.</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Materials feely bag Condensation on a plate formed by the kettle Melting chocolate and ice</p> <p><b>Key vocabulary</b> Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle</p>	<p><b>Term 4</b> <b>Electricity</b> 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. Creating a torch with a switch</p> <p><b>Key vocabulary</b> Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol</p>	<p><b>Term 6</b> <b>Understand animals and humans- The digestive system/ Food chains</b></p> <ul style="list-style-type: none"> <li>Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat.</li> <li>Construct and interpret a variety of food chains, identifying producers, predators and prey.</li> <li>Identify that humans and some animals have skeletons and muscles for support, protection and movement.</li> <li>Describe the simple functions of the basic parts of the digestive system in humans.</li> <li>Identify the different types of teeth in humans and their simple functions.</li> </ul> <p>Egg tooth decay investigation Tights digestive system demonstration. Play doh teeth models</p> <p><b>Key vocabulary</b> Mouth , tongue, oesophagus, intestine, pancreas, molar, incisor, canine, liver, stomach</p>
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Year 5	<p><b>Term 1</b></p> <p><b>Understand movement, forces and magnets.</b></p> <p>Magnets</p> <ul style="list-style-type: none"> <li>• Describe magnets as having two poles.</li> <li>• Predict whether two magnets will attract or repel each other, depending on which poles are facing.</li> </ul> <p>Forces</p> <ul style="list-style-type: none"> <li>• Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</li> <li>• Identify the effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces.</li> <li>• Describe, in terms of drag forces, why moving objects that are not driven tend to slow down.</li> <li>• Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.</li> </ul> <p>Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect.</p> <p>STEM kit for gears ,levers and pullies</p> <p>Ball challenge for forces of gravity</p> <p>Non-fiction books for Space</p> <p><b>Key vocabulary</b></p>	<p><b>Term 3</b></p> <p><b>Investigate materials- Properties of materials</b></p> <ul style="list-style-type: none"> <li>• Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets.</li> <li>• Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.</li> <li>• Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</li> <li>• Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</li> <li>• Demonstrate that dissolving, mixing and changes of state are reversible changes.</li> <li>• Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning, oxidation and the action of acid on bicarbonate of soda.</li> </ul> <p>Materials feely bag</p>	<p><b>Term 5</b></p> <p><b>Understand animals and humans - Reproduction</b></p> <ul style="list-style-type: none"> <li>• Describe the changes as humans develop to old age.</li> <li>• Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</li> <li>• Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions.</li> </ul> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p> <p>Demonstration of blood flow using coloured water</p> <p>Healthy lifestyle posters</p> <p><b>Key vocabulary</b></p> <p>Puberty: the vocabulary to describe sexual characteristics</p>
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	<p>Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears</p>	<p>Dissolving materials (sugar, salt, Milton)</p> <p>Elephants toothpaste</p> <p><b>Key vocabulary</b> Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve reversible/non-reversible change, burning, rusting, new material</p>	
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	<p><b>Term 2</b> <b>Understand the Earth's movement in space</b></p> <ul style="list-style-type: none"> <li>• Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</li> <li>• Describe the movement of the Moon relative to the Earth.</li> <li>• Describe the Sun, Earth and Moon as approximately spherical bodies.</li> <li>• Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</li> </ul> <p><a href="#">Moon chalk pictures</a></p> <p><a href="#">Active PE lesson to demonstrate the planets' rotations .</a></p> <p><b>Key vocabulary</b></p> <p>Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune) spherical, solar system, rotates, star, orbit, planets</p>	<p><b>Term 4</b></p> <p><b>Investigate living things</b></p> <ul style="list-style-type: none"> <li>• Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</li> <li>• Describe the life process of reproduction in some plants and animals.</li> <li>• Describe how living things are classified into broad groups according to common observable characteristics.</li> <li>• Give reasons for classifying plants and animals based on specific characteristics.</li> </ul> <p><a href="#">Dissecting lilies</a> <a href="#">Classification models</a> <a href="#">Non-fictional leaflet about Jane Goodall</a></p> <p><b>Key vocabulary</b></p> <p>Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings</p>	<p><b>Term 6</b></p> <p><b>Investigate materials- Reversible and Irreversible changes</b></p> <ul style="list-style-type: none"> <li>• Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets.</li> <li>• Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.</li> <li>• Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</li> <li>• Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</li> <li>• Demonstrate that dissolving, mixing and changes of state are reversible changes.</li> <li>• Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning, oxidation and the action of acid on bicarbonate of soda.</li> </ul> <p><a href="#">Materials feely bag</a></p> <p><a href="#">Dissolving materials (sugar, salt, Milton)</a></p> <p><a href="#">Elephants toothpaste</a></p>
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			<p><b>Key vocabulary</b> Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve reversible/non-reversible change, burning, rusting, new material</p>
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	Autumn term	Spring term	Summer term
Year 6	<p><b>Term 1</b>  <b>Living things and their habitats/ Investigate living things</b> ,</p> <ul style="list-style-type: none"> <li>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</li> <li>Describe the life process of reproduction in some plants and animals.</li> <li>Describe how living things are classified into broad groups according to common observable characteristics.</li> <li>Give reasons for classifying plants and animals based on specific characteristics.</li> </ul> <p><a href="#">Life cycle wheels</a>  <a href="#">Creating a classification guide</a></p> <p><b><u>Key Vocabulary</u></b>  Classify, sort, group, similarities, differences, compare, Carl Linnaeus, Linnaean, classification, standard, domain, kingdom, phylum, class, order, family, genus, species.</p>	<p><b>Term 3</b>  <b>Understand light and seeing</b> ,</p> <ul style="list-style-type: none"> <li>Understand that light appears to travel in straight lines. (1)</li> <li>Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eyes. (1, 2 &amp; 3)</li> <li>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes. (4 &amp; 5)</li> <li>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. (1, 2 &amp; 6)</li> </ul> <p><a href="#">Light documentary</a>  <a href="#">Creating a periscope</a>  <a href="#">Investigate how we see colour using skittles in hot water with filter paper.</a></p> <p><b><u>Key Vocabulary</u></b>  Light, see, travels, straight, block, diverge, eye, reflect, medium, periscope, shadow, shape, refraction, diffraction</p>	<p><b>Term 5</b>  <b>Evolution/ Variation/ Adaptations</b></p> <ul style="list-style-type: none"> <li>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</li> <li>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</li> <li>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</li> </ul> <p><a href="#">Creating brand new creatures and commentate in a frozen planet style.</a></p> <p><b><u>Key vocabulary</u></b>  Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils</p>

	<p><b>Term 2</b> <b>Understand electrical circuits ,</b></p> <ul style="list-style-type: none"> <li>• Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</li> <li>• 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.</li> <li>• Use recognised symbols when representing a simple circuit in a diagram.</li> </ul> <p>Investigate loudness/brightness Creating a circuit to test</p> <p><b>Key vocabulary</b> Electricity, circuit, wire, component, current, flow, positive, negative, cell, bulb, motor, buzzer, switch, simple circuit, series circuit, parallel circuit, complete, resistance, circuit symbols, function, conductor, voltage</p>	<p><b>Term 4</b> <b>Understand animals and humans ,</b></p> <ul style="list-style-type: none"> <li>• Describe the changes as humans develop to old age.</li> <li>• Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</li> <li>• Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions.</li> <li>• Describe the ways in which nutrients and water are transported within animals, including humans.</li> </ul> <p>Blood circulation demonstration with coloured water Healthy lifestyle information leaflets</p> <p><b>Key vocabulary</b> Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs and lifestyle</p> <p><b>Diet, drugs and lifestyle</b></p>	<p><b>Term 6</b></p> <ul style="list-style-type: none"> <li>• Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</li> <li>• Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</li> <li>• Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</li> </ul> <p>Creating brand new creatures and commentate in a frozen planet style.</p> <p><b>Key vocabulary</b> Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils</p>
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