

## Science Key Knowledge – Developing Experts Scheme

Little Explorers – 1 year cycle					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<u>Marvellous Explorers!</u>	<u>Exploring the Future!</u>	<u>Animal Explorers!</u>	<u>Exploring Growing!</u>	<u>Buildings!</u>	<u>Go and Explore</u>
Our Body	Health and Safety	Animals	Plants	Materials	The Beach
<p>Key parts of my body are my arms, legs, toes, nose and eyes.</p> <p>Bodies change as we grow.</p> <p>My five senses are: touch, taste, hear, see and smell.</p> <p>.</p>	<p>Never put water near electricity.</p> <p>A shelter keeps me warm, dry and safe.</p> <p>First aid is used to help people who have hurt themselves.</p> <p>Washing your hands kills bacteria that can make us poorly.</p>	<p>Animals live in different places called habitats.</p> <p>Animals need air, food, water and shelter to survive.</p> <p>Dinosaurs lived on earth a long time ago. They no longer exist.</p>	<p>Plants and trees are living things.</p> <p>Plants need water, food and air to survive.</p> <p>A plant comes from a seed or bulb that is planted in soil.</p>	<p>Objects can change shapes.</p> <p>Melting is when a solid turns into a liquid</p> <p>Freezing is when something turns from a liquid into a solid.</p> <p>We use materials from animals to make clothes.</p>	<p>The ocean is a very large sea.</p> <p>A coast is where the land meets the sea.</p> <p>Sand is a solid.</p> <p>Water is a liquid.</p>

Big Explorers - Cycle A					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b><u>All Aboard!</u></b>	<b><u>Fire, Fire!</u></b>	<b><u>Up, up and away!</u></b>	<b><u>We are Explorers</u></b>	<b><u>How does your garden grow?</u></b>	<b><u>Africa</u></b>
Exploring Everyday Materials 1 (Y1)	Animals inc. Humans -Life cycles (Y2)	Seasonal Changes (Y1)	Exploring Everyday Materials 2 (Y1)	Plants – Growth and Care (Y2)	Living things and their habitats – Habitats around the world (Y2)
Objects are made from materials.  Types of materials are: fabric, metal, wood and plastic.  Objects can float or sink.	Animals, including humans have offspring which grow into adults.  Offspring have similar qualities to their parents.  Life cycles are the changes that happen through life.	The four seasons are: spring, summer, autumn and winter.  The weather changes through each season.  The length of a day changes depending on the time of year.	A waterproof object doesn't let water through.  Materials are used for different things depending on their properties.	Seeds and bulbs grow into plants.  Plants need water, light and suitable temperature to grow.  The life cycle of a plant (germination, seedling, pollination, reproduction)	Most living things live in habitats which suit them.  Habitats provide safety.  Habitats can be destroyed.
Big Explorers – Cycle B					
<b><u>Moon Zoom</u></b>	<b><u>Banquets, Balls and Battles</u></b>	<b><u>Tremendous China!</u></b>	<b><u>Robin Hood and our Forest</u></b>	<b><u>Victorians</u></b>	<b><u>Beach combers</u></b>
Animals inc. Humans – All About Me (Y1)	Use of Everyday Materials (Y2)	Animals inc. Humans - About animals (Y1)	Introduction to Plants (Y1)	Animals inc. Humans - Growth (Y2)	Living things and their habitats (Y2)
My ears help me to hear.  My nose helps me to smell.  My eyes help me to see.  My tongue helps me to taste.  My body helps me to touch.	Materials have different uses.  Solid objects can change shape by squashing, bending, twisting and stretching.	Animals are either: fish, amphibians, reptiles, birds or mammals.  An animal that eats meat is a carnivore.  An animal that eats plants are herbivores.  An animal that eats both are called omnivores.	Seeds grow into plants.  A plant has roots, a stem, leaves and flowers.  Fruit and vegetables are types of plants.	Animals, including humans have offspring which grow into adults.  Humans need water, food and air to survive.  Humans need to stay healthy by exercising, eating the right food and staying clean.	A habitat is a place where animals and plants live.  7 characteristics of living things: Movement Reproduction Senses Grow Respire Excrete Nutrition

Philosophers - Cycle A					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<u>Rainforests</u>	<u>Ancient Egyptians</u>	<u>Ancient Greeks</u>	<u>Trade and Food</u>	<u>Saxons</u>	<u>Vikings</u>
Classifying Living things and their Habitats (Y4)	Animals including humans – Human Body and Skeleton (Y3)	Living things and their habitats – Conservation(Y4)	Animals including humans - Food and digestion (Y4)	Exploring the World of Plants (Y3)	States of matter (Y4)
<p>A vertebrate is an animal with a backbone.</p> <p>Classifying means organising information into groups or shared qualities.</p> <p>An ecosystem is a community of living things.</p>	<p>Animals, including humans, get their nutrition from what they eat.</p> <p>Animals, including humans, need the right type and amount of nutrition.</p> <p>Skeletons and muscles are for support, protection and movement.</p>	<p>Conservation means to protect.</p> <p>Pollution and deforestation can make changes to the environment.</p>	<p>Types of teeth: canines, incisors, premolars and molars.</p> <p>The digestive system breaks down food in the body.</p> <p>All living things are part of a food chain.</p>	<p>The roots, stems, leaves and flowers are part of a plant.</p> <p>Plants need: air, light, water, nutrients and room to grow.</p> <p>Plants have a life cycle (pollination, seed formation and seed dispersal).</p>	<p>The three states of matter are solids, liquids and gases.</p> <p>Materials can change state if they are heated or cooled.</p> <p>In the water cycle, water evaporates and condenses.</p>
Philosophers – Cycle B					
<u>Stone Age</u>	<u>Bronze Age to Iron Age</u>	<u>Angry Earth</u>	<u>Romans</u>	<u>Europe</u>	<u>Mountains</u>
Light (Y3)	Sound (Y4)	Rocks (Y3)	Electricity (Y4)	Forces and Magnets (Y3)	Working scientifically (Y3)
<p>Dark is the absence of light.</p> <p>A shadow is made when an opaque object blocks the light.</p> <p>Sunlight is dangerous and we need to protect our bodies.</p>	<p>Sounds are made by vibrations.</p> <p>Vibrations travel to the ear through sound waves.</p> <p>The closer you are to a sound, the louder it will be.</p>	<p>A fossil is a living thing that has been trapped within a rock.</p> <p>Sedimentary, metamorphic and igneous are types of rocks.</p> <p>Soil is made from rock and organic matter.</p>	<p>Electricity powers items such as TV's, lights and washing machines.</p> <p>A simple circuit may include: a cell, wire, bulbs and switches.</p> <p>Metals are good conductors of electricity.</p>	<p>A force is a push or pull.</p> <p>A magnet has a north and a south pole.</p> <p>Magnets can attract or repel each other.</p>	<p>A fair test is where one variable is changed and all the other elements remain the same.</p> <p>A variable is something that is changed</p> <p>A control experiment is used to compare other experiments where there are variables.</p>

Trailblazers - Cycle A					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<u>Are we alone, is there enough?</u>		<u>War and Conflict</u>		<u>Rights and Responsibilities</u>	
Earth and Space (Y5)	Changes of Materials (Y5)	Looking after our environment (Y6)	Evolution and Inheritance (Y6)	Living Things and their habitats (Y5)	Animals inc. Humans (Y5)
<p>The Earth spins on its axis and completes rotation every 24 hours.</p> <p>Our solar system is made up of 8 planets.</p> <p>The shadow of the Earth creates the moon's phases.</p>	<p>Solids, liquids and gases can change state by being heated or cooled.</p> <p>Irreversible changes are chemical and are permanent.</p> <p>Reversible changes are physical and are not permanent.</p>	<p>Greenhouse gases trap the heat from the sun and stop it leaving the Earth.</p> <p>Energy sources can be renewable and non-renewable.</p> <p>We can help by recycling, reducing our use of electricity and reuse rather than buying new.</p>	<p>Characteristics are passed on from parents to their offspring.</p> <p>Plants and animals adapt to help them survive in their habitats.</p> <p>Charles Dawin suggested that some species share a common ancestor.</p>	<p>Plants contain female and male cells.</p> <p>Metamorphis is the change in body form during the life cycle.</p> <p>Birds and reptiles are born when the mother lays eggs and incubates them.</p>	<p>Young mammals are dependent on their parents.</p> <p>The gestation period is when a foetus develops inside the female.</p> <p>During puberty, hormones cause physical, mental and emotional changes.</p>
Trailblazers – Cycle B					
<u>Medicine Through Time</u>		<u>Brilliant Britain!</u>		<u>Crime and Punishment</u>	
Animals inc. Humans – (Y6)	Electricity (Y6)	Living things and their Habitats (Y6)	Properties of Materials (Y5)	Forces (Y5)	Light (Y6)
<p>The heart pumps blood, carrying nutrients and oxygen, around the body.</p> <p>Composition of blood: Red blood cells, white blood cells, platelets and plasma</p> <p>Red vessels are arteries and blue vessels are veins.</p>	<p>Circuits are made up of components.</p> <p>Voltage is the force that electricity is pushed around a circuit.</p> <p>A conductor allows electricity to flow, an insulator prevents it.</p>	<p>A living thing can be classified into different groups.</p> <p>There are five kingdoms of life: Animals, plants, fungi, bacteria, protozoa and ancient bacteria.</p> <p>A microorganism cannot be seen without a microscope.</p>	<p>A conductor allows heat or electricity to pass through, an insulator does not.</p> <p>Something that dissolves in liquid is soluble, if it does not it is insoluble.</p> <p>Materials can be separated using magnets, sieving or evaporating.</p>	<p>Gravity is a force that pulls things towards the centre of the Earth.</p> <p>Objects that fall, slow down due to air resistance.</p> <p>Objects on land, slow down due to friction between two objects.</p>	<p>White light is made up of a spectrum of colours.</p> <p>Light refracts (bends) if it hits an object denser than water.</p> <p>Light travels in straight lines.</p>