

St Vincent's Science Curriculum Knowledge Map

SCIENCE	Autumn 1	Spring 1	Summer 1	Autumn 2	Spring 2	Summer 2
Driving Question	How can we show compassion, care and love to those in need?	Why should we show respect for others and how can we do this?	How can we be stewards of our environment and of one another?	In what practical ways can we learn from our mistakes?	Why should we not judge others?	How can we build trusting relationships?
EYFS	<p>Ourselves: Learn how to care for our immediate environment and the world around us (Classroom, our belongings, the wider school, Home, in the forest, our local community)</p>	<p>Seasonal Changes: Notice and acknowledge how the weather changes. Respect and care for our environment re - climate change/sustainability. (what can we do to help-recycling, reusable plastics, reusing paper etc)</p>	<p>Living things and their habitats: Life cycles: looking closely at the life cycles humans and other animals (butterfly)</p>	<p>Ourselves: Learn how to care for our immediate environment and the world around us (Classroom, our belongings, the wider school, Home, in the forest, our local community)</p>	<p>Seasonal Changes: Notice and acknowledge how the weather changes. Respect and care for our environment re - climate change/sustainability. (what can we do to help-recycling, reusable plastics, reusing paper etc)</p>	<p>Living things and their habitats: Observing life cycles: looking closely at the life cycles humans and other animals (butterfly)</p>
KS1	<p>Y1 - Plants: Identify a selection of different plants and trees in our Forest School and begin to grow a flower from a seed (England's national flower: English Rose) from a seed.</p> <p>What do seeds need to grow and how do we care for God's creation?</p>	<p>Y2 - Living things and their habitats: Describe how different habitats are suited to different animals and plants - how can we protect natural habitats?</p> <p>Compare differences between living/dead/things that have never been alive. What can we learn from animals that have become extinct in the past? How can we protect endangered animals today (dodo birds)?</p>	<p>Y1 - Seasonal changes - observe changes across the 4 seasons including how day length varies</p> <p>Y1 - Animals including humans Recognise and use senses to explore immediate surroundings before drawing and labelling the basic parts of the human body,</p> <p>Identify and name common animals -fish, amphibians, reptiles, birds and mammals identify and name common animals that are carnivores, herbivores and omnivores</p>	<p>Working scientifically: The Great Fire of London - why did the fire spread so quickly? What variables affect the flow of the fire and why would this not happen in the same way in today's London (materials used for building).</p> <p>Experiment - What variables are needed to create and sustain a fire? (The fire triangle). Make predictions before performing and observing simple tests.</p> <p>https://www.ncl.ac.uk/media/wwwnclacuk/facultyofeducation/sageoutreach/files/Networkcastle%20STEM%20Outreach-KS1-firetriangle.pdf</p>	<p>Animals including Humans The human body: name the human parts & senses, looking at exploring the basic needs of humans and animals (importance of exercise, nutrition and hygiene).</p> <p>Looking at diets of the past and how they have changed over time - carnivores/omnivores/herbivores. What different animals eat and why - looking at the basic food chain. Not judging others for their choices in diet and food choices.</p>	<p>Everyday Materials - Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials- wood, plastic, glass, metal, water, and rock, linking to London landmarks.</p> <p>Physical properties of a variety of everyday materials compare and group.</p> <p>What materials were used in the past? Why do you think this is? Have choices of materials used changed over time? If so, Why ?</p>

			<p>Y2 - Animals including humans Animals, including humans, have offspring which grow into adults Basic needs for survival. Importance of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>Gather and record data to answer the question of “why did the great fire of London spread rapidly?” How could it have been stopped? (how can we learn from the mistakes made?)</p>		<p>Build a London landmark - how can we change materials by squashing and bending everyday materials? How can different materials be grouped?</p>
LKS2	<p>Y3 - Plants To investigate how a range of different seeds grow testing different conditions, understanding the different functions of the parts of a plant.</p> <p>Y3 - Light Make shadow puppets with your hands to see how shadows are formed and change size through the blocking of light travelling from a light source. (Victorian pastime). Look at the sun and think about how it is dangerous/how to protect our eyes?</p>	<p>Living things and their habitats Classification keys to help group, identify and name a variety of living things in their local and wider environment (science). Compare the Roman era with now. Habitats/endangered species. What is the impact of the removal of animals from their natural habitats?</p>	<p>Animals including humans Diet of the Aztecs and why they eat the foods they do and how that has affected their bodies (muscle/skeletal). (e.g. hunting).</p> <p>Electricity - What did the Aztecs use instead of electricity - how has having electricity impacted our world and environment?</p> <p>Common appliances that run on electricity. Constructing circuits with wires, cells, bulbs, buzzers describing why they do /don't work based on open/closed circuits and switches. Identify and describe metals that are good conductors.</p>	<p>Working scientifically: fair testing, measuring, recording, diagrams, conclusions, comparisons</p> <p>Sound - Sound-fair testing. Vibration in a range of different musical instruments from around the world. Pitch and volume of sounds can be changed in a variety of ways. Use different household objects to create sounds with different pitch and volume.</p> <p>Make ear defenders from a variety of different materials to investigate which provides the best insulation against sound. Test different materials, making comparisons before drawing conclusions from investigation and recording results in a clear way using diagrams.</p>	<p>Animals including humans: Diet of Anglo-Saxons ay. What did they eat ?</p> <p>Food chains from this time (identifying producers, predators and prey) - Do they differ from food chains of today? If so, How?</p> <p>What are the functions of the basic parts of the digestive system in humans? Identify the different types of teeth in humans and animals and understand their simple functions.</p> <p>Rocks - Fossils, soils, rocks of the Anglo-Saxon time period (sandstone, granite, amulets, curing stones etc). Explore fossils that have evolved from Anglo-Saxon times - how were they formed? What do they tell us?</p>	<p>States of matter - group solids, liquids, gases; heating and cooling to change state using degrees celsius; water cycle</p> <p>Forces and magnets - attract and repel groups of materials, magnetic poles</p> <p>Compare the amount of force needed to move a toy vehicle on different surfaces - making choices about whether to measure push or pull and how to keep it fair. Evaluate, review and discuss findings - <i>were predictions correct?</i></p>

<p>UKS2</p>	<p>Y6- Light: How did a searchlight work in the Blitz? Light travels in straight lines off a reflective surface to the eye, through the cornea; the pupil controls the amount of light. Create a periscope that allows us to see round corners and bends.</p>	<p>Living things and their habitats- Animals that live in different regions of West Africa and categorise - mammals, reptiles, amphibians, fish, insects, birds.</p> <p>Describe the differences in the life cycles-mammal, amphibian, insect, bird.</p> <p>Reasons for classifying plants and animals based on specific characteristics.</p> <p>Linneaus and classification systems- including microorganisms, plants and animals.</p> <p>Life process of reproduction in some plants and animals.</p>	<p>Electricity - voltage in cells, drawing recognised symbols</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>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>Working scientifically: fair testing, accurate measuring, recording data, diagrams and graphs, presenting conclusions, comparisons</p> <p>Earth and space: Describe the Sun, Earth and Moon as approximately spherical bodies. Describe movement of Earth, moon and planets relative to the Sun in the solar system Explain day and night.</p>	<p>Animals including Humans Compare diets of Ancient Greece's to current day - what is the impact of healthy/unhealthy lifestyles?</p> <p>Circulatory system; transportation of nutrients</p> <p>Evolution and inheritance: Recognise that living things have changed over time. What are fossils? What fossils could have been found in Ancient Greece?</p> <p>Identify how animals and plants are adapted to suit their environment in different ways- leading to evolution.</p> <p>Compare how offspring vary from parent.</p>	<p>Properties and Changes of Materials - compare and group characteristics of materials; how to recover a substance from a solution; filtering, sieving, evaporating; results of irreversible changes</p> <p>Forces and magnets - gravity; air resistance, water resistance, friction mechanisms enabling smaller force to have greater effect.</p>
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