

Science - Long term plan 2017-2018

	Autumn		Spring		Summer	
	1	2	1	2	1	2
Year 1	<p>Seasonal Changes Observations over time (throughout the year) Observe changes over the four seasons. Observe and describe weather associated with the seasons and how the length varies.</p>					
	<p>Animals including Humans Label the basic parts of the human body (Ourselves). Explore the senses.</p>	<p>Everyday Materials Distinguish between an objects and materials. Identify, name and describe the properties of everyday materials. Compare and group materials.</p>	<p>Seasonal changes (focus) Use senses to make observations about the weather (amount of light or sun/temp) Record on going observations in tables.</p>	<p>Animals, including humans Identify and name a variety of common animals including fish, amphibians, retiles, birds and mammals. Study animals taken from their local environment and understand the need to return them safely after study.</p>	<p>Seasonal Changes Continue with weather observations and compare our weather with other countries in the world.</p>	<p>Plants Observe plants and animals in local surroundings (record with photographs) Identify and describe the basic structure flowering plants (draw diagrams).</p>
Year 2	<p>Animals including humans Understand and observe of lifecycles (reproduction and growth) Identify and describe the basic needs (water, food and air). Describe the importance of healthy living (exercise, nutrition, and hygiene)</p>	<p>Everyday materials Identify and compare the suitability of a variety of everyday materials for particular uses, considering the properties. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. Research inventors. Observe and classify materials.</p>		<p>Living things and their habitat Explore and compare things that are living, dead, and things that have never been alive. Describe how habitats provide for the animals and plants, and how they depend on each other. Identify and observe a variety of plants and animals in their habitats.</p>	<p>Plants Observe and describe how seeds and bulbs grow. Investigate and understand the needs of plants (water, light and a suitable temperature).</p>	<p>Living things and their habitat Understand and describe food chains. Identify how habitat conditions affect the number and type(s) of plants and animals that live there.</p>
Year 3	<p>Plants Identify and describe the parts and functions (roots, stem/trunk, leaves and flowers) Explore the requirements (air, light, water, nutrients from soil, and room to grow) Investigate water transportation within plants. Understand life cycles (pollination, seed formation and seed dispersal).</p>	<p>Animals including Humans Identify the right types of nutrition Understand the functions of skeletons and muscles (support, protection and movement).</p>	<p>Rocks Classification of rocks based on the properties. Describe fossils formation. Recognise that soils are made from rocks and organic matter.</p>	<p>Light Recognise that dark is the absence of light. Notice that light is reflected from surfaces. Understand dangers of light from the sun and ways to protect their eyes. Investigate shadows.</p>	<p>Forces and Magnets Friction on surfaces. Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance. Observe magnetic attraction or repelling each other and other materials. Predict whether magnets will attract or repel each other, depending on which poles are facing.</p>	

Year 4	<p align="center"><u>States of matter</u></p> <p>Compare and group solids, liquids and gases.</p> <p>Observe, measure and research materials that change state when they are heated or cooled (Water)</p>		<p align="center"><u>Electricity</u></p> <p>Identify appliances that run on electricity.</p> <p>Construct simple series electrical circuits, identifying and naming its components (cells, wires, bulbs, switches and buzzers).</p> <p>Recognise common conductors and insulators, and associate metals with being good conductors</p>	<p align="center"><u>Animals including humans</u></p> <p>Describe the functions of the parts of the digestive system.</p> <p>Identify the functions of different types of teeth and how to look after them.</p> <p>Construct and interpret food chains (producers, predators and prey).</p>	<p align="center"><u>Living things and their habitats</u></p> <p>Revisit habitats and environmental change-dangers.</p> <p>Classify living things.</p> <p>Explore and group living things.</p> <p>Use classification keys to identify living things.</p>	<p align="center"><u>Sound</u></p> <p>Identify how sounds are made (vibrations).</p> <p>Explore pitch and volume.</p> <p>Recognise that sounds get fainter as the distance from the sound increases.</p>
Year 5	<p align="center"><u>Earth and space</u></p> <p>Describe the sun, earth, moon and planets (shape, size and movement).</p> <p>Understand how day and night is created in different parts of the Earth.</p> <p>Investigation why Pluto isn't a planet.</p>	<p align="center"><u>Forces</u></p> <p>Understand gravity, air resistance, water resistance and friction.</p> <p>Investigate using parachutes and sycamore seeds.</p> <p>Understand how mechanisms increase levels of force (levers, pulleys, gears).</p> <p>Research the work of Isaac Newton.</p>	<p align="center"><u>Living things and their habitats</u></p> <p>Classify living things using keys (mammals, fish, birds, reptiles, amphibians, insect)</p> <p>Understand various life cycles/life processes and reproduction in plants and animals.</p> <p>Identify and describe the functions of parts of a plant.</p> <p>Grow new plants from different parts of the parent plant.</p>	<p align="center"><u>Properties and changes of materials</u></p> <p>Classify and compare everyday materials based on the properties (conductors, insulators).</p> <p>Understand the states of matter (solids liquids and gases, dissolving, evaporation etc)</p> <p>Reversible or irreversible changes.</p>	<p align="center"><u>Animals including humans</u></p> <p>Timeline to indicate states in growth and development of humans.</p> <p>Changes during puberty.</p> <p>Researching the gestation periods of other animals and comparing them with humans: by finding out and recording the length and mass of a baby as it grows.</p>	

<p>Year 6</p>	<p><u>Animals including humans</u></p> <p>Understand the impact of diet and exercise and drugs.</p> <p>Explain the function of the heart and circulation (blood vessels and blood).</p> <p>Nutrients and water transportation in animals, including humans.</p>	<p><u>Evolution and inheritance</u></p> <p>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>Identify how animals and plants adapted to suit their environment.</p> <p>Recognise that living things produce offspring of the same kind, but sometimes offspring vary and are not identical to their parents.</p>	<p><u>Living things and their habitats</u></p> <p>Classify living things based on characteristics (microorganisms, plants animals).</p> <p>Observe living things over time and record data using data loggers.</p>	<p><u>Light</u></p> <p>Recognise that light appears to travel in straight lines.</p> <p>Explain that objects are seen because they give out or reflect light into the eye.</p> <p>Explain why shadows have the same shape as the object which casts them.</p>	<p><u>Electricity</u></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>Use recognised symbols when representing a simple circuit in a diagram.</p>
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