

SCIENCE LONG-TERM PLAN

	FOUNDATION	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Animals and humans	<ul style="list-style-type: none"> - name main face and body parts -basic needs of humans - farm animals - insects -baby animals & life cycles - body parts -human growth 	<ul style="list-style-type: none"> -name parts of human body -name senses and link to body parts -name parts of animal's body -use of body parts in animals -classify common animals by body parts -life cycle of some living things (butterfly) 	<ul style="list-style-type: none"> -animals and humans have offspring that grow into adults -basic needs of animals and human -life cycle of a frog -keeping body healthy -importance of hygiene - why regular exercise is good for humans 	<ul style="list-style-type: none"> -importance of nutritious diet -how nutrients, water and oxygen are transported within animals and humans -muscular system of a human 	<ul style="list-style-type: none"> - identify and name the basic part of the human digestive system - function of the organs of the human digestive system - function of different teeth - compare teeth of herbivores and carnivores - explain a simple food chain 	<ul style="list-style-type: none"> - timeline of stage growth in humans -timeline in stages of growth of butterflies (contrast with humans) - stages of puberty 	<ul style="list-style-type: none"> -function of organs in human circulatory system (heart, blood vessels, blood, blood pressure, clotting) - function of respiratory system (lungs, nose, throat, bronchi, bronchial tubes, diaphragm, ribs, breathing) -name and locate major organs in human body <i>Should we test products on animals?</i>
Plants	<ul style="list-style-type: none"> -Fruit and vegetables - Similarities and differences, growth and change 	<ul style="list-style-type: none"> - what a plant is - name parts of plant - name most common plants in area - role of roots - how seeds change as they grow - deciduous/ evergreen 	<ul style="list-style-type: none"> -identify chosen trees from leaves - classify seeds -function of parts of plant -what a plant needs to grow and stay healthy - how plants change as they grow 	<ul style="list-style-type: none"> - function of parts of plant (stomata and root hairs) -how water is transported -parts of flower -pollination -difference between insect-pollinated and wind-pollinated plants - life cycle of flowering plant 			

<p>Living Things and Habitats</p>	<ul style="list-style-type: none"> - Caring for creation/environment - around our school (class garden plots) - Basic needs of humans - farm animals - insects -baby animals & life cycles -sea creatures -caring for creation/environment 		<ul style="list-style-type: none"> -identify living and non-living things -features of a range of habitats -how habitats provide for basic needs - how plants and animals are suited to habitat -what microhabitats are and what lives there -classify animals by diet (herbivore/ carnivore/ omnivore) -simple food chain 		<ul style="list-style-type: none"> -use a classification key to group a variety of living things -compare common plants and animals to those found in other places (under the sea, prehistoric) -name and group living things based on feeding patterns (producer, consumer, predator etc.) -identify how environments change and how this threatens living things 	<ul style="list-style-type: none"> -compare life cycles of a range of animals: humans, amphibians, insects and birds -describe life cycle of common plants -respiration process in humans and plants -birth, death and reproduction of familiar animals and plants - examine work of famous naturalists 	<ul style="list-style-type: none"> - group animals into vertebrates and invertebrates -Carl Linnaeus -classify living things into groups and subdivisions based on common characteristics (vertebrates, mammals, marsupials) - devise own subdivisions <p><i>Should we destroy animal habitats to make houses for humans?</i></p>
<p>Materials and States of Matter</p>	<ul style="list-style-type: none"> -observing changes 	<ul style="list-style-type: none"> -distinguish between object and material -sense of touch to describe material -sounds materials make -properties of different materials -how materials are chosen -where rubbish goes -how to reduce paper use 	<ul style="list-style-type: none"> -describe physical properties of everyday materials (wood, plastic, metal, water, rock) -classify materials based on own categories -why material is suitable for purpose -how solids are changed by squashing, bending, 	<ul style="list-style-type: none"> -how rocks are formed -differences between sedimentary and igneous rocks -classify rocks based on simple physical properties -how fossils are formed in sedimentary rocks -what is soil made from 	<ul style="list-style-type: none"> -compare and group materials based on states of matter (liquid/solid/gas) -effect of heating or cooling on material -identify temperature at which different materials change state - use measurements to explain changes to 	<ul style="list-style-type: none"> -test and group materials based on scientific evidence (hardness, solubility, transparency, conductivity, insulation, magnetism) -process of dissolving 	

			twisting and stretching -environmental impact of plastic		the state of water (freezing point, boiling point, melting point) -role of evaporation and condensation in water cycle	-recovering a substance from a solution -identify most appropriate method of separation (filtering, sieving, evaporating) -give reasons for choices of everyday materials based on scientific evidence - classify -describe changes in state (evaporation and condensation) -use the terms 'reversible' and 'irreversible' <i>Should we ban materials that have the worst impact on the environment (e.g. plastic)?</i>	
Forces				-name and identify forces -how different surfaces affect how things move -poles of magnets		-what gravity is and impact on our lives -impact of friction on a moving object	

				<ul style="list-style-type: none"> -how magnets attract and repel -classify materials that are attracted to magnets -identify materials through which magnet force work - explain how magnetism works -identify everyday uses of magnetism 		<ul style="list-style-type: none"> -effect of drag force on moving object -how force and motion is transferred through gears, pulleys, levers and springs 	
Weather and Seasons	<ul style="list-style-type: none"> - winter weather - identifying and describing different weather 	<ul style="list-style-type: none"> -name the four seasons -link typical weather to seasons -use specific vocabulary to describe the weather - link clothes worn to seasons - observe change in plants across seasons -measure rainfall and temperature -measure wind speed and temperature 	<ul style="list-style-type: none"> -describe how day length varies -identify extreme weather and link to seasons -identify effects of UK extreme weather (thunder and lightning, storm, drought, flood, snow and ice) 				
Light				<ul style="list-style-type: none"> -why we need light -difference between transparent, translucent and opaque 			<ul style="list-style-type: none"> -how light travels - how the human eye sees objects

				<ul style="list-style-type: none"> -compare brightness and colour of lights -how shadows are formed -how light reacts to different surfaces -benefits and dangers of sun for humans 			<ul style="list-style-type: none"> - how different colours of light are created -how simple optical instruments work -use the ray model to explain size of shadows <p><i>To reduce light pollution, should councils switch off street lights after 10pm?</i></p>
Sound					<ul style="list-style-type: none"> -identify different sounds and how they are made -compare sources of sound and their differences -how sound travels to from source to our ears -how pitch can be changed -effect of different materials on pitch and volume 		
Electricity	-electrical Items around the home				<ul style="list-style-type: none"> -uses of electricity -how to construct a simple circuit 		<ul style="list-style-type: none"> -identify and name basic parts of a simple electric series circuit

					<ul style="list-style-type: none"> - what a conductor is and test materials for conductivity -closed and open circuits -construct a circuit with a switch -identify common conductors and insulators 		<ul style="list-style-type: none"> -explain variation in component function -how to make changes in circuit -impact of changes in a circuit -effect of changing voltage of battery <p><i>Should electric cars be free to protect the environment?</i></p>
Earth and Space	-items in space					<ul style="list-style-type: none"> -movement of the earth in relation the sun -how seasons and associated weather is created -movement of the moon relative to the earth -size, shape and position of the earth, sun and moon -how night and day are created -link between planets and stars <p><i>Is it right to inhabit and carry out tests on other planets?</i></p>	

Evolution							<p>-why living things produce offspring of the same kind -give reasons why offspring are not identical with each other or their parents - process of evolution with evidence -variation in offspring over time for survival -Charles Darwin</p> <p><i>Should we work to eliminate animal species that threaten human life (e.g. those that commonly spread diseases)?</i></p>
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