

Westcott Church of England School

Science Curriculum Mapping Cycle A (2023-2024) & B (2024-2025)

Science Key Stage 1 Years 1 & 2						
	Term 1	Term 2	Term 3	Term 4	Term 5 /6	July
Topic Cycle A 2023-2024	Unique you and me!	Fire! Fire!	Towers, Tunnels and Turrets!	There's no place like home!	The Secret Scented Garden! (Assessments)	Pupil initiated:
National Curriculum	Observe Seasonal Changes: Autumn, weather & day length Comparing Animals Including Humans	Observe Seasonal Changes: Winter weather & day length Everyday Materials	Observe Seasonal Changes: Winter & Spring, weather & day length Living Things and Their Habitats		Observe Seasonal Changes: Summer, sun safety weather & day length Introduction to Plants & Trees Plant Growth	
Key Knowledge Progression	Know about the changes in the seasons. Know the name of the seasons and the type of weather in each season. Know how to plant bulbs for the summer. Know how to name, draw and label the parts of the human body that I can see Know how to link the correct part of the human body to each sense Know the basic stages in the life cycle of animals, including humans Know what animals and humans need to survive. Know why exercise, a balanced diet and good hygiene are important for humans.	Know the materials that an object is made from. Can distinguish an object and the material it is made from. Know the difference between wood, plastic, glass, metal, water and rock. Know about the properties of everyday materials. Can group and compare objects based on the materials they are made from.	Know about the changes in the seasons. Know the name of the seasons and the type of weather in each season. Know and understand some of the life processes, including movement, reproduction, sensitivity, growth, excretion and nutrition. Know the difference between things that are living, dead, and things that have never been alive, using some of the life processes. Know a variety of plants and animals and describe some differences. Know the name of a variety of habitats, including woodland, ocean, rainforest, coastal and polar Know that a habitat is the environment where an animal or plant lives/grows because it provides what they need to survive. To know about 4 habitats. Know that living things depend upon each other (e.g. for food, shelter. Know and understand that a food chain can be used to show how animals obtain food from eating either plants and/or other animals. Know 2 food chains		Know about the changes in the seasons. Know the name of the seasons and the type of weather in each season. Know and name a variety of common wild and garden plants including deciduous and evergreen trees. Know and name the petals, stem, leaves and roots of a plant Know and name the roots, trunk, branches and leaves of a tree Know how seeds and bulbs grow into plants Know what plants need to grow and stay healthy (water, light & suitable temperature)	

Topic Cycle B 2024-2025	Marvelous Transport!	Terrific Toys! (Then and now)	Going on a Safari!	To the Moon and the Stars!	Oh, we do like to be beside the seaside! (Assessments)	Pupil initiated:
National Curriculum	Uses of Everyday Materials	Living Things - Microhabitats Animals: Sensitive bodies			Animals Including Humans (Life cycles and health)	
Key Knowledge & Skills Progression	<p>Know and name a range of materials including wood, metal, plastic, glass, brick, rock, paper and cardboard.</p> <p>Know why a material might or might not be used for a specific job.</p> <p>Know how materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Know how to identify and classify a variety of minibeasts</p> <p>Know a variety of plants and animals and describe some differences.</p> <p>Know that a habitat is the environment where an animal or plant lives/grows, because it provides what they need to survive.</p> <p>Know that a microhabitat is a very small habitat (e.g. under stones, logs and leaf litter).</p> <p>Know that living things depend upon each other (e.g. for food, shelter).</p>			<p>Know and name a variety of animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Classify and know animals by what they eat- carnivore, herbivore and omnivore.</p> <p>Know how to sort animals into categories; fish, amphibians, reptiles, birds and mammals.</p> <p>Know how to sort living and non-living things.</p> <p>Identify things that are living, dead or never alive.</p>	

Science Lower Key Stage 2 Years 3 & 4						
	Term 1	Term 2	Term 3	Term 4	Term 5 /6	July
Topic Cycle A 2023-2024	Savage Stone to Brilliant Bronze	Light of the World	What an incredible earth!	A clang and a bang! Music to my ears!	Pharaohs and Pyramids of the Nile (Assessments)	Pupil initiated:
National Curriculum	Rocks & Soil	Light & Shadows	Forces and Magnets	Sound & vibrations	Plants, Trees & Soil Water	
Skills & Knowledge Progression	<p>Know, 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>Know that soils are made from rocks and organic matter</p>	<p>Know that humans need light in order to see things and that dark is the absence of light.</p> <p>Know that light is reflected from surfaces.</p> <p>Know that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Know that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>Find patterns in the way that the size of shadows change.</p>	<p>Know that some forces are a result of contact between two surfaces but some forces can act at a distance.</p> <p>Know that magnets have a north and south pole.</p> <p>Know some examples of magnetic materials, including iron and nickel, and how they react to a magnet and each other.</p> <p>Know some different examples of magnets, including bar, horseshoe, button and ring.</p> <p>Know some uses of magnets.</p> <p>Know friction is a contact force that acts between two surfaces to slow an object down.</p> <p>Know magnetism is a non-contact force that affects objects containing magnetic metal.</p> <p>Know and understand that the opposite poles of a magnet attract one another and like poles repel one another.</p>	<p>Know how sounds are made, associating some of them with something vibrating. Know 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>Know that sounds get fainter as the distance from the sound source increases.</p>	<p>Know 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 (air, 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>Know the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	

Topic Cycle B 2024-2025	Making my body work for me	The Frozen Kingdom	Rampaging Romans	Where will we find them?	Gods and Heroes (Assessments)	Pupil initiated:
National Curriculum	Animals Including Humans Digestion & Food	States of Matter	Electricity & Circuits Energy	Living Things and their Habitats Classification	Animals Including Humans Movement and Nutrition	
Skills and Knowledge Progression	<p>Know the main organs of the human digestive system (mouth, teeth, tongue, oesophagus, stomach, small and large intestines) and describe their simple functions.</p> <p>Know the different types of human teeth (incisor, canine, premolar and molar) and their simple functions.</p> <p>Know that teeth can be damaged, including the effect of sugary and acidic food.</p> <p>Know that it is important to brush teeth twice a day, make good food choices and visit the dentist regularly.</p> <p>To describe the teeth of carnivores and herbivores and understand why they are different.</p> <p>Know that predators hunt for their food and prey are the animals being hunted. Know that producers make their own food.</p> <p>Know that food chains begin with a producer followed by consumers, and arrows to show the energy passed on.</p>	<p>Know 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 or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C).</p> <p>Know the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>Know that all electrical appliances need a power source, including batteries or mains electricity.</p> <p>Know that an electrical circuit needs a complete path for the electrical charge to flow through.</p> <p>Know the main components in a series circuit.</p> <p>The precautions for working safely with electricity.</p> <p>Know that some materials allow electric charge to pass through them quickly and these are known as electrical conductors.</p> <p>Know that some materials do not allow electrical charge to pass through them easily and these are known as electrical insulators.</p> <p>Know that metals are used for cables and wires because they are good conductors and plastic is used to cover cables and wires because it is a good insulator.</p>	<p>Know that living things can be grouped in a variety of ways.</p> <p>Know how to use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Know that environments can change and that this can sometimes pose dangers to living things.</p>	<p>Know that animal, 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>Know that humans and some other animals have skeletons and muscles for support, protection and movement. Know the main bones in the body.</p> <p>Know that animals, including humans, need the right types and amount of nutrition.</p> <p>To know that humans cannot make their own food and therefore eat to get the nutrition needed.</p> <p>To know the main food groups and their simple functions. To know that a balanced diet should include all food groups.</p>	

Science Upper Key Stage 2 Years 5 & 6						
	Term 1	Term 2	Term 3	Term 4	Term 5 /6	July
Topic Cycle A 2023-2024	It's time for a Disaster!	Victorian Children and Christmas	Animal, Vegetable or Mineral?	To be or not to be?	We have the Power to change! (Assessments)	Pupil initiated:
National Curriculum	Living Things and their Habitats	Light & Reflection	Evolution and Inheritance Food Nutrition	Materials: Mixtures & Separation	Electricity	
Skills & Knowledge	<p>Know 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>Know and give reasons for classifying plants and animals based on specific characteristics.</p> <p>Know that 'organism' is a term used to refer to an individual living thing.</p> <p>Know that micro-organisms are incredibly small and cannot usually be seen by the naked eye.</p> <p>Know the characteristics of the different groups of vertebrates and commonly found invertebrates.</p>	<p>Know 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 into the eye.</p> <p>Know and explain that we see things because light travels from light sources to our eyes or from light sources 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 the objects that cast them.</p>	<p>Know 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>Know that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>Know how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	<p>Know that some substances will dissolve in a liquid to form a solution.</p> <p>Know the factors that affect the time taken to dissolve, including temperature and stirring.</p> <p>Know that some liquids and solids can be separated using sieving, filtering and evaporation and to describe these processes.</p>	<p>Know that the brightness of a lamp or the volume of a buzzer is associated 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>Know and use recognised symbols when representing a simple circuit in a diagram.</p>	

Topic Cycle B 2024-2025	Invade, Conquer Settle	We're all Wonders!	May the Force be with you!	Map Makers & Globe Trotters	Spies, Suspicions and Secrets (Assessments)	Pupil initiated:
National Curriculum	Living Things and their Habitats Life Cycles Plant & animal reproduction	Animals Including Humans	Forces	Earth and Space	Materials: Properties and Changes	
Key Knowledge and skills	<p>Know and describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Know and describe the life process of reproduction in some plants and animals.</p>	<p>Know the changes as humans develop to old age.</p> <p>Know and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Know the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Know the ways in which nutrients and water are transported within animals, including humans.</p>	<p>Know 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, water resistance and friction, that act between moving surfaces.</p> <p>Know that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	<p>Know and explain about the movement of the earth and other planets relative to the sun.</p> <p>Know and explain about the movement of the moon in relation to the Earth.</p> <p>Know how night and day are created.</p> <p>Know that the earth, sun and moon are spherical.</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p>	<p>Know how to 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 and give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p>	