

Year	Curriculum Coverage - Science			
EYFS	<p>Autumn 1. Humans (naming simple body parts)</p> <p>Autumn 1. Teeth (looking after our oral health)</p> <p>Autumn 2. Animals – nocturnal animals with a focus on common UK animals.</p>	<p>Autumn 2. Pupils learn to recognise that some materials are waterproof. They can create dens/shelters knowing they will keep dry.</p>	<p>All year. Seasonal changes – periodically children learn about the 4 seasons over the year and look at the environment around us to look for differences.</p>	
	<p>Spring 1. Animals – around the world with hot/cold habitats.</p> <p>Spring 1. Life cycles of penguins.</p> <p>Spring 2. Plants – how to plant, the life cycle of seed to plant to seed. What plants need to stay alive. Name simple parts of plants.</p> <p>Summer 2. Minibeasts (and lifecycles of butterflies, frogs)</p>	<p>Spring 2. Pupils will look at fossils and learn they are not bones but forms that have been under pressure a long time.</p>	<p>Pupils have access to magnets within provision regularly and use them to build with (magnetic tiles), create words (magnetic letters) and use magnets in activities in tuff trays (eg picking up pipe cleaners).</p>	
	BIOLOGY	CHEMISTRY	PHYSICS	WORKING SCIENTIFICALLY
1	Plants	Everyday Materials	Seasonal Changes	Everyday Materials
	<p>Pupils should be taught to identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p>	<p>Pupils should be taught to distinguish between an object and the material from which it is made and identify and name a variety of everyday materials including: wood, plastic, glass, metal, water and rock</p>	<p>Pupils should be taught to observe changes across the four seasons and describe the weather associated with the seasons and how day length varies</p>	<p>Pupils will work scientifically by asking simple questions; observing closely, using equipment, performing simple tests, identifying and classifying, using their observations to suggest answers to questions, gathering and recording data to help in answering questions.</p>
	Animals including Humans	<p>Pupils should be taught to describe the simple physical properties of a variety of everyday materials and compare and contrast them on the basis of their simple physical properties.</p>		
	<p>Pupils should be taught to identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals and identify if they are carnivores, herbivores or omnivores</p>			

	children will describe and compare the structure of a variety of common animals .		
	Pupils should be taught to identify, name, draw and label the basic parts of the human body and say which part is associated with each sense.		

	Living Things and Their Habitats	Uses of Everyday Materials	Uses of Everyday Materials
	Pupils should be taught to explore and compare the differences between things that are living, dead, and things that have never been alive	Pupils should be taught 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.	Pupils will work scientifically by: comparing the uses of everyday materials in and around the school with materials found in other places (at home, the journey to school, on visits, and in stories, rhymes and songs); observing closely, identifying and classifying the uses of different materials, and recording their observations.
	Pupils should be taught 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.	Pupils should be taught to find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Plants Pupils will work scientifically by: observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing similar plants at different stages of growth; setting up a comparative test to show that plants need light and water to stay healthy.
2	Pupils should be taught to identify and name a variety of plants and animals in their habitats, including micro-habitats		Animals, Including Humans Pupils will work scientifically by: observing, through video or first-hand observation and measurement, how different animals, including humans, grow; asking questions about what things animals need for survival and what humans need to stay healthy; and

				suggesting ways to find answers to their questions.
		Pupils should be taught 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.		
		Plants		
		Pupils should be taught to observe and describe how seeds and bulbs grow into mature plants and find out.		
		Pupils should be taught to describe how plants need water, light and a suitable temperature to grow and stay healthy.		
		Animals, Including Humans		
		Pupils should be taught to notice that animals, including humans, have offspring which grow into adults.		
	Pupils should be taught to find out about and describe the basic needs of animals, including humans, for survival (water, food and air).			
	Pupils should be taught to describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.			

3	Plants	Rocks	Light	Plants
	Pupils should be taught to identify and describe functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers	Pupils should be taught to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties	Pupils should be taught to recognise that they need light in order to see things and that dark is the absence of light	Pupils will work scientifically by observing how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers.
	Pupils should be taught 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	Pupils should be taught to describe in simple terms how fossils are formed when things that have lived are trapped within rock	Pupils should be taught to notice that light is reflected from surfaces	
				Rocks

	Pupils should be taught to investigate the way in which water is transported within plants.	Pupils should be taught to recognise that soils are made from rocks and organic matter.	Pupils should be taught to recognise that light from the sun can be dangerous and that there are ways to protect their eyes	Pupils will work scientifically by exploring different soils and identify similarities and differences between them and investigate what happens when rocks are rubbed together or what changes occur when they are in water. They can raise and answer questions about the way soils are formed.	
	Pupils should be taught to explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.		Pupils should be taught to recognise that shadows are formed when the light from a light source is blocked by a solid object		
			Pupils should be taught to find patterns in the way that the size of shadows change.		
			Forces and Magnets		Light
			Pupils should be taught to compare how things move on different surfaces.		Pupils will work scientifically by looking for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.
	Animal, Including Humans				Animals, Including Humans
	Pupils should be taught to identify that animals, including humans, need the right types and amount of nutrition		Pupils should be taught to notice that some forces need contact between two objects, but magnetic forces can act at a distance		Pupils will work scientifically by researching different food groups and how they keep us healthy and design meals on what they find out.
	Pupils should be taught to identify that humans and some other animals have skeletons and muscles for support, protection and movement.		Pupils should be taught to observe how magnets attract or repel each other and attract some materials and not others		
			Pupils should be taught 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		Forces and Magnets
			Pupils should be taught to describe magnets as having two poles		Pupils will work scientifically by exploring the strengths of different magnets and finding a fair way to compare them; sorting materials into those that are magnetic and those that are not.
	Pupils should be taught to predict whether two magnets will attract or repel each other, depending on which poles are facing.				

Pupils should be taught to recognise that living things can be grouped in a variety of ways	Pupils should be taught to compare and group materials together, according to whether they are solids, liquids or gases	Pupils should be taught to identify how sounds are made, associating some of them with something vibrating	Pupils might work scientifically by using and making simple guides or keys to explore and identify local plants and animals
Pupils should be taught to explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment	Pupils should be taught 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)	Pupils should be taught to recognise that vibrations from sounds travel through a medium to the ear	
Pupils should be taught to recognise that environments can change and that this can sometimes pose dangers to living things.	Pupils should be taught to identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	Pupils should be taught to find patterns between the pitch of a sound and features of the object that produced it Pupils should be taught to find patterns between the volume of a sound and the strength of the vibrations that produced it Pupils should be taught to recognise that sounds get fainter as the distance from the sound source increases.	States of Matter Pupils might work scientifically by: grouping and classifying a variety of different materials; exploring the effect of temperature on substances such as chocolate, butter, cream (for example, to make food such as chocolate crispy cakes and ice-cream for a party). They might observe and record evaporation over a period of time, for example, a puddle in the playground or washing on a line, and investigate the effect of temperature on washing drying or snowmen melting.
Animals, including Humans		Electricity	Animals, Including Humans
Pupils should be taught to describe the simple functions of the basic parts of the digestive system in humans		Pupils should be taught to identify common appliances that run on electricity	Pupils might work scientifically by: comparing the teeth of carnivores and herbivores, and suggesting reasons for differences; finding out what damages teeth and how to look after them. They might draw and discuss their ideas about the digestive system and compare them with models or images.
Pupils should be taught to identify the different types of teeth in humans and their simple functions		Pupils should be taught to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers	
			Electricity

	Pupils should be taught to construct and interpret a variety of food chains, identifying producers, predators and prey.		Pupils should be taught 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	Pupils might work scientifically by: observing patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors of electricity, and that some materials can and some cannot be used to connect across a gap in a circuit.
			Pupils should be taught 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	
			Pupils should be taught to recognise some common conductors and insulators, and associate metals with being good conductors.	

5	Living Things and Their Habitats	Properties and Changes of Materials	Earth and Space	Living Things and Their Habitats
	Pupils should be taught to describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird	Pupils should be taught 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	Pupils should be taught to describe the movement of the Earth, and other planets, relative to the Sun in the solar system	Pupils might work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world
		Pupils should be taught to know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution	Pupils should be taught to describe the movement of the Moon relative to the Earth	
	Pupils should be taught to describe the life process of reproduction in some plants and animals.	Pupils should be taught to use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating	Pupils should be taught to describe the Sun, Earth and Moon as approximately spherical bodies	
Animals, Including Humans			Animals, including Humans	
Pupils should be taught to describe the changes as humans develop into old age.	Pupils should be taught to give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	Pupils should be taught to use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	Pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.	

		Pupils should be taught to demonstrate that dissolving, mixing and changes of state are reversible changes		
		Pupils should be taught 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.	Forces	Properties and Changes of Materials
			Pupils should be taught to explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object	Pupils might work scientifically by: carrying out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?'
			Pupils should be taught to identify the effects of air resistance, water resistance and friction, that act between moving surfaces	Earth and Space
			Pupils should be taught to recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	Forces
				Pupils might work scientifically by: exploring falling paper cones or cup-cake cases, and designing and making a variety of parachutes and carrying out fair tests to determine which designs are the most effective.
6	Living Things and Their Habitats		Light	Living Things and Their Habitats
	Pupils should be taught to 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		Pupils should be taught to recognise that light appears to travel in straight lines	Pupils might work scientifically by: using classification systems and keys to identify some animals and plants in the immediate environment. They could research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.
	Pupils should be taught to give reasons for classifying plants and animals based on specific characteristics		Pupils should be taught 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	Animals, including Humans
				Pupils might work scientifically by: exploring the work of scientists and scientific research about the relationship

			between diet, exercise, drugs, lifestyle and health.
		Pupils should be taught 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	Evolution and Inheritance
Pupils will find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification.		Pupils should be taught to use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	Pupils might work scientifically by: observing and raising questions about local animals and how they are adapted to their environment; comparing how some living things are adapted to survive in extreme conditions, for example, cactuses, penguins and camels. They might analyse the advantages and disadvantages of specific adaptations, such as being on two feet rather than four, having a long or a short beak, having gills or lungs, tendrils on climbing plants, brightly coloured and scented flowers.
Animals, including Humans		Electricity	Light
Pupils should be taught to identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood		Pupils should be taught to associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit	Pupils might work scientifically by: deciding where to place rear-view mirrors on cars; designing and making a periscope and using the idea that light appears to travel in straight lines to explain how it works. They might investigate the relationship between light sources, objects and shadows by using shadow puppets.
Pupils should be taught to recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function		Pupils should be taught 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	Electricity
			Pupils might work scientifically by: systematically identifying the effect of changing one component at a time in a circuit; designing and making a set of traffic lights, a burglar alarm or some other useful circuit.
Pupils should be taught to describe the ways in which nutrients and water are transported within animals, including humans.		Pupils should be taught to use recognised symbols when representing a simple circuit in a diagram.	
Evolution and Inheritance			

Pupils will be taught 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				
Pupils will be taught to recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents				
Pupils will be taught to identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.				