

Science Long Term Plan

	Year A					Year B				
	Term 1	Term 2	Term 3	Term 4	Term 5/6	Term 1	Term 2	Term 3	Term 4	Term 5/6
EYFS	Dinosaurs	Family celebrations and memories	In the jungle	Space	Minibeasts	Pirates	Seasonal changes	Toys	Holidays	You, me and everyone
Year 1 and 2	Living V Non-Living		Plants and Habitats in the Rainforest		Animals, Plants and Habitats in local Nature		Weather and Seasons	Materials, sorting and simple forces.		Human body and health
Year 3 and 4	Rocks and Soils	Forces and Magnets	Plants	Light and Shadow	Flowering Plants. Heating and Cooling.	Sound	Animals, habitats and adaptations	Electricity		Skeleton, muscles, digestion and diet
Year 5 and 6	Evolution and Inheritance	Forces	Materials and their properties	Space	Classification	Reversible and Irreversible Changes	Light and sight	Electricity	Life Cycles	Reproduction and Heart, diet and exercise

Science in the Early Years

Year A and B

	Personal social and emotional development	Managing self	<ul style="list-style-type: none">• Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.
	Understanding the world	The Natural World	<ul style="list-style-type: none">• Explore the natural world around them, making observations and drawing pictures of animals and plants.• Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.• Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Science topic overview in the Early Years

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	
Year A	<p>Dinosaurs</p> <p>The pupils will create fossils using ingredients and discuss the changes in states. The pupils will help to recreate a volcano and observe closely and talk about the changes in the ingredients used. The Pupils will learn about fossilised dinosaur eggs. They will notice that animals, including humans, have offspring which grow into adults. Pupils will be introduced to the processes of reproduction and growth in animals. The pupils will be able to identify some dinosaurs as Carnivore, herbivores and omnivores</p>	<p>Family, celebrations and memories</p> <p>The pupils will learn about keeping healthy. Why a healthy diet that includes exercise is good for us. They will find out and discuss ways to keep safe and healthy. The pupils will create healthy meals and take part in cooking activities learning about the changes of states for some of the ingredients. The pupils will help to plant vegetables and flowers and they will observe the changes. They will learn about how they have changed since they were a baby.</p>	<p>Rainforests- Madagascar</p> <p>The pupils will make observations of the animals and plants from Madagascar. They will learn about different habitats and camouflage. The pupils will learn about how the animals have adapted to the different habitats of Madagascar. They will learn about the different foods the animals eat. The pupils will learn about why trees are so important to our environment. They will learn about the difference between nocturnal and diurnal animals.</p>	<p>Space</p> <p>The pupils will learn about the solar system and the planets. They will learn about gravity and oxygen. The pupils will learn about the phases of the moon and how shadows are created. They will learn that we live on Earth and what our planet looks like from space. They will learn that we have gravity on Earth and the moon does not. They will learn about space travel as well as what an astronaut needs to do for training to keep fit and healthy. They will learn about star constellations. The pupils will learn about astronauts keeping healthy in space and the food that they eat</p>	<p>The natural world- minibeasts</p> <p>The pupils will observe minibeasts. They will look after caterpillars as part of our topic. The Pupils will take part in classifying minibeasts based on their different features. They will learn about the similarities and differences between living minibeasts. They will learn about the life cycles of a few minibeasts and talk about each stage. The pupils will discuss growth and change. They will learn about minibeast habitats and their diets. They will make observations of minibeasts and plants and explain why some things occur and talk about changes.</p>		
Year B	<p>Pirates</p> <p>The pupils will experiment with floating and sinking. They will learn about what it meant to be a pirate and what they may have eaten on the pirate ship. They will experiment with different materials to make boats and sails for a pirate boat. They will learn about how the pirates would have navigated their ships using star constellations.</p>	<p>Seasonal changes</p> <p>They will make observations of the weather during different seasons explain why some things occur and talk about changes. They will learn about the sun and the moon and the differences between day and night. The pupils will experiment with different materials for clothing in different seasons. They will explore the prisms of rainbows</p>	<p>Toys and games</p> <p>The pupils will learn about the different materials their toys are made from. They will explore making toys from different materials. The pupils will describe the textures of different materials used for toys and they will be able to name a few. They will experiment with the way that different toys move and identify push and pull techniques.</p>	<p>Holidays</p> <p>The pupils will investigate sand and the differences between wet sand and dry sand. They will describe the simple physical properties of a variety of everyday materials- beach items. They will distinguish between an object and its material- sorting activity beach items. They will identify and name a variety of common animals found at the beach including fish, amphibians, reptiles, birds and mammals.</p>	<p>You, me and everyone</p> <p>The pupils will learn about keeping healthy. Why a healthy diet that includes exercise is good for us. They will find out and discuss ways to keep safe and healthy. The pupils will create healthy meals and take part in cooking activities learning about the changes of states for some of the ingredients. The pupils will help to plant vegetables and flowers and they will observe the changes. They will learn about how they have changed since they were a baby.</p>		

KS1 Science Coverage

Year	Autumn	Spring	Summer
KS1A	<p>To explore and compare the differences between things that are living, dead, and things that have never been alive.</p>	<p>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.</p> <p>To identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p>To describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> <p>To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>To identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>To identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>To observe and describe how seeds and bulbs grow into mature plants</p> <p>To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>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.</p> <p>To identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p>To describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> <p>To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>To identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>To describe and compare the structure of a variety of common animals</p> <p>To notice that animals, including humans, have offspring which grow into adults</p> <p>To find out about and describe the basic needs of animals, including humans, for survival</p>
KS1B	<p>To observe changes across the four seasons</p> <p>To observe and describe weather associated with the seasons and how day length varies.</p>	<p>To distinguish between an object and the material from which it is made</p> <p>To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> <p>-To describe the simple physical properties of a variety of everyday materials</p> <p>To compare and group together a variety of everyday materials on the basis of their simple physical properties</p> <p>To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <p>To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>To identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p>To notice that animals, including humans, have offspring which grow into adults</p> <p>To find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>To describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>

LKS2 Science Coverage

Year	Autumn		Spring		Summer
LKS2A	<p>To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>To describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>To recognise that soils are made from rocks and organic matter.</p> <p><i>To recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago (Y6 obj)</i></p>	<p>To compare how things move on different surfaces</p> <p>To notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>To observe how magnets attract or repel each other and attract some materials and not others</p> <p>To 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>To describe magnets as having two poles</p> <p>To predict whether two magnets will attract or repel each other, depending on which poles are facing</p>	<p>To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>To 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>To investigate the way in which water is transported within plants</p>	<p>To recognise that they need light in order to see things and that dark is the absence of light</p> <p>To notice that light is reflected from surfaces</p> <p>To recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>To recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>To find patterns in the way that the size of shadows change.</p>	<p>To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> <p>To compare and group materials together, according to whether they are solids, liquids or gases</p> <p>To 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>To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</p>
LKS2B	<p>To identify how sounds are made, associating some of them with something vibrating</p> <p>To recognise that vibrations from sounds travel through a medium to the ear</p> <p>To find patterns between the pitch of a sound and features of the object that produced it</p> <p>To find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p>To recognise that sounds get fainter as the distance from the sound source increases.</p>	<p>To construct and interpret a variety of food chains, identifying producers, predators and prey.</p> <p>To recognise that living things can be grouped in a variety of ways</p> <p>To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>To recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p>To identify common appliances that run on electricity</p> <p>To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>To identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</p> <p>To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</p> <p>To recognise some common conductors and insulators, and associate metals with being good conductors</p>		<p>To identify that animals, 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>To identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p>To describe the simple functions of the basic parts of the digestive system in humans</p> <p>To identify the different types of teeth in humans and their simple functions</p>

UKS2 Science Coverage

Year	Autumn		Spring		Summer
UKS2A	<p>To 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>To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	<p>To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>To identify the effects of air resistance, water resistance and friction, that act between moving surfaces</p>	<p>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>To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p>	<p>To describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>To describe the movement of the Moon relative to the Earth</p> <p>To describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>To 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>To describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals</p> <p>To give reasons for classifying plants and animals based on specific characteristics.</p>
UKS2B	<p>To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>To demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>To explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda</p>	<p>To recognise that light appears to travel in straight lines</p> <p>To 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>To 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>To 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>To 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>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> <p>To use recognised symbols when representing a simple circuit in a diagram.</p>	<p>To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>To describe the life process of reproduction in some plants and animals</p> <p><i>To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</i></p>	<p>To describe the changes as humans develop to old age.</p> <p>To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>To describe the ways in which nutrients and water are transported within animals, including humans.</p>