

## Science Curriculum Overview

### The Outcome – Scientists

What will our scientists to be able to do when they leave us?

By the end of their time at Barton Clough Primary School our Year 6 scientists will have built up a body of knowledge which will enable them to understand how science can be used to explain what is occurring around them, predict how things will behave and analyse causes. They will recognise the power of a rational explanation and be able to articulate scientific concepts clearly and precisely using accurate technical terminology. Scientific learning experiences will have developed an excitement and curiosity about natural phenomena and the world around them. This will prompt the asking of their own questions and the use of the relevant skills needed to work out and explain their answers. They will have an understanding that scientific ideas change and develop over time and how this has and continues to change our lives and futures. This full and rounded understanding of the world around them will impact their lives, influencing the choices that they make so that through their actions they are able to make the world a better place.

### Threads

One World	Human Impact	Human Endeavour
Diversity & Mutual Respect Democracy & Individual Liberty	Sustainability & Ecology	The spirit of adventure, innovation and inspiration

### Starting Points – Area of Study

EYFS	Aspects of scientific understanding and exploration appear through these six themes throughout the EYFS curriculum and are guided by the Early Learning: All about Me, I am Unique, All Creatures great and small, Seasonal Changes				
Year 1	Plants	Seasonal Changes	Animals including Humans	Everyday Materials	
Year 2	Living Things and Their Habitats	Plants	Animals including Humans	Use of Everyday materials	
Year 3	Plants	Rocks	Animals including Humans	Light	Forces and Magnets

Year 4	Sound	Electricity	Living Things and Their Habitats	States of Matter - Materials	Animals including Humans
Year 5	Living Things and Their Habitats and Animals including Humans	Properties and Changes of materials	Earth and Space	Forces	
Year 6	Living Things and Their Habitats	Evolution and Inheritance	Animals including Humans	Light	Electricity

Curriculum Coverage – NC						
The minimum requirements as detailed within the National Curriculum						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p><b><u>Plants</u></b> Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p><b><u>Seasonal Changes</u></b> Observe changes across the 4 seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p> <p><b><u>Animals including humans</u></b> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p>	<p><b><u>Plants</u></b> Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p><b><u>Animals including Humans</u></b> Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of</p>	<p><b><u>Plants</u></b> 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 (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>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation.</p> <p><b><u>Animals including humans</u></b> Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own</p>	<p><b><u>Animals including humans</u></b> Describe the simple functions of the basic parts of the digestive system in humans</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p> <p><b><u>States of Matter</u></b> 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><b><u>Animals including humans</u></b> Describe the changes as humans develop to old age.</p> <p><b><u>Living things and their Habitats</u></b> Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p> <p><b><u>Materials</u></b> 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 that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p>	<p><b><u>Animals including humans</u></b> 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> <p><b><u>Living things and their habitats</u></b> Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including</p>

<p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets).</p> <p>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><b><u>Materials</u></b></p> <p>Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p>different types of food, and hygiene.</p> <p><b><u>Materials</u></b></p> <p>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>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> <p><b><u>Living things and their habitats</u></b></p> <p>Explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>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>Identify and name a variety of plants and animals in their</p>	<p>food; they get nutrition from what they eat.</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p><b><u>Forces</u></b></p> <p>Compare how things move on different surfaces.</p> <p>Notice that some forces need contact between 2 objects, but magnetic 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 2 poles.</p> <p>Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</p> <p><b><u>Rocks</u></b></p> <p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p>	<p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p><b><u>Living things and their Habitats</u></b></p> <p>Recognise that living things can be grouped in a variety of ways</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things</p> <p><b><u>Sound</u></b></p> <p>Identify how sounds are made, associating some of them with something vibrating</p> <p>Recognise 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</p>	<p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>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><b><u>Forces</u></b></p> <p>Explain 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>micro-organisms, plants and animals</p> <p>Give reasons for classifying plants and animals based on specific characteristics</p> <p><b><u>Light</u></b></p> <p>Recognise that light appears to travel in straight lines use the idea that light travels in straight lines to</p> <p>Explain that objects are seen because they give out or reflect light into the eye</p> <p>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><b><u>Electricity</u></b></p> <p>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>Compare and give reasons for variations in how components</p>
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### Process Skills and Process Knowledge – Knowing How?

EYFS Working Scientifically	Year 1 Working Scientifically	Year 2 Working Scientifically	Year 3 Working Scientifically	Year 4 Working Scientifically	Year 5 Working Scientifically	Year 6 Working Scientifically
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	<p>Ask simple questions recognising that they can be answered in different ways</p> <p>Observe closely, using simple equipment perform simple tests Identify and classify use observations and ideas to suggest answers to questions.</p> <p>Gather and record data to help in answering questions</p>	<p>Ask simple questions recognising that they can be answered in different ways</p> <p>Observe closely, using simple equipment perform simple tests Identify and classify use observations and ideas to suggest answers to questions.</p> <p>Gather and record data to help in answering questions</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them.</p> <p>Setting up simple practical enquiries, comparative and fair tests.</p> <p>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them.</p> <p>Setting up simple practical enquiries, comparative and fair tests.</p> <p>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p>	<p>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p> <p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> <p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p>using test results to make predictions to set up further comparative and fair tests</p> <p>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</p> <p>Identifying scientific evidence that has been used to support or refute ideas or arguments</p>	<p>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p> <p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> <p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p>using test results to make predictions to set up further comparative and fair tests</p> <p>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</p> <p>Identifying scientific evidence that has been used to support or refute ideas or arguments</p>
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### Propositional Knowledge – Knowing What?

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p><b>Plants</b> People may grow plants in their gardens and care for them. They may grow <b>flowering plants</b> which are beautiful to look at or <b>beans and seeds to grow plants for food</b>. The names of some common garden plants are: <b>rose, poppy, sunflower</b> A <b>wild plant</b> will grow by itself. It does not need to be cared for. If it grows</p>	<p><b>Plants</b> <b>Plants</b> can be grown from either <b>seeds</b> or <b>bulbs</b> and they grow into <b>mature plants</b> over time. Plants need different things to grow and be healthy. They need a suitable amount of <b>water, light, and a suitable temperature</b> to stay healthy. They should not have too much of any of these</p>	<p><b>Plants</b> The main four parts of a plant and their functions: <b>roots</b>, to anchor the plant into the ground and absorb nutrients and water from the soil, <b>stem/trunk</b> to keep the plant upright and to get it closer to the sunlight, <b>flower</b> to be bright and colourful to attract insects to <b>pollinate</b> the plant, <b>leaves</b> to make food for the plant through <b>photosynthesis</b>.</p>	<p><b>Sound</b> The object that makes the sound is called the <b>source</b>. When objects <b>vibrate</b>, a <b>sound</b> is made. The <b>vibration</b> makes the air around the object vibrate and <b>the air vibrations enter your ear</b>. These are called <b>sound waves</b>. Sound waves travel through a medium (such as air, water, glass, stone, and brick).</p>	<p><b>Earth and Space</b> <b>The Earth</b> rotates on its axis <b>anti-clockwise</b> and makes a complete rotation over 24 hours (a day). This makes it appear as though the Sun moves through the sky but the <b>Earth's rotation causes day and night</b>. Different parts of the Earth experience daylight at different times. It is morning, afternoon and night in different places. This is also the reason why</p>	<p><b>Animals including humans</b> Some choices, such as <b>smoking and drinking alcohol</b> can be <b>harmful</b> to our health. <b>Tobacco</b> can cause short-term effects such as shortness of breath, difficulty sleeping and loss of taste and long-term effects such as lung disease, cancer and death. <b>Alcohol</b> can cause short-term effects such</p>

	<p>somewhere unwanted, it may be a weed.</p> <p>Some common wild plants are: <b>dandelion, daisy, buttercup, nettle and clover</b></p> <p><b>Deciduous trees</b> lose their leaves in the autumn every year. Their leaves are generally broad, flat and have veins running through them.</p> <p><b>Evergreen trees</b> have green leaves all year round. Their leaves are generally thick, waxy and narrow like needles.</p> <p>Parts of common trees: Crown, leaves, twig, branch, trunk and roots.</p> <p>Parts of common plants: roots, stem, leaf, flower, seed.</p>	<p>things as it will cause the plant to die.</p> <p>Relate this to humans briefly in terms of a balanced diet.</p> <p><b>Plant seeds and or bulbs</b> and watch the plants grow, describe what happens at each stage of the <b>growth</b>, the <b>shoots</b> and <b>roots</b> beginning to grow, the plant getting taller and growing a <b>stem</b>, <b>leaves</b> and longer <b>roots</b>, if it is a flower then <b>the buds</b> will grow and <b>the flower</b> will bloom, the plant will eventually die and the <b>leaves</b> and <b>stem</b> will droop and the <b>petals</b> will fall off.</p> <p>The seeds in the middle of some flowers can then be reused to grow other plants.</p>	<p>Understand that plants need sufficient <b>water to grow, warmth, air, space and nutrients</b> and that this could be different for different plants.</p> <p>Children should learn how water is transported through a plant from the roots in the ground initially absorbing the water but that plants that do not have roots such as cut flowers also absorb water through the process of <b>transpiration</b>, this is where the <b>capillaries</b> in the stem of the plant transport the water through the stem up to the leaves and the flower.</p> <p>They will know the stages of the <b>life cycle</b> of a flowering plant, this starts with <b>germination</b> where the seed begins to grow shoots and roots, <b>growing and flowering</b> the plant grows bigger and forms flowers, <b>pollination</b> where the pollen from another anther is transferred to the stigma by an insect, <b>fertilisation and seed formation</b>, fertilisation happens when the pollen travels from the stigma down the style to the ovary. The pollen joins with an ovule to form a seed.</p>	<p>The <b>sound waves</b> travel to the ear and make the <b>eardrums</b> vibrate.</p> <p>Messages are sent to the brain which recognises the vibrations as sounds.</p> <p>The <b>pitch</b> of a sound is how high or low it is.</p> <p>The <b>volume</b> of a sound is how loud or quiet it is.</p> <p>When a sound is created by a little amount of energy, a weak sound wave is created which doesn't travel far.</p> <p>This makes a quiet sound.</p> <p>A vibration with lots of energy makes a powerful sound wave and therefore a loud sound.</p> <p><b>Amplitude</b> measures how strong a sound wave is. (The higher the wave the stronger the sound)</p> <p><b>Decibels</b> measure how loud a sound is.</p> <p><b>Frequency</b> measures the number of times per second that the sound wave cycles. (How many waves and how close they are.)</p>	<p>we have <b>time zones</b>.</p> <p>Because of the <b>Earth's tilt</b>, the poles experience 24 hours of sunlight in the summer, and very few hours of sunlight in the winter.</p> <p>As the <b>Earth rotates</b>, shadows that are formed change in size and orientation.</p> <p><b>The Earth</b> takes 365 and a quarter days to orbit the Sun. Because of the extra quarter day it takes to orbit the Sun, every four years on Earth is a leap year!</p> <p>It is the Earth's tilt that causes the seasons.</p> <p><b>The Moon</b> orbits the Earth anticlockwise and takes approximately 28 days.</p> <p><b>The Moon</b> spins once on its axis every time it orbits Earth.</p> <p>This means that we only see one side of the Moon.</p> <p><b>The Moon</b> has different phases depending on where it is in its orbit.</p> <p><b>The Moon's gravity</b> causes high and low tides.</p> <p>There are 8 planets in our Solar System (<b>Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune</b>).</p> <p>Pluto is a <b>dwarf planet</b>.</p> <p>They all orbit the Sun, which is a star. Some planets have moons.</p> <p>The first four planets are relatively small and rocky,</p>	<p>as addiction and loss of control and long-term effects such as organ damage, cancer and death</p> <p><b>Exercise</b> can: tone our muscles and reduce fat, increase fitness, make you feel physically and mentally healthier, strengthens the heart, improves lung function, improves skin.</p> <p>The <b>circulatory system</b> is made of the heart, lungs and the blood vessels.</p> <p><b>Arteries</b> carry oxygenated blood from the heart to the rest of the body.</p> <p><b>Veins</b> carry deoxygenated blood from the body to the heart.</p> <p>Nutrients, oxygen and carbon dioxide are exchanged via the <b>capillaries</b>.</p> <p><b>The heart</b> is composed of four chambers; the <b>right atrium, the right ventricle, the left atrium and the left ventricle</b>.</p> <p>How often your heart pumps is called your pulse.</p> <p><b>Deoxygenated</b> blood is sent to the heart from the rest of the body.</p>
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			<p>The seed forms inside the ovary. <b>Seed dispersal</b></p> <p>- Once the seeds are fully formed, the plant needs to disperse them.</p> <p>This means that the plant needs to move or transport the seeds away from the parent plant in some way so that they don't all try to grow in the same place.</p> <p>There are lots of different ways that seeds can be dispersed.</p>		<p>while the four outer planets are <b>gas giants (Jupiter and Saturn)</b> or <b>ice giants (Uranus and Neptune)</b>.</p> <p>There are also <b>asteroids, meteoroids</b> and <b>comets</b> in the <b>Solar System</b>. The <b>Solar System</b> is in a galaxy called <b>the Milky Way</b>. The galaxy is in the <b>universe</b>.</p>	<p>This is then sent from the heart to the lungs. Here, the blood picks up oxygen and disposes of carbon dioxide.</p> <p><b>Oxygenated</b> blood is then sent back to the heart.</p> <p>The heart sends the oxygenated blood back to the rest of the body.</p>
	<p><b><u>Seasonal Changes</u></b></p> <p>There are four seasons:</p> <p><b>Autumn - September, October, November</b></p> <p><b>Winter - December, January, February</b></p> <p><b>Spring - March, April, May</b></p> <p><b>Summer - June, July, August</b></p> <p><b>In Autumn</b> temperature begins to fall, leaves on deciduous trees change colour and fall to the ground, days get shorter and nights get longer. Weather may be slightly sunny, windy or rainy. Celebrations like bonfire night and Halloween. Might start to wear hats and scarves and jumpers as it gets colder.</p> <p><b>In Winter</b> - As the seasons change from autumn to winter it gets colder still - this is because the temperature has fallen. Sometimes, it</p>	<p><b><u>Living things and their habitats</u></b></p> <p>A <b>habitat</b> is a place where living things, such as animals and plants, can find all of the things they need to survive. This includes <b>food, water, air, space to move and grow and some shelter</b>.</p> <p>Some habitats are large, like the <b>ocean, and some are very small, such as under a log</b>.</p> <p>Some habitats in our local area include the <b>river and woodlands</b>. Other habitats include the <b>coast and the forest</b>. <b>Microhabitats</b> are very small habitats where <b>minibeasts</b> may live. Examples of microhabitats include <b>under stones, in grass, under fallen leaves and in the soil</b>.</p>	<p><b><u>Animals Including Humans</u></b></p> <p>The different types of nutrients:</p> <p><b>Proteins</b> help your body to grow and repair itself, examples include red meat, yogurt, and beans.</p> <p><b>Carbohydrates</b> give you energy, examples include bread, potatoes, pasta.</p> <p><b>Fats</b> give you energy, examples include nuts, oils, and avocados.</p> <p><b>Vitamins</b> keep your body healthy, examples of foods high in vitamins include oranges, carrots and nuts.</p> <p><b>Minerals</b> keep your body healthy, examples of foods high in minerals include milk, sweetcorn, and spinach.</p> <p><b>Fibre</b> helps you to digest the food that you have eaten, examples of foods high in fibre include</p>	<p><b><u>Animals Including Humans</u></b></p> <p>Teeth are used for cutting and chewing food.</p> <p>Humans look after their teeth by <b>brushing and flossing</b> and ensuring that they do not eat foods high in sugar.</p> <p>Not looking after teeth can lead to an increase in <b>plaque and tooth decay</b>.</p> <p><b>Canines</b> are pointed for tearing and ripping food - these are usually used when chewing meat.</p> <p><b>Incisors</b> are shovel shaped and help bite lumps out of and cutting food.</p> <p><b>Premolars and molars</b> are flat and they grind and crush food.</p> <p>The smell of food triggers <b>saliva</b> to be produced.</p> <p><b>The digestive system</b> begins with the mouth and teeth where food is ingested and chewed.</p> <p><b>Saliva</b> is mixed with the food which helps to break it up.</p> <p>When the food is small</p>	<p><b><u>Forces</u></b></p> <p>Forces <b>are pushes and pulls</b>.</p> <p>These <b>forces</b> change the motion of an object making it start, speed up, slow down or stop moving.</p> <p><b>Friction</b> is a force - it is the resistance of motion when one object rubs against another.</p> <p>Other forces that create <b>resistance</b> of motion include water resistance and air resistance.</p> <p><b>Gravity</b> is the force that pulls objects to the centre of the Earth.</p> <p><b>Air resistance</b> pushes up on the parachute, opposing the force of gravity. This makes the parachute land more slowly.</p> <p><b>Water resistance</b> is the friction that is created between water and an object that is moving through it.</p>	<p><b><u>Living Things</u></b></p> <p>Revisit of - living things can be grouped according to different criteria (where they live, what type of organism they are, what features they have)</p> <p>A <b>classification key</b> is a tool that is used to group living things to help us identify them using <b>recognisable characteristics</b>.</p> <p><b>Habitats</b> can change throughout the year and this can have an affect on the plants and animals that live there.</p> <p>The <b>Linnaean system</b>, named after Carl Linnaeus, has different levels where the number of living things in each group gets smaller and smaller, until there will just be</p>



	<p>can freeze overnight, and, in the mornings, there may be ice and frost. <b>Deciduous trees</b> have completely lost their leaves and the branches are bare. The days get shorter, and the nights get longer. Winter has the shortest days and the longest nights of all the seasons. Celebrations such as Christmas and Valentine's Day. The weather may be windy, rainy and chilly. Sometimes it also snows. The clothes you might wear include warm coats, jumpers, woolly hats and scarves on colder days.</p> <p><b>In Spring</b> - As the seasons change from winter to spring, it gets warmer and the temperature begins to rise. Some things that happen in spring are: leaves begin to appear on deciduous trees. Some trees begin to blossom. Many plants begin to grow. Lambs are born and chicks begin to hatch. The days become longer and the nights become shorter. In the spring, there are events such as Easter and St. George's Day. The weather may be slightly</p>	<p><b>Minibeasts</b> that can be found there include <b>worms, snails, ants, centipedes, millipedes, and butterflies</b> and they help to keep the microhabitat healthy. Minibeasts are able to survive in their habitats because they can find the things they need to survive there, such as food and water.</p> <p>Animals and plants depend on each other to survive. For example, worms depend on plants because they feed on dead leaves, but plants depend on worms who make the soil healthy by digging holes and allowing air in. Birds also need worms because they eat them. Worms are a source of food for birds. This called a <b>food chain</b>. If there were no worms, there would be less birds as there would be <b>more competition for food</b>. The soil would not be as healthy without worms. All <b>living things</b> (or things that were once living) have a part to play in <b>food chains</b>. Without them, other animals and plants may not be able to <b>survive</b>.</p>	<p>wholegrain bread, cereals and lentils. <b>Water</b> helps to move nutrients in your body and get rid of waste that you don't need, examples of foods high in water include celery, cucumber, tomatoes. <b>Vertebrates</b> are animals that have a backbone. These skeletons are called <b>endoskeletons</b> - this means that the <b>skeletons</b> are on the inside of the bodies. These <b>skeletons</b> grow with the bodies. When the skeleton exists outside the body, it is called an <b>exoskeleton</b>. An <b>exoskeleton</b> is a covering that supports and protects animals. These have to be shed and a new skeleton is grown. The three most important functions of a skeleton are: provide support and shape to an animal's body. Allow movement through the joints. Protect organs (e.g. the skull protects the brain) Joints are where bones meet - they allow our bodies to move. Muscles contract and relax. If you place an elbow on a desk and lift your arm up, muscles in your</p>	<p>enough to be <b>swallowed</b>, it is pushed down the <b>oesophagus</b> by muscles to the <b>stomach</b>. In the <b>stomach</b>, food is mixed further. The mixed food is then sent to the <b>small intestine</b> which <b>absorbs nutrients</b> from the food. Any leftover broken down food then moves on to the <b>large intestine</b>. The food minus the <b>nutrients</b> arrives in the <b>rectum</b> where <b>muscles turn it into faeces</b>. It is stored here until it is pushed out by the <b>anus</b>. This is called <b>excretion</b>.</p>	<p>Some objects can move through water with less resistance if they are <b>streamlined</b>. <b>Levers and Pulleys</b> allow us to do heavy work with less effort. <b>Gears</b> are toothed wheels. Their 'teeth' can fit into each other so that when the first wheel turns, so does the next one. This allows forces to move across a surface. <b>Springs</b> can be stretched or squashed. The greater the force pulling or pushing the spring, the greater the force the spring uses to move back to its normal shape</p>	<p>one type of animal in the species group. <b>Microorganisms</b> are very tiny organisms where a <b>microscope</b> has to be used to see them. Examples of <b>microorganisms</b> include dust mites, bacteria and fungi, such as mould. Some <b>microorganisms</b> can be helpful in certain situations. Others can be harmful, and their spread needs to be controlled or contained.</p>
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	<p>sunny but still a little windy and rainy on some days. The clothes you might wear include long-sleeved tops and long trousers. As it gets closer to summer, you may wear t-shirts and shorts on sunnier and warmer days.</p> <p><b>In Summer-</b> As the seasons change from spring to summer it gets warmer still - this is because the temperature has risen. The days get longer and the nights get shorter. Summer has the longest days and the shortest nights of all the seasons. In the summer, there are events such as the long school summer holidays. Things people might do are have picnics, go to the beach, have a paddling pool in the garden and mow the lawn. The weather may be hot and sunny. There may not be many clouds in the sky. The clothes you might wear include t-shirts, shorts and swimming costumes. It is important to stay safe in the summer as the sun can be very strong. You can wear sun hats, sunglasses and sun cream to help keep you safe.</p>	<p>A <b>food chain</b> is a simple way to show the <b>direction in which energy moves from the producer</b> to the various <b>consumers</b> to the top or <b>tertiary consumer</b>. The <b>producer (a plant)</b> gets its energy from the Sun.</p> <p>An example: the producer (wheat), gets its energy from the Sun. The mouse (<b>primary consumer</b>) eats the wheat and gets its energy from it. The mouse is then eaten by the owl (<b>secondary consumer</b>). The owl gets its energy from the mouse. The owl is the <b>predator</b> and the mouse is the prey. The owl is then eaten by the wolf (<b>tertiary consumer</b>). The wolf gets its energy from the owl. The arrows show the direction in which the energy travels.</p> <p>A <b>food web</b> shows the direction in which energy travels when animals and producers (plants) are eaten by more than one thing.</p> <p>When part of the food chain is removed, this has an impact on the other parts of the food chain.</p> <p>The number of some <b>species</b> will increase,</p>	<p>upper arm (biceps) contract while muscles behind the upper arm (triceps) relax. The muscles work together and in opposition to allow your arm to move. Muscles are connected to bones by <b>tendons</b>.</p>			
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		<p>while the population of others will decrease.</p> <p>This can have a direct impact on the survival of the species.</p> <p>The population of tertiary consumers depends on healthy populations of <b>producers, primary and secondary consumers.</b></p>				
	<p><b><u>Animals Including Humans</u></b></p> <p>A <b>life cycle</b> is the series of changes that an animal or plant passes through from the beginning of its life until its death. Animals, including humans, have offspring which grow into adults.</p> <p><b>Vertebrates</b> are animals that have a backbone. There are five groups of vertebrates: <b>mammals, fish, birds, reptiles, amphibians.</b></p> <p><b>Mammals</b> give birth to live young, usually have hair or fur, warm-blooded, cannot breathe underwater. Some common mammals are: pets such as dogs, cats, hamsters, farm animals such as cows, sheep and horses.</p> <p><b>Wild animals</b> such as foxes, hedgehogs, lions and giraffes and then humans</p> <p><b>Fish</b> have fins and scales, breathe underwater</p>	<p><b><u>Animals Including Humans</u></b></p> <p>Animals that only eat meat (other animals) are called <b>carnivores</b> examples include lions and eagles.</p> <p>Animals that only eat plants are called <b>herbivores</b> (examples include cows and giraffes)</p> <p>Animals that eat plants and meat are called <b>omnivores</b> (examples include humans and squirrels)</p> <p>All animals need <b>water, air and food to survive.</b></p> <p>To keep healthy, humans need: to eat a <b>balanced diet and healthy food, some exercise</b> to keep their muscles and bones healthy, to take medicines that are given by doctors and nurses when feeling poorly, to keep good hygiene by washing regularly, having clean clothes, brushing teeth and hair.</p>	<p><b><u>Rocks</u></b></p> <p>There are three types of rocks that are formed naturally.</p> <p><b>Igneous:</b> When molten magma cools, igneous rocks are formed. This either cools and forms rocks under the earth's surface or flows out of erupting volcanoes as lava and may mix with other minerals. Examples include granite and basalt. This type of rock is strong, hardwearing and nonporous.</p> <p><b>Sedimentary:</b> Sometimes, little pieces of rocks that have been weathered can be found at the bottom of lakes, seas, and rivers. This is called sediment. Over millions of years, layers of this sediment builds up forming sedimentary rocks. Examples include limestone and chalk.</p> <p>Sedimentary rocks are porous and can easily be worn down.</p> <p><b>Metamorphic:</b> When</p>	<p><b><u>States of matter</u></b></p> <p><b>Particles</b> are what materials are made from. They are so small that we cannot see them with our eyes.</p> <p><b>Particles</b> behave differently in <b>solids, liquids and gases.</b></p> <p>In the solid state, the material holds its shape.</p> <p><b>Solids have vibrating particles</b> which are closely packed in and form a regular pattern.</p> <p>This explains the fixed shape of a solid and why it can't poured.</p> <p><b>Solids</b> always take up the same amount of space.</p> <p>In the liquid state, the material holds the shape of the container it is in.</p> <p>This means that <b>liquids can change shape</b>, depending on the container.</p> <p><b>Liquids</b> have particles which are close together but random.</p> <p><b>Liquid</b> particles can move over each other.</p> <p><b>Liquids</b> can be poured.</p> <p>In the gas state, particles can escape from open containers.</p>	<p><b><u>Properties and Changes in Materials</u></b></p> <p>Materials which are good <b>thermal conductors</b> allow heat to move through them easily, such as a saucepan which requires heat to travel through to cook food.</p> <p><b>Thermal insulators</b> do not let heat travel through them easily.</p> <p>Such as woollen clothes and flasks for hot drinks.</p> <p><b>Electrical conductors</b> allow electricity to pass through them easily while <b>electrical insulators</b> do not.</p> <p><b>Electrical insulators</b> have a high <b>resistance</b> which means that it is hard for electricity to pass through these objects.</p> <p>When the <b>particles</b> of a solid mix with the particles of a liquid, this is called <b>dissolving.</b></p> <p>The result is a solution.</p> <p>Materials that dissolve are <b>soluble.</b></p> <p>Materials that do not dissolve are <b>insoluble.</b></p> <p>Some materials can be</p>	<p><b><u>Evolution and Inheritance</u></b></p> <p><b>Evolution</b> is a process of change that takes place over many generations, during which species of animals, plants, or insects slowly change some of their physical characteristics.</p> <p>This is because <b>offspring</b> are not identical to their parents.</p> <p>It occurs when there is competition to survive. This is called <b>natural selection.</b></p> <p>Difference within a species (for example between parents and offspring) can be caused by <b>inheritance and mutations.</b></p> <p><b>Inheritance</b> is when characteristics are passed on from generation to the next.</p> <p><b>Mutations</b> in characteristics are not inherited from the parents and appear as</p>

	<p>using gills, lay eggs in water, and are <b>cold-blooded</b>. Some common fish are salmon, cod and tuna. Birds are warm-blooded, have wings and beaks, have feathers, lay eggs. Some common birds are ducks, chickens, penguins and pigeons. <b>Reptiles</b> are <b>cold-blooded</b>, lay eggs, have scales, and cannot breathe underwater. Some common reptiles are snakes and lizards. <b>Amphibians</b> are <b>cold-blooded</b>, lay eggs, live on land and water - can breathe underwater through gills. Some common amphibians are frogs and toads. <b>Invertebrates</b> are animals that do not have a backbone. They include: <b>insects such as flies, ladybirds and bees, arachnids such as spiders, molluscs such as snails</b>. The different parts of the body. <b>Hair</b> - this grows on our head and helps to protect our skull. The skull is the bone that protects our brain. <b>Eyes</b> - these help us see <b>Ears</b> - these help us hear <b>Mouth</b> - we use our mouth to eat and talk. Inside our mouths are</p>	<p>Humans cannot make their own food like plants do - we need to eat plants and animals to get our energy. Healthy, balanced diets lead to healthy, active people.</p> <p>The different <b>food types</b> are: <b>Fruit and vegetables; Bread, rice, potatoes, pasta and other starchy foods; Milk and, oils and spreads; Meat, fish, eggs, beans and other non-dairy sources of protein.</b></p>	<p>some igneous and sedimentary rocks are heated and squeezed (pressured), they form metamorphic rocks. Examples include slate and marble. <b>Metamorphic</b> rocks are strong. Fossils are the remains of prehistoric life. They are usually formed when a living thing (plant or animal) dies and the body is covered up or buried by <b>sediment</b> over tens of thousands of years. Some <b>fossils</b> are formed when the tough bones and teeth in animals, and the woody part of plants are preserved. Other fossils are made from imprints in surrounding sedimentary rock such as footprints or imprints from shells. Soil is made from pieces of rock, minerals, decaying plants and water. When rock is broken down into small grains, soil is formed. There are layers of soil: Above the soil is leaf litter and recently decaying plants. As the soil becomes deeper, the rock grains become larger until <b>bedrock</b> is reached.</p>	<p><b>Gases</b> have particles which are spread out and move in all directions. When water (in its liquid form) is heated, the particles start to move faster and faster until they have enough energy to move about more freely. The water has <b>evaporated</b> into a <b>water vapour</b>. When <b>water vapour</b> is cooled, the particles start to slow down. They return to a liquid in a process called <b>condensation</b>. With further <b>cooling</b> they turn into a <b>solid structure</b> and <b>ice</b> is formed. The water has <b>frozen</b>. The temperature at which water turns to ice is called the <b>freezing point</b>. This happens at 0°C. The temperature at which water turns to gas is called the <b>boiling point</b>. This happens at 100°C.</p>	<p>separated after they have been mixed based on their properties - this is called a reversible change. Some methods of separation include the use of a magnet, a filter (for insoluble materials), a sieve (based on the size of the solids) and <b>evaporation</b>. When a mixture cannot be separated back into the original components, this is called an irreversible change. Examples of this include when materials burn or mixing bicarbonate of soda with vinegar.</p>	<p>new characteristics. Evidence of <b>evolution</b> comes from <b>fossils</b> - when these are compared to living creatures from today, palaeontologists can compare similarities and differences. Other evidence comes from living things - comparisons of some species may reveal common ancestors. <b>Adaptation</b> is when animals and plants have evolved so that they have adapted to survive in their environments. For example, polar bears have a thick layer of blubber under their fur to survive the cold, harsh environment of the Arctic while giraffes have long necks to reach the leaves on trees. Sometimes adaptations can be disadvantageous. One example of this can be the dodo, which became <b>extinct</b> as it lost its ability to fly through evolution. Flying was unnecessary for the dodo as it had lived for so many years without predators, until its native island became inhabited. When adaptations are</p>
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	<p>tongues which help us taste and teeth</p> <p><b>Shoulders</b> - these help our arms to lift up</p> <p><b>Hands</b> - these help us grab things and write</p> <p><b>Knees</b> - these help us bend our legs</p> <p><b>Feet</b> - these help us stay balanced and upright.</p> <p><b>Elbows</b> - these help our arms to bend</p> <p><b>Neck</b> - connects the head to the rest of the body</p> <p><b>Nose</b> - helps us smell</p> <p><b>Eyebrows</b> - these protect our eyes</p> <p>We have <b>five senses</b>.</p> <p>1) We smell using our nose.</p> <p>2) We taste using our tongue.</p> <p>3) We touch using parts of our body, like our hands.</p> <p>4) We see using our eyes.</p> <p>5) We hear using our ears.</p>					<p>more harmful than helpful, these are called <b>maladaptations</b>.</p>
	<p><b><u>Materials</u></b></p> <p>Objects are things that you <b>can touch or see</b>. Objects are made from <b>materials</b>. Some materials are <b>natural</b> while others are <b>man-made</b>. <b>Natural materials</b> are materials which are found in nature. <b>Man-made materials</b> are materials which have been produced by humans.</p>	<p><b><u>Materials</u></b></p> <p><b>Rulers</b> can be made from <b>wood, plastic or rubber</b> because these <b>materials</b> are <b>smooth</b> and can be cut straight. <b>Spoons</b> are made from metal, because it is <b>waterproof</b> and can be cleaned easily. <b>Plastic</b> can also be used as it is light and it cannot hurt children's growing teeth.</p>	<p><b><u>Forces and Magnets</u></b></p> <p>Forces are <b>pushes and pulls</b>. These forces change the motion of an object. They will make it start to move or speed up, slow it down or even make it stop. <b>Forces</b> act in opposite directions to each other. When an object moves across a surface, <b>friction</b> acts as an opposite force. <b>Friction</b> is a force that</p>	<p><b><u>Electricity</u></b></p> <p><b>Electricity</b> is generated using energy from natural sources such as the Sun, oil, water and wind. These can also be called <b>fuel sources</b>. Some appliances use <b>batteries</b> and some use mains <b>electricity</b>. Batteries come in different sizes depending on how much and for how long the appliance is used.</p>	<p><b><u>Living Things/Animals including Humans</u></b></p> <p>The main stages of the human life cycle Foetus - an unborn animal or human being in the very early stages of development <b>Newborn</b> - this is a baby that has just been born. Infancy - this is a period of rapid change. Many <b>toddlers</b> learn to walk and talk at this stage. <b>Childhood</b> - children learn new things as they grow.</p>	<p><b><u>Electricity</u></b></p> <p>The <b>electrical current</b> flows through the wires from the <b>battery (cell) to the bulb, motor or buzzer</b>. <b>A switch</b> can break or reconnect a circuit. <b>A switch</b> controls the flow of the electrical current around the circuit. When the switch is off, the current cannot flow.</p>

	<p>Materials are used for different purposes based on their properties. Glass can be used to make windows because it is <b>transparent</b>. If an object is <b>transparent</b>, you can see through it. If an object or substance is <b>opaque</b>, you cannot see through it.</p>	<p><b>Waterproof</b> materials do not let water pass through it. <b>Absorbent</b> materials soak up liquid easily.</p> <p>The shape of some materials can be changed when they are <b>stretched, twisted, bent and squashed</b>. Some materials are <b>recyclable</b> this means that waste materials can be processed and used again.</p>	<p>holds back the motion of an object. Some surfaces create more <b>friction</b> than others which means that objects move across them slower. On a ramp, the force that causes the object to move downwards is gravity. Objects move differently depending on the surface of the object itself and the surface of the ramp. <b>Magnets</b> produce an area of force around them called a magnetic field. When objects enter this <b>magnetic field</b>, they will be attracted to or repelled from the magnet if they are magnetic. When magnets <b>repel</b>, they push each other away. When magnets <b>attract</b>, they pull together. Objects that are magnetic, are attracted to magnets. Iron and steel are <b>magnetic</b>. Aluminium and copper are <b>non-magnetic</b>. The ends of a magnet are called <b>poles</b>. One end is called the <b>north pole</b> and the other end is called the <b>south pole</b>. Opposite poles <b>attract</b>, similar poles <b>repel</b>.</p>	<p>A <b>complete circuit</b> is a loop that allows <b>electrical current</b> to flow through wires. A <b>circuit</b> contains a battery (cell), wires and an appliance that requires electricity to work (such as a <b>bulb, motor or buzzer</b>). <b>Electrical conductors</b> are materials that allow electricity to pass through them.</p>	<p>They become more independent. <b>Adolescence</b> - this is when the body starts to change and prepare itself for adulthood. <b>Hormonal</b> changes take place over a few years. This is also known as puberty. <b>Early adulthood</b> - this is when humans are usually at their fittest and strongest. <b>Middle adulthood</b> - changes such as hair loss may happen. There are also some hormonal changes again and the ability to reproduce decreases. <b>Late adulthood</b> - there is a decline in fitness and strength. <b>Puberty</b> is the change that happens in late childhood and adolescence where the body starts to change because of hormones. Some changes include growth in height, more sweat, hair growth on arms and legs, under the armpits and on genitals, and growth in parts of the body such as male genitals and breasts. Females begin to <b>menstruate</b>. <b>Reproduction</b> is when an animal or plant produces one or more individuals similar to itself <b>Sexual reproduction</b>: requires two parents with</p>	<p>When objects are placed in the circuits, they may or may not allow electricity to pass through. Objects that are made from materials that allow electricity to pass through and create a complete circuit are called <b>electrical conductors</b>. Objects that are made from materials that do not allow electricity to pass through and do not complete a circuit are called <b>electrical insulators</b>. <b>An ammeter</b> measures the current or flow of electricity through a wire or circuit. <b>The voltage</b> is the force of an electric current. It is measured in <b>volts</b>.</p>
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					<p><b>male and female gametes</b> (cells) It will produce offspring that is similar to but not identical to the parent.</p> <p><b>Asexual reproduction:</b> requires only one parent and will produce offspring that is identical to the parent.</p> <p><b>Plants reproduction</b> - Male gametes can be found in the pollen. Female gametes can be found in the ovary (they are called ovules).</p> <p><b>Pollination</b> occurs when pollen from the anther is transferred to the stigma by bees and other insects. The pollen then travels down and meets the ovule. When this happens, seeds are formed - this is called <b>fertilisation</b>.</p> <p>Seeds are then dispersed so that <b>germination</b> can begin again.</p> <p>Some plants, such as daffodils and potatoes, can also produce offspring using <b>asexual reproduction</b>.</p> <p>The life cycles of mammals, birds, amphibians and insects have similarities and differences.</p> <p>One difference is that amphibians and insects go through the process of <b>metamorphosis</b>.</p> <p>This is when the structure of their bodies changes significantly as they grow (for example, from tadpole</p>	
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					to frog or caterpillar to butterfly)	
			<p><b>Light</b> A <b>light source</b> is something that <b>emits light by burning, electricity or chemical reactions</b>. We must never look directly at the Sun as the light produced is very bright and can be harmful to our eyes. This is why we wear sunglasses. We need <b>light</b> so that we are able to <b>see in the dark</b>. <b>The Moon</b> is not a source of light. <b>The Sun's light reflects</b> on the surface of the Moon making it appear as though the Moon emits light. Shiny things are not light sources - they also <b>reflect</b> the light.</p>	<p><b>Living Things and their Habitats</b> All living things, which can also be called <b>organisms</b>, have to do certain things to stay alive. These are the life processes: <b>movement, respiration, sensitivity, growth, reproduction, excretion</b> and nutrition Living things can be grouped according to different criteria (where they live, what type of organism they are, what features they have) A <b>classification key</b> is a tool that is used to group living things to help us identify them using recognisable characteristics. <b>Habitats</b> can change throughout the year and this can have an affect on the plants and animals that live there. Humans can have <b>positive and negative effects</b> on the <b>environment</b>: positive effects: nature reserves, ecological parks. Negative effects: litter, urban development.</p>		<p><b>Light</b> Light travels in <b>straight lines</b>. When light is blocked by an <b>opaque</b> object, a dark shadow is formed. These shadows have the same shape as the objects that cast them. The size of a shadow changes as the light source moves closer or further away. The further away the light source is, the smaller the shadow is. The closer the source of the light, the bigger the shadow. <b>Reflection</b> is when light bounces off a surface - this changes the direction in which the light travels. We can see round corners using mirrors and <b>reflecting light</b>.</p>

Key Subject Vocabulary (In addition to skills vocabulary)						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p><b>Plants</b> deciduous, evergreen, leaves, flowers,</p>	<p><b>Plants</b> Plants, seed, bulb, grow, mature, water,</p>	<p><b>Plants</b> flowering plant, root, stem/trunk, leaves, flower,</p>	<p><b>Sound</b> vibrating, vibration, travel, medium, ear, patterns,</p>	<p><b>Living Things and Animals Including Humans</b></p>	<p><b>Animals Including Humans</b> systems (e.g. skeletal, digestive, circulatory),</p>

	<p>blossom, petals, fruits, roots, bulb, seed, trunk, branches, stem, living, non-living, temperature, environment,</p> <p><b><u>Seasonal Changes</u></b> seasons, weather, sun, deciduous, evergreen, spring, summer, autumn, winter</p> <p><b><u>Animals Including Humans</u></b> fish, amphibians, reptiles, birds, mammals, carnivores, herbivores, omnivores, body parts (e.g. eyes, hair, mouth, leg), habitat, senses (e.g. smell, touch)</p> <p><b><u>Everyday Materials</u></b> living, non-living, material, wood, plastic, grass, metal, water, rock, properties, brick, paper, fabric, elastic, foil, comparing properties (e.g. rough, smooth, shiny, dull, stretchy, stiff, bendy, not bendy, waterproof, absorbent, opaque, transparent, hard, soft)</p>	<p>light, temperature, warmth, healthy, germination, survival, reproduction.</p> <p><b><u>Living things and their habitats</u></b> living, dead, alive, habitat, basic needs, depend, variety, micro-habitats, food chain, sources of food, provide, obtain, characteristics, essential habitats (e.g. seashore, woodland, ocean, rainforest)</p> <p><b><u>Animals Including Humans</u></b> basic needs, offspring, life cycle, survival, exercise, hygiene, reproduction, growth, nutrition, life cycles (e.g. caterpillar, pupa, butterfly)</p> <p><b><u>Everyday Materials</u></b> wood, metal, plastic, brick, rock, paper, cardboard, solid, squashing, bending, twisting, stretching, properties, suitable, unsuitable, purposes, objects, suitability</p>	<p>life, growth, air, light, water, nutrients, soil, vary, transported, life cycle, pollination, seed formation, seed dispersal, structure, function, nutrition, support, reproduction, fertiliser, temperature</p> <p><b><u>Rocks</u></b> rock types e.g. sedimentary, igneous, appearance, physical properties, fossils, organic matter, soils e.g. clay, loams</p> <p><b><u>Animals Including Humans</u></b> humans, nutrition, food groups e.g. protein, carbohydrate, skeleton, muscle, support, protection, movement</p> <p><b><u>Light</u></b> reflection, reflected, surface, sun, protect, shadows, light source</p> <p><b><u>Forces and Magnets</u></b> magnet, magnetic force, attract, repel, materials, magnetic, poles, forces, strength, push, pull, magnets (e.g. bar, ring, button, horseshoe)</p>	<p>pitch, sounds, features, object, volume, faint, increases, decreases</p> <p><b><u>Electricity</u></b> electricity, appliances, series circuits, parallel, cells, wires, bulbs, switches, buzzers, lamps, loop, battery, open switch, closed switch, conductor, insulator, metal, motor</p> <p><b><u>Animal Including Humans</u></b> function, digestive system, teeth (e.g. molar, incisor), gum, tongue, food chain, producer, predator, prey, oesophagus, stomach, small intestine, large intestine, carnivores, herbivores, omnivores, dental hygiene</p> <p><b><u>States of Matter</u></b> solid, liquid, gas, state, change, heated, cooled, measure, temperature, degrees Celsius, evaporation, condensation, water cycle, particle, movement, vibration, space</p> <p><b><u>Living Things</u></b> Living things, classification, group, classification key, environment, changes, danger, climate change, global warming, deforestation, flowering plants, vertebrates, invertebrates, habitat,</p>	<p>environments, mammal, amphibian, insect, fish, bird, reptile, life cycle, reproduction, plants, variety, living things, naturalists, animal behaviourist, reproduction – sexual, asexual, habitat, vertebrate, invertebrate</p> <p><b><u>Materials</u></b> properties, material, hardness, transparency, conductivity, electrical, thermal, magnetic, dissolve, liquid, solution, substance, solid, liquid, gas, mixture, filtering, sieving, evaporating, metal, wood, plastic, mixing, reversible, irreversible, burning, acid</p> <p><b><u>Earth and Space</u></b> earth, space, movement, planet, sun, moon, spherical, solar, rotation, day, night, sky, planet names (e.g. Pluto, Mercury), celestial body, light source, eclipse, galaxy, solar system, phase of moon (e.g. lunar)</p> <p><b><u>Forces</u></b> forces, earth, gravity, friction, falling object, air resistance, water resistance, act, moving surface, mechanism, lever, pulley, gears, effort, push, pull, Galileo, Isaac Newton, theory of gravitation, springs, newton meter, weight, mass</p>	<p>heart, blood vessels, arteries, veins, diet, exercise, drugs, lifestyle, nutrients, water, animal, human, internal organs, body function, healthy</p> <p><b><u>Living Things</u></b> characteristics, similarities, differences, micro-organisms, invertebrates, vertebrates, scientists (e.g. Carl Linnaeus – pioneer of classification), keys, plants, animals, subdivided</p> <p><b><u>Evolution and Inheritance</u></b> change, fossils, evolution, inheritance, adaptation, offspring, environment, variation, palaeontologists (e.g. Charles Darwin, Mary Anning, Alfred Wallace)</p> <p><b><u>Light</u></b> light, straight lines, objects, reflect, eye, travels, light sources, reflection, shadows, periscope, shadow puppets, rainbows</p> <p><b><u>Electricity</u></b> electricity, appliances, series circuits, parallel, cells, wires, bulbs, switches, buzzers, lamps, loop, battery, open switch, closed switch, motor, components, loudness, brightness, symbols.</p>
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Experiences and Wider Purpose						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p><b><u>Plants</u></b> Grow sunflower seeds and monitor growth</p> <p><b><u>Seasonal Changes</u></b> Create Seasons themed artwork</p> <p><b><u>Animals Including Humans</u></b> Senses investigation</p> <p><b><u>Materials</u></b> Investigate best material for an umbrella</p>	<p><b><u>Plants</u></b> Cress seed experiment</p> <p><b><u>Living things</u></b> Go into Forest school and find animals in local area</p> <p><b><u>Animals Including Humans</u></b> Comparing handspans</p> <p><b><u>Materials</u></b> Create a lunchbox, what material is best to insulate. Egg Parachutes</p>	<p><b><u>Plants</u></b> Water transportation investigation with carnations</p> <p><b><u>Rocks</u></b> Create chocolate rocks</p> <p><b><u>Animals Inc Humans</u></b> Skeleton Investigation Pulse rate investigation Create a healthy meal</p> <p><b><u>Forces and Magnets</u></b> Car ramps – what's the best material to cause most friction. Test what materials are magnetic</p> <p><b><u>Light</u></b> Shadow puppets</p>	<p><b><u>Sound</u></b> String telephones</p> <p><b><u>Electricity</u></b> DT Link – electrical circuit game etc.</p> <p><b><u>States of Matter</u></b> Cornflour slime</p> <p><b><u>Animals Including Humans</u></b> Make a digestive system on a t-shirt Egg in liquids experiment</p> <p><b><u>Living Things</u></b> Climate change persuasive advert filmed</p>	<p><b><u>Living things/Animals Inc Humans</u></b> Life cycles posters/powerpoints Growth survey</p> <p><b><u>Materials</u></b> Testing absorbency of nappies Dissolving experiment</p> <p><b><u>Earth and Space</u></b> Make a model of the solar system Space artwork</p> <p><b><u>Forces</u></b> Build a marble run Make and test paper spinners</p>	<p><b><u>Animals Including Humans</u></b> Measuring pulse rate after exercise</p> <p><b><u>Living Things</u></b> Create wildlife video documentary</p> <p><b><u>Evolution and Inheritance</u></b> Test strength of eggs Make fossils</p> <p><b><u>Light</u></b> Investigate brightness of light bulbs Size of shadows – investigate how shadows can be changed</p> <p><b><u>Electricity</u></b> Conductive dough</p>