



Science Curriculum Intent

Our children will have knowledge about methods, processes and the use of science in everyday life. They will understand the world through disciplines of biology, chemistry and physics and gain an understanding of how Science has changed our lives and how it can be used to explain what is occurring, predict how things will behave and analyse causes.

Science Curriculum Map 2019-2020

	Autumn	Spring	Summer
Year 1	<p style="text-align: center;">Who Am I? -Autumn 1 (Humans)</p> <p>During this unit the children will be taught to identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p style="text-align: center;">Materials -Autumn 2 (Everyday Materials)</p> <p>In this material unit the children will see whether they can distinguish between an object and the material from which it is made. They will see if they can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock. Along with, describing the simple physical properties of a variety of everyday materials and compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p style="text-align: center;">Polar Adventure/ On Safari - Spring (Animals)</p> <p>The children will be taught to identify and names a variety of common animals including fish, amphibians, reptiles, birds and mammals. Once they have done this they will then be taught how to identify and name a variety of common animals that are carnivores, herbivores and omnivores. Lastly the children will describe and compare the structure of a variety of common animals (including fish, amphibians reptiles, birds and mammals, pets)</p>	<p style="text-align: center;">Treasure Island- Summer 1 (Plants)</p> <p>In this unit, children will be taught how to identify and name a variety of common wild and garden plants including deciduous and evergreen trees. The children will also identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p style="text-align: center;">Holiday - Summer 2 (Seasonal Changes)</p> <p>Finally in their last topic, the children will observe changes across the four seasons and observe and describe weather associated with the seasons and how day length varies.</p>
Year 2	<p style="text-align: center;">Materials - Autumn (Use of Everyday Materials)</p> <p>In our materials unit of work the children will be taught how to identify and compare the suitability of a variety of everyday materials,</p>	<p style="text-align: center;">Animal including Human + Living Habitats- Spring (Living things and their habitats/Animals including humans)</p>	<p style="text-align: center;">Plants – Summer 1 (Plants)</p> <p>In this unit the children will observe and describe how seeds and bulbs grow into mature plants and find out and describe how plants need water, light</p>



	<p>including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. The children will also find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>In this topic the children will explore and compare the differences between things that are living, dead and things that have never been alive. They will identify that most things live in habitats to which they are suited and describe how different habitats provide for the basic needs to different kinds of animals and plants, and how they depend on each other. The children will also explore and identify and name a variety of plants and animals in their habitats, including micro-habitats and describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name the different sources of food.</p> <p>After learning about habitats the children will be taught that animals, including humans, have offspring which grow into adults. They will find out about and describe the basic needs of animals, including humans. That they need water, food and air (essentials) to survive.</p>	<p>and a suitable temperature to grow and stay healthy.</p> <p>Healthy Me – Summer 2 (Human Body)</p> <p>In this topic the children will describe the importance of exercise for humans and how eating the right amounts of different types of food is healthy for our body along with the importance of daily hygiene.</p>
<p>Year 3</p>	<p>Magnets and Forces - Autumn 1 (Magnets and Forces)</p> <p>In the children's first topic they will compare how things move on different surfaces and be asked if they notice that some forces need contact between two objects, but magnetic forces can act at a distance. The children will observe how magnets attract or repel each other and attract some materials but not others. From this the children must compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet. From this they will identify some magnetic</p>	<p>Food and Our Bodies – Spring 1 (Animals including Humans)</p> <p>In this topic children will be taught how to identify that animals, including humans, need the right types and amount of nutrition, and they cannot make their own food, they get nutrition from what they eat. They will also be taught that humans and some other animals have skeletons and muscles for support, protection and movement. They will then find out how different body parts have special functions.</p> <p>Light – Spring 2</p>	<p>How does your Garden grow? – Summer (Plants)</p> <p>In this unit of work the children will be taught to identify and describe the functions of different parts of the flowering plants including roots, stem/trunk, leaves and flowers. They will 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. The children will investigate the way in which water is transported within plants and explore the part that flowers play in the life cycle of flowering</p>



	<p>materials. The children will describe magnets as having two poles and make predictions whether two magnets will attract or repel each other, depending on which poles are facing.</p> <p style="text-align: center;">Earth Rocks - Autumn 2 (Rocks)</p> <p>When learning about Rocks the children will compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. In simple terms, the children will describe how fossils are formed when things that have lived are trapped within a rock and they will be taught to recognise that soils are made from rocks and organic matter.</p>	<p style="text-align: center;">(Light)</p> <p>When learning about light the children will learn to recognise that they need light in order to see things and that dark is the absence of light. They should notice that light is reflected from surfaces and recognise that light from the sun can be dangerous and that there are ways to protect their eyes. The children will learn that shadows are formed when the light from a light source is blocked by an opaque object and investigate and find patterns in the way that the size of shadows change.</p>	<p>plants, including pollination, seed formation and seed dispersal.</p>
<p>Year 4</p>	<p style="text-align: center;">Sound - Autumn 1 (Sound)</p> <p>In this first topic the children will learn about how sounds are made, associating them with something vibrating. The children will learn that vibrations from sounds travel through the medium to the ear and see if they recognise that sounds get fainter as the distance from the sound source increases. The children will see if they can find patterns between the pitch of the sound and features of the object that produced it and to also find patters between the volume of a sound and the strength of the vibrations that produced it.</p> <p style="text-align: center;">States of Matter - Autumn 2 (States of Matter)</p> <p>During this topic the children will compare and group materials together, according to whether they are solids, liquids or gases. The children will</p>	<p style="text-align: center;">Living Things and Habitats - Spring 1 (Living Things and their Habitats)</p> <p>In this unit of work the children will be taught that living things can be grouped in a variety of ways and the children will explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. The children will learn that environments can change and that this can sometimes pose dangers to living things.</p> <p style="text-align: center;">Animals Including Humans - Spring 2 (Living Things and their Habitats)</p> <p>Carrying on from Living Things and Habitats the children will construct and interpret a variety of food chains whilst identifying producers, predator and prey. The children will then identify the different types of teeth in animals, leading onto human's teeth and their simple functions. Lastly the children will learn about the</p>	<p style="text-align: center;">Animals Including Humans - Summer 1 (Animals, including Humans)</p> <p>The children will be carrying this topic on from Spring 2</p> <p style="text-align: center;">Electricity - Summer 2 (Electricity)</p> <p>The children will see if they can identify common appliances that run on electricity and they will construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzes. They will then see if they can 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. The children will learn that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Finally the children will learn to recognise some common conductors and</p>



	<p>observe that some materials change state when they are heated or cooled, and they will measure the temperature at which this happens in degrees Celsius. The children will learn about the Water Cycle and identify the part played by evaporation and condensation within the water cycle and associate the rate of evaporation with temperature.</p>	<p>human digestive system in humans and describe the simple functions of the basic parts.</p>	<p>insulators, and associate metals with being good conductors.</p>
<p>Year 5</p>	<p>Let's Get Moving - Autumn 1 (Forces)</p> <p>In Year 5's first topic about forces the children will explain that unsupported objects will fall towards the Earth because of the force of gravity acting between the Earth and the falling object. They will then identify the effects of air resistance, water resistance and friction that act between moving surfaces. Lastly the children will learn to recognise that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect.</p> <p>Material World - Autumn 2 (Properties and Changes of Material)</p> <p>In this unit the children will compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets. They will learn to know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. They will use their knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. The children must then give</p>	<p>Out of this World - Spring 1 (Earth and Space)</p> <p>Whilst learning about Space the children will describe the movement of the Earth, and other planets, relative to the Sun in the solar system. They will describe the movement of the Moon relative to the Earth and describe the Sun, Earth and Moon as approximately spherical bodies. Using the idea of the Earth's rotation the children will explain day and night and the apparent movement of the sun across the sky.</p> <p>Circle of Life - Spring 2 (Living Things and their Habitats)</p> <p>The children will learn to describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. They will then describe the life process of reproduction in some plants and animals.</p>	<p>Circle of Life - Summer 1 (Living Things and their Habitats)</p> <p>The children will be carrying this topic on from Spring 2.</p> <p>Living Things - Summer 2 (Animals, including Humans)</p> <p>In this topic the children will describe the changes as humans develop to old age</p>



	<p>reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>The children will also demonstrate that dissolving, mixing and changes of state are reversible changes and they will 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 and the action of acid on bicarbonate of soda.</p>		
<p>Year 6</p>	<p>Classifying Critters - Autumn 1 (Living Things and their Habitats)</p> <p>The children will learn to describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences including microorganisms, plants and animals. The children will then give reasons for classifying plants and animals based on specific characteristics.</p> <p>Let it Shine - Autumn 2 (Light)</p> <p>In this light topic the children will learn to recognise that light appears to travel in straight lines and 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. The children will 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. Finally the children will use the idea that light travels in straight lines to explain why</p>	<p>Electrifying - Spring 1 (Electricity)</p> <p>Whilst learning about electricity the children will learn to associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. The children will then 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. Finally whilst drawing a diagram of a simple circuit the children will use recognised symbols to represent these.</p> <p>Evolution and Inheritance – Spring 2 (Evolution and Inheritance)</p> <p>In this unit the children will be taught to recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. They will then learn to recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Lastly the children will learn</p>	<p>Evolution and Inheritance – Summer 1 (Evolution and Inheritance)</p> <p>The children will be carrying on from the Spring 2 topic.</p> <p>Staying Alive - Summer 2 (Animals including Humans)</p> <p>In this unit the children will learn to identify and name the main parts of the human circulatory system and will describe the functions of the heart, blood vessels and blood. The children will also learn to recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Finally the children will describe the ways in which nutrients and water are transported within animals, including humans.</p>



	<p>shadows have the same shape as the objects that cast them.</p>	<p>how to identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	
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