

LONG TERM PLAN SCIENCE

Science	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>EYFS</b>	<p>Seasonal change (explored through scaffolded play, seasons board, seasons poems initiative provision, and vehicles for learning: forest school, gardening and cooking)</p> <ul style="list-style-type: none"> <li>describe what they see, hear and feel outside</li> <li>understand the effect of the changing seasons on the natural world around them</li> </ul> <p>Plants (Linked to seasons, planting in Spring)</p> <ul style="list-style-type: none"> <li>explore the natural world around them</li> <li>describe what they see, hear and feel outside</li> </ul> <p>Animals including humans – Focus in Autumn Term (We all went on safari by Laurie Krebs)</p> <ul style="list-style-type: none"> <li>make observations of animals</li> <li>know about some factors that support their overall physical health and wellbeing</li> </ul> <p>Living things and their habitats - Focus in Autumn Term (We all went on safari by Laurie Krebs)</p> <ul style="list-style-type: none"> <li>know some similarities and differences between the natural world around them and contrasting environments, drawing on experiences and what has been read in class</li> </ul> <p>Materials (weather link, junk-yard modelling with recycled materials)</p> <ul style="list-style-type: none"> <li>understand some important processes and changes in the natural world including changing states of matter. E.g. ice melting, rainwater freezing, mud drying out/ getting soggy</li> </ul>					

<b>Yr 1</b>	<b>Animals including humans</b>  identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	<b>Uses of everyday materials</b>  distinguish between an object and the material from which it is made  identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock  describe the simple physical properties of a variety of everyday materials  compare and group together a variety of everyday materials on the basis of their simple physical properties	<b>Animals including humans</b>  identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals  identify and name a variety of common animals that are carnivores, herbivores and omnivores  describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	<b>Plants</b>  identify and name a variety of common wild and garden plants, including deciduous and evergreen trees  identify and describe the basic structure of a variety of common flowering plants, including trees	<b>Seasonal change</b>  observe changes across the four seasons  observe and describe weather associated with the seasons and how day length varies	<b>African science</b>  identify and name a variety of common animals including fish, amphibians, reptiles birds and mammals  describe and compare the observable features of a variety of common animals including pets, from a range of groups.  identify and describe the basic structure of a variety plants
<b>Yr 2</b>	<b>Earth and Space</b>  describe the Sun, Earth and Moon as approximately spherical bodies  know the order of the planets from the Sun  describe the movement of the Earth, and other planets, relative to the Sun in the solar system  describe the movement of the Moon relative to the Earth  use the idea of the Earth's rotation to explain day and	<b>Animals including humans</b>  find out about and describe the basic needs of animals, including humans, for survival (water, food and air), by identifying the ways that different animals meet their basic needs  describe animals and their offspring  describe the importance of exercise, eating the right amounts of different types of food, and hygiene	<b>Properties and uses of everyday materials</b>  identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.  find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	<b>Living Things</b>  explore and compare the differences between things that are living, dead, and things that have never been alive  identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other  identify and name a variety of plants and animals in their	<b>Plants</b>  observe and describe how seeds and bulbs grow into mature plants  find out and describe how plants need water, light and a suitable temperature to grow and stay healthy  describe how different plants have different needs	

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	<p>night and the apparent movement of the sun across the sky</p> <p>recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p>			<p>habitats, including microhabitats</p> <p>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</p>	
<b>Yr 3</b>	<p><b>Rocks and Soils</b></p> <p>compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>recognise that soils are made from rocks and organic matter</p>	<p><b>Plants</b></p> <p>identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>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</p> <p>investigate the way in which water is transported within plants</p> <p>explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p>	<p><b>Light</b></p> <p>recognise that light is needed in order to see things and that dark is the absence of light</p> <p>classify materials, understanding the terms transparent, translucent and opaque</p> <p>notice that light is reflected from surfaces</p> <p>recognise that shadows are formed when the light from a light source is blocked by a solid object</p> <p>find patterns in the way that the size of shadows change</p>	<p><b>Animals including humans</b></p> <p>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</p> <p>identify that humans and some other animals have skeletons and muscles for support, protection and movement</p>	<p><b>Forces and magnets</b></p> <p>compare how things move on different surfaces</p> <p>notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>observe how magnets attract or repel each other and attract some materials and not others</p> <p>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</p> <p>describe magnets as having two poles and predict whether two magnets will attract or repel each other, depending on which poles are facing</p>
<b>Yr 4</b>	<p><b>Living things and their habitats</b></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</p>	<p><b>States of Matter</b></p> <p>compare and group materials together, according to whether they are solids, liquids or gases</p> <p>explain the properties of solids, liquid and gases (e.g. solids have a fixed shape, liquids take the shape of a container and gases expand to fill a container)</p>	<p><b>Sound</b></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><b>Animals including humans</b></p> <p>describe the simple functions of the basic parts of the digestive system in humans</p>	<p><b>Electricity</b></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>

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	<p>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>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>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>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>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 some common conductors and insulators, and associate metals with being good conductors</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>	
Yr 5	<p>Properties and changes of materials</p> <p>compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, electrical conductivity and response to magnets</p> <p>investigate the thermal conductivity of materials</p> <p>know 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 valid 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>explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible</p>		<p>Forces</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 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>Earth and Space</p> <p>describe the heliocentric model of the solar system, developed by Copernicus and Kepler</p> <p>explain the movement of the Moon relative to the Earth and how this causes the phases of the Moon</p> <p>describe the two ways in which the Earth moves in space and their effects</p>	<p>Animals including humans</p> <p>describe the changes as humans develop to old age</p>	<p>Living things and their habitats</p> <p>describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>describe the life process of reproduction in some plants and animals</p>
Yr 6	<p>Electricity</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</p>	<p>STEM</p> <p>Forces</p> <p>-recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect</p>	<p>Animals including humans</p> <p>identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p>	<p>Light</p> <p>recognise that light appears to travel in straight lines</p> <p>use the idea that light travels in straight lines to explain that objects are seen because they</p>	<p>Evolution and Inheritance</p> <p>recognise that living things have changed over time and that fossils provide information about living</p>	<p>Living Things and their Habitats</p> <p>describe how living things are classified into broad groups according to common observable characteristics and based on similarities and</p>

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	<p>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>use recognised symbols when representing a simple circuit in a diagram</p>	<p>Electricity</p> <p>-apply knowledge and understanding of circuits, switches, conductors and insulators in the design of the final product.</p>	<p>recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>describe the ways in which nutrients and water are transported within animals, including humans</p>	<p>give out or reflect light into the eye</p> <p>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>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>investigate and explain the effects of refraction</p> <p>use knowledge of reflection and refraction to explain how we see colours</p>	<p>things that inhabited the Earth millions of years ago</p> <p>recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p>	<p>differences, including micro-organisms, plants and animals</p> <p>give reasons for classifying plants and animals based on specific characteristics</p>
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Yr 1	Animals including humans (dinosaurs)	Uses of everyday materials	Animals including humans	Plants	Seasonal change	African science
Yr 2	Earth and Space	Animals including humans – exercise and diet	Properties and uses of everyday materials	Living Things	Plants	
Yr 3	Rocks and Soils		Plants	Light	Animals including human	Forces and magnets
Yr 4	Living things and their habitats	States of Matter		Sound	Animals including humans	Electricity
Yr 5	Properties and changes of materials		Forces	Earth and Space	Animals including humans	Living things and their habitats
Yr 6	Electricity	STEM	Animals including humans	Light	Evolution and Inheritance	Living Things and their Habitats