



St. Mary's Church of England Primary School



Science Overview

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Science KS1 Skills		Working Scientifically <ul style="list-style-type: none"> Asking simple questions and recognising they can be answered in different ways. Observing closely using simple equipment. Performing simple tests. Identifying and classifying. Using their observations and ideas to suggest answers to quest Gathering and recording data to help in answering questions. 					
		Seasonal Changes	Animals including humans	Animals including humans	plants	Everyday materials	Everyday materials
Year 1	Science Knowledge	Record weather daily			Record weather and temperature daily		
		Observe changes across the four seasons	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.	distinguish between an object and the material from which it is made.	distinguish between an object and the material from which it is made.
		Observe and describe weather associated with the seasons and how the day length varies			Identify and describe the basic structure of a variety of common flowering plants, including trees.	identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. describe the simple physical properties of a variety of everyday materials.	identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. describe the simple physical properties of a variety of everyday materials.
						compare and group together a variety of everyday materials on the basis of their simple physical properties.	compare and group together a variety of everyday materials on the basis of their simple physical properties.

vocabulary	Observe Temperature Season Elements Shadow	climate Rainfall Precipitation					
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Science KS1 Skills		Working Scientifically <ul style="list-style-type: none">Asking simple questions and recognising they can be answered in different ways.Observing closely using simple equipment.Performing simple tests.Identifying and classifying.Using their observations and ideas to suggest answers to questGathering and recording data to help in answering questions.								
Year 2	Science Knowledge	All Living things	Animals including humans	Uses of everyday materials	Habitats	Plants	Scientists and inventors			
		Explore and compare the differences between things that are living, dead and things that have never been alive Know how animals obtain their food from plants and other animals, using the idea of a simple food chain Identify and name different sources of food	Know that animals, including humans, have offspring which grown into adults. Describe the basic needs of animals, including humans, for survival (water, food and air) Understand the importance for humans of exercise, eating the right amounts of different types of food and hygiene	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses Find out how the shape of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	To observe closely using simple equipment; to perform simple tests; to gather and record data to help in answering questions; to use their observations and ideas to suggest answers to questions To identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. Identify and name a variety of plants and animals in their habitats, including microhabitats.	observe and describe how seeds and bulbs grow into mature plants. find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.				
vocabulary		Living Alive Plants Food chain Carnivore Omnivore	Dead Never alive Animals Herbivore	Adult Develop reproduce Offspring Hygiene	young diet Life cycle Live young nutrition	Materials Dull Rigid Transparent Absorbent	Properties Rough Flexible Opaque Waterproof	Habitat Leaf litter Seashore Desert Ocean Conditions Rainforest	Microhabitat Shelter Woodland adopt environment	

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Science LKS2 Skills	Working Scientifically <ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers gathering, recording, classifying and presenting data in a variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings. 						
	Year 3 Science Knowledge	Forces and magnets	Animals including humans	Light	Rocks	Let's be scientists	Plants
		<p>Compare how things move on different surfaces</p> <p>Notice that some forces need contact between two objects but magnets 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 magnets as having two poles and can predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>Explore and compare the differences between things that are living, dead and things that have never been alive</p> <p>Know how animals obtain their food from plants and other animals, using the idea of a simple food chain</p> <p>Identify and name different sources of food</p>	<p>Recognise that light in order to see things</p> <p>Notice that light is reflected from surfaces</p> <p>Recognise that light from the sun can be dangerous</p> <p>Recognise that shadows are formed when the light from a light source is blocked by a solid object</p> <p>Find patterns in the way that the size of shadows change</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 re trapped within rock.</p> <p>Recognise that soils are made from rocks and organic matter</p>		<p>identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>explore the requirements of plants for life and growth (light, 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.</p> <p>explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>

vocabulary			Light Dark Reflect Torch Mirror	Igneous Sedimentary Metamorphic Permeable Impermeable Fossil Top soil Sub soil Base rock		
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Year 4	Science LKS2 Skills	Working Scientifically <ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers gathering, recording, classifying and presenting data in a variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings. 					
	Science Knowledge	Sound Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Recognise that sounds get fainter as the distance from the sound source increases. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it.	Electricity Identify common appliances that run on electricity Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, bulbs, switches and buzzers Identify whether or not a lamp will light in a simple series circuit, whether or not the lamp is part of a complete loop with a battery Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit Recognise some common conductors and insulators, and	States of matter Compare and group materials together, according to whether they are solids, liquids or gases Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius temperature.	States of matter Compare and group materials together, according to whether they are solids, liquids or gases Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius temperature.	Living things and their habitats recognise that living things can be grouped in a variety of ways explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment recognise that environments can change and that this can sometimes pose dangers to living things	Animals including humans describe the simple functions of the basic parts of the digestive system in humans identify the different types of teeth in humans and their simple functions construct and interpret a variety of food chains, identifying producers, predators and prey

			associate metals with being good conductors				
vocabulary		Frequency Sound waves Sign language Muffled Sound Fair test vibrations Prediction Volume particles	Electricity Circuit Switch Battery Plug Mains Appliance Wire Crocodile clip Buzzer Cell Conductor Insulator Current	Matter solids Liquids gases Melting boiling Evaporation run off Water vapour water cycle Condensation	Matter solids Liquids gases Melting boiling Evaporation run off Water vapour water cycle Condensation	Vertebrate Invertebrate Classification Habitat Environment Deforestation Food chain Herbivore Omnivore deciduous	Organisms Carnivores herbivores Omnivores Incisor Canine premolar molar digestion waste saliva

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Science uKS2 Skills		Working Scientifically <ul style="list-style-type: none"> planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations identifying scientific evidence that has been used to support or refute ideas or arguments 					
	Year 5	Properties and changes of materials Compare and group together materials based on, hardness, solubility, transparency, thermal and electrical conductivity and magnetism Give reasons, based on evidence/fair tests for uses of materials Demonstrate that dissolving, mixing and changes of state are reversible changes Know that some changes result in new materials and are usually irreversible	Forces Identify forces acting on objects. Explore the effect gravity has on objects and how it was discovered. Investigate the effects of air and water resistance and friction. To explore design mechanisms.	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 Understand and explain the Earth's rotation to explain day and night	Living things and their habitats Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals.	Animals including humans describe the changes as humans develop to old age	Scientists and inventors
vocabulary		Conductor Dissolve Evaporation Flexible Insulator Irreversible Magnetic Reversible Soluble	Air resistance Force Friction Gears Gravity Levers Water resistance Push force Pull force	Axis Celestial Dwarf planet Geocentric Heliocentric Planet Sun Moon Orbit	Sexual Asexual Reproduction Monotreme Marsupial Placental		

	Thermal	Pulleys Mass				
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	Year 6	Animals including humans <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, drugs and lifestyle on the way their bodies function</p> <p>describe the ways in which nutrients and water are transported within animals, including humans</p>	Evolution and inheritance <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>recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	Light <p>Recognise that light appears to travel in straight lines</p> <p>Know that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye</p> <p>Explain that we see things because light sources to our eyes or from light sources to objects and then to our eyes</p> <p>Know that light travels in straight lines to explain why shadows have the same shape as the objects that cast them</p>	Electricity <p>To recognise and use symbols in a circuit diagram</p> <p>To 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>		Living things and their habitats <p>describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</p> <p>give reasons for classifying plants and animals based on specific characteristics</p>

vocabulary	Arteries	Blood	Adaptation	Light	Components		
	Blood vessel	Veins	Body fossil	Periscope	Insulator		
	Villi	Alveoli	Breeding Evolution	Reflection	Conductor		
	Nutrients		Inherit	Refraction	Parallel circuit		
	Vitamins		Selective	Spectrum	Series circuit		
	Circulatory system		Breeding	Filter			
			Reproduction Trace fossil				
			Environment Fossil				
			Offspring				