

Eastcote Primary Academy Science Progression Map

Can children...

	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals including humans	<p>Be increasing independent in knowing their care needs, incl healthy choices (begin to know the importance of hand washing, be able to talk about food choices, begin to understand the importance of dental hygiene)</p> <p><i>Understanding the World and Personal Development</i></p>	<p>Understand the key features in the life cycle of a human.</p> <p>Explore the natural world around them. (name and describe animals around them)</p> <p><i>Understanding the World</i></p>	<p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds, mammals, including pets)</p> <p>Identify, name, draw and label basic parts of the human body and say which part of the body is associated with which sense.</p>	<p>Notice that animals, including humans, have offspring which grow into adults (name adult and its young)</p> <p>To find out how animals change as they grow into adults- lifecycles (adult/duck)</p> <p>Find out and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene</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>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>Describe the changes as humans develop into old age</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>Recognise the impact of diet, exercise on the way their bodies function</p> <p>Describe the ways in which nutrients and water are transported within animals including humans,</p>

Material s	<p>Explore and compare materials (investgate sink and float, shadows) Begin to notice changes. (melting, heating foods, mixing ingredients)</p> <p><i>Understanding the World</i></p>	<p>Observe and investigate natural processes (name natural processes-change of state (melting, cooking), forces (magnets, floating, sinking) light (transparency, shadows) sound(vibrations)</p> <p>Describe and comment on natural processes they have observed.</p> <p><i>Understanding the World</i></p>	<p>Distinguish between an object and the material from which it is made</p> <p>Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock</p> <p>Describe the simple physical properties of a variety of everyday materials</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper, and cardboard for particular uses</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Rocks</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>States of matter</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, cooled and measure or research the temperature at which this happened in degrees (Celcius)</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</p>	<p>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</p> <p>Know that some materials will dissolve in a 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 filtering, sieving and evaporating</p> <p>Give reasons based on evidence from comparative fair tests, for the particular uses of everyday materials, including metals, woods 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, including changes associated with burning and the action of acid on bicarbonates of soda.</p>	
Plants	<p>-Understand the key features of the life cycle of a plant. (plant seeds so that children observe growth and decay overtime)</p> <p><i>Understanding the World.</i></p>	<p>-Understand the key features of the life cycle of a plant. ( plant seeds and bulbs- chn observe growth and decay overtime, draw pics and describe)</p> <p><i>Understanding the World.</i></p>	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (make close observations and compare key features of diff plants</p> <p>Identify and describe the basic structure of a variety of common flowering plants including trees (sort and group parts of plants using sim and diff)</p>	<p>Observe and describe how seeds and bulbs grow into mature plants (know how seeds and bulbs are diff) (measure, observe and compare plants growing from both)</p> <p>Find out and describe how plants need water, light and suitable temperature to grow and stay healthy</p>	<p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>Explore the requirements for life and growth (air, 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 (e.g. by observing plants with roots removed, putting white carnations in</p>			

					coloured water) Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal			
Forces and Magnets	<p>Explore forces around us (explore forces in water) (explore pushes, pulls and stretching/bending ) (explore magnetic attraction and repulsion)</p> <p>Mechanical equipment (play,investigate and talk about what happens with e.g. wind up toys, pulleys, cogs)</p> <p><i>Understanding the World</i></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 magnet as having two poles</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 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>	

					Predict whether 2 magnets will attract or repel each other, depending on which poles are facing			
Light/ Sound					<p>Recognise the need for light in order to see things and that dark is the absence of light</p> <p>Notice that light is reflected from surfaces</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>Recognise that shadows are formed when light from a source is blocked by an opaque object</p> <p>Find patterns in the way that the size of shadows change.</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>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 give out or reflect light</p> <p>explain that we see things because light travels from light sources to our eyes, 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 objects that cast them.</p>
Electricity						<p>Identify common appliances that run on electricity</p> <p>Construct a simple</p>		<p>Associate the brightness of a bulb or the volume of a buzzer with the number and</p>

						<p>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 series circuit, based on whether or not the lamp s 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>voltage of cells used in the circuit</p> <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 diagram.</p>
Living things and their habitats	<p>-Begin to understand the need to respect and care for the natural environment.</p> <p><i>Understanding the World.</i></p>	<p>-Begin to understand the need to respect and care for the natural environment (describe plants around them and how to care for them)</p>		<p>Explore and compare the differences between things that are living, dead and things that have never been alive.</p> <p>Identify that most living things live in</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</p>	<p>Describe the differences in the life cycle of a mammal, an amphibian, an insect and a bird</p> <p>Describe the life process of reproduction in some plants and</p>	<p>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences,</p>

		<i>Understanding the World.</i>		habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, including microhabitats  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.		and wider environment  Recognise that environments can change and this this can sometimes pose dangers to living things	animals.	including micro-organisms and plants  give reasons for classifying plants and animals based on specific characteristics  Evolution  Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
Miscellaneous		Identify and describe weather  <i>Understanding the World</i>	Seasonal Changes  Observe the changes of the four seasons  Observe and describe weather associated			.	Earth and space  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  Describe the sun, Earth and moon as approximately spherical bodies  Use the idea of the Earth's rotation to explain day and night and the apparent	Recognise that living things produce offspring of some kind, but normally offspring vary and are not identical to their parents  Identify how plants and animals are adapted to suit their environments in different ways and that adaptation may lead to evolution.

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