

	Autumn Term	Spring Term	Summer Term
Term 1	Animals, including Humans	Materials	Electricity
Term 2	Earth and Space	Sound	Living things and their habitats + Evolution and Inheritance (C3 ONLY)

	Key Stage One		Key Stage Two
Terms	Class One	Class Two	Class Three
Autumn Term 1	Animals, including Humans	Animals, including Humans	Animals, including Humans
Objectives	<p><b>Year 1</b></p> <ul style="list-style-type: none"> <li>Children should use the local environment throughout the year to explore and answer questions about animals in their habitat. They should understand how to take care of animals taken from their local environment and the need to return them safely after study. Children should become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets.</li> <li>Children should have plenty of opportunities to learn the names of the main body parts (including <i>head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth</i>) through games, actions, songs and rhymes.</li> <li>Children might work scientifically by: using their observations to compare and contrast animals at first hand or through videos and photographs, describing how they identify and group them; grouping animals according to what they eat; and using their senses to compare different textures, sounds and smells.</li> </ul>	<p><b>Year 2</b></p> <ul style="list-style-type: none"> <li>Children should be introduced to the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans. They should also be introduced to the processes of reproduction and growth in animals. The focus at this stage should be on questions that help children to recognise growth; they should not be expected to understand how reproduction occurs.</li> <li>The following examples might be used: egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep. Growing into adults can include reference to baby, toddler, child, teenager, adult.</li> <li>Children might 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.</li> </ul> <p><b>Year 3</b></p> <ul style="list-style-type: none"> <li>Children should continue to learn about the importance of nutrition and should be introduced to the main body parts associated with the skeleton and muscles, finding out how different parts of the body have special functions.</li> <li>Children might work scientifically by: identifying and grouping animals with and without skeletons and observing and comparing their movement; exploring ideas about what would happen if humans did not have skeletons. They might compare and contrast the diets of different animals (including their pets) and decide ways</li> </ul>	<p><b>Year 4</b></p> <ul style="list-style-type: none"> <li>Children should be introduced to the main body parts associated with the digestive system and explore questions that help them to understand their special functions.</li> <li>Children 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.</li> </ul> <p><b>Year 5</b></p> <ul style="list-style-type: none"> <li>Children should draw a timeline to indicate stages in the growth of humans, and learn about puberty.</li> <li>Children could work scientifically by comparing the gestation periods of other animals with humans.</li> </ul> <p><b>Year 6</b></p> <ul style="list-style-type: none"> <li>Children should build on their learning from Years 3 and 4 about the main body parts and internal organs to explore and answer questions that help them to understand how the circulatory system enables the body to function.</li> <li>Children should learn how to keep their bodies healthy and how their bodies might be damaged.</li> <li>Children might work scientifically by: exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.</li> </ul>

		of grouping them according to what they eat. They might research different food groups and how they keep us healthy and design meals based on what they find out.	
Autumn 2	Seasonal Change	Earth and Space	Earth and Space
Objectives	<p><b>Year 1</b></p> <ul style="list-style-type: none"> <li>Children should observe and talk about changes in the weather and the season. Children should observe and talk about changes in the weather and the season.</li> <li><b>Note:</b> Children should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses.</li> <li>Children might work scientifically by: making tables and charts about the weather; and making displays of what happens in the world around them, including day length, as the seasons change.</li> </ul>	<p>-Children could learn that the Sun, Earth and Moon are approximately spherical and that it is sometimes difficult to collect evidence to test scientific ideas and that evidence may be indirect.</p> <p>-Children could learn about the relative sizes of the Sun, Moon and Earth.</p> <p>-Children could learn that the Sun appears to move across the sky over the course of a day and that evidence may be interpreted in more than one way.</p> <p>-Children could learn that it is the Earth that moves, not the Sun, and the Earth spins on its axis once every 24 hours and that it is daytime in the part of the Earth facing the Sun and night-time in the part of the Earth away from the Sun</p> <p>-Children could learn that the Sun rises in the general direction of the East and sets in the general direction of the West; to make observations of where the Sun rises and sets and to recognise the patterns in these and to present times of sunrise and sunset in a graph and to recognise trends and patterns in the data.</p> <p>-Children could learn that the Earth takes a year to make one complete orbit of the Sun, spinning as it goes and that it is not always easy to gain information about phenomena eg the length of a year using first-hand experience</p> <p>-Children could learn that the Moon takes approximately 28 days to orbit the Earth and that the different appearance of the Moon over 28 days provides evidence for a 28-day cycle.</p>	<p><b>Year 5</b></p> <ul style="list-style-type: none"> <li>Children should be introduced to a model of the Sun and Earth that enables them to explain day and night. Children should learn that the Sun is a star at the centre of our solar system and that it has eight planets. They should understand that a moon is a celestial body that orbits a planet.</li> <li><b>Note:</b> Children should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses.</li> <li>Children should find out about the way that ideas about the solar system have developed, and understand the geocentric and heliocentric models by considering the work of scientists such as Ptolemy, Alhazen and Copernicus.</li> <li>Children might work scientifically by: comparing the time of day at different places on the Earth through internet links and direct communication; creating simple models of the solar system and so on.</li> </ul>
Spring 1	Everyday materials	Rocks	Properties and Changing Materials
Objectives	<p><b>Year 1</b></p> <ul style="list-style-type: none"> <li>Children should explore, name, discuss and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: <i>hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent.</i> Children should explore and experiment with a wide variety of materials, not only those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil.</li> </ul>	<p><b>Year 3</b></p> <ul style="list-style-type: none"> <li>Children should explore different kinds of rocks and soils, including those in the local environment.</li> <li>Children might work scientifically by: observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time; using a hand lens or microscope to help them to identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them. Children might research and discuss the different</li> </ul>	<p><b>Year 5</b></p> <ul style="list-style-type: none"> <li>Children should build a more systematic understanding of materials by exploring and comparing the properties of a broad range of materials, including relating these to what they learnt about magnetism in Year 3 and about electricity in Year 4. They should explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. Children should explore changes that are difficult to reverse, for example,</li> </ul>

	<ul style="list-style-type: none"> <li>Children might work scientifically by: performing simple tests to explore questions, for example: <i>What is the best material for an umbrella? ... for lining a dog basket? ... for curtains? ... for a bookshelf? ... for a gymnast's leotard?</i></li> </ul>	<p>kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed. Children could explore 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.</p>	<p>burning, rusting and other reactions, for example, vinegar with bicarbonate of soda. They should find out about how chemists create new materials.</p> <ul style="list-style-type: none"> <li><b>Note:</b> At this stage, it is sufficient for children to observe that some conductors will produce a brighter bulb in a circuit than others and that some materials will feel hotter than others when a heat source is placed against them. Safety guidelines should be followed when burning materials.</li> <li>Children might work scientifically by: carrying out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket?' They might compare materials in order to make a switch in a circuit. They could observe and compare the changes that take place, for example, when burning different materials or baking bread or cakes. They might research and discuss how chemical changes have an impact on our lives, and discuss the creative use of new materials such as polymers and super-thin materials.</li> </ul>
Spring 2	Sound	Sound	Sound
Objectives	<ul style="list-style-type: none"> <li>-Children could learn that there are many different sources of sounds; to explore sounds using their sense of hearing and to make observations of sounds by listening carefully.</li> <li>-Children could learn that there are many different ways of making sounds and to present results and to interpret these.</li> <li>-Children could learn that there are many ways of describing sounds.</li> <li>-Children could learn that we can make sounds in a variety of ways and to explore sounds using the sense of touch.</li> <li>-Children could learn that we hear with our ears; to turn ideas about hearing into questions that can be tested and to make and record observations and present them in drawings and writing</li> <li>-Children could learn that we use our sense of hearing for a range of purposes, including recognising hazards and risks.</li> <li>-Children could learn that some sounds can be heard from a long distance and that sounds seem louder the nearer you are to the source.</li> <li>-Children could learn that sounds get fainter as they travel away from a source; to measure distances using non-standard (or standard) measures and to make and record their measurements</li> <li>-Children should learn to communicate what happened using diagrams or charts to present results and to make comparisons between their results and use these to draw conclusions.</li> </ul>		<p><b>Year 4</b></p> <ul style="list-style-type: none"> <li>Children should explore and identify the way sound is made through vibration in a range of different musical instruments from around the world; and find out how the pitch and volume of sounds can be changed.</li> <li>Children might work scientifically by: finding patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses. They might make earmuffs from a variety of different materials to investigate which provides the best insulation against sound. They could make and play their own instruments by using what they have found out about pitch and volume.</li> </ul>
Summer 1	Electricity	Electricity	Electricity
Objectives	<ul style="list-style-type: none"> <li>-Children could learn that everyday appliances use electricity; these include things that light up, heat up, produce sounds and move.</li> <li>-Children could learn that everyday appliances are connected to the mains and that they must be used safely.</li> <li>-Children could learn that some devices use batteries which supply electricity; these can be handled safely and to make connections in circuits to the positive and negative poles of the battery.</li> <li>-Children could learn to make a complete circuit using a battery, wires and bulbs and explore how to make a bulb light, explaining what happened, and using drawings to present results.</li> </ul>		<p><b>Year 4</b></p> <ul style="list-style-type: none"> <li>Children should construct simple series circuits, trying different components, for example, bulbs, buzzers and motors, and including switches, and use their circuits to create simple devices. Children should draw the circuit as a pictorial representation, not necessarily using conventional circuit symbols; these are introduced in</li> </ul>

	<p>-Children could learn that an electrical device will not work if there is no battery or if there is a break in the circuit; to make and test predictions about circuits that will work; to make and record observations in drawings; to say whether the evidence supports the predictions and to explain what happened, drawing on their knowledge of circuits.</p>		<p>Year 6.</p> <ul style="list-style-type: none"> <li>• <b>Note:</b> Children might use the terms current and voltage, but these should not be introduced or defined formally at this stage. Children should be taught about precautions for working safely with electricity.</li> <li>• Children might work scientifically by: observing patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors, and that some materials can be used to connect across a gap in a circuit.</li> </ul> <p><u>Year 6</u></p> <ul style="list-style-type: none"> <li>• Building on their work in Year 4, children should construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors. They should learn how to represent a simple circuit in a diagram using recognised symbols.</li> <li>• <b>Note:</b> Children are expected to learn only about series circuits, not parallel circuits. Children should be taught to take the necessary precautions for working safely with electricity.</li> <li>• Children 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.</li> </ul>
<p>Summer 2</p>	<p>Living things and their habitats</p>	<p>Living things and their habitats</p>	<p>Living things and their habitats</p>
<p>Objectives</p>	<p>-Children could learn that there are different kinds of plants and animals in the immediate environment; to treat animals and the environment with care and sensitivity; to recognise hazards in working with soil; to observe and make a record of animals and plants found and to present results in a table.</p> <p>-Children could learn that there are differences between local habitats; to make predictions about the animals and plants found in different local habitats and to investigate these and to use drawings to present results and make comparisons saying whether their predictions were supported.</p> <p>-Children could learn that flowering plants produce seeds.</p> <p>-Children could learn to turn ideas of their own, about what plants need to begin to grow, into a form that can be tested; to observe and make a day-by-day record of observations; to use the results to draw a conclusion about what seeds need to begin to grow and decide whether this is what they expected and that seeds produce new plants</p> <p>-Children could learn that animals reproduce and change as</p>	<p><u>Year 2</u></p> <ul style="list-style-type: none"> <li>• Children should be introduced to the idea that all living things have certain characteristics that are essential for keeping them alive and healthy. They should raise and answer questions that help them to become familiar with the life processes that are common to all living things. Children should be introduced to the terms 'habitat' (a natural environment or home of a variety of plants and animals) and 'micro-habitat' (a very small habitat, for example for woodlice under stones, logs or leaf litter). They should raise and answer questions about the local environment that help them to identify and study a variety of plants and animals within their habitat and observe how living things depend on each other, for example, plants serving as a source of food and shelter for animals. Children should compare animals in familiar habitats with animals found in less familiar habitats, for example, on the</li> </ul>	<p><u>Year 4</u></p> <ul style="list-style-type: none"> <li>• Children should use the local environment throughout the year to raise and answer questions that help them to identify and study plants and animals in their habitat. They should identify how the habitat changes throughout the year. Children should explore possible ways of grouping a wide selection of living things. Children could begin to put vertebrate animals into groups such as fish, amphibians, reptiles, birds, and mammals; and invertebrates into snails and slugs, worms, spiders, and insects.</li> <li>• <b>Note:</b> Plants can be grouped into categories such as flowering plants and non-flowering plants.</li> <li>• Children should explore examples of human impact (both positive and negative) on environments, for example, the positive effects of nature reserves, ecologically planned parks, or garden ponds, and the negative effects of population and development, litter</li> </ul>

	<p>they grow older.</p>	<p>seashore, in woodland, in the ocean, in the rainforest.</p> <ul style="list-style-type: none"> <li>• Children might work scientifically by: sorting and classifying things according to whether they are living, dead or were never alive, and recording their findings using charts. They should describe how they decided where to place things, exploring questions for example: <i>Is a flame alive? Is a deciduous tree dead in winter?</i> and talk about ways of answering their questions. They could construct a simple food chain that includes humans (e.g. grass, cow, human). They could describe the conditions in different habitats and micro-habitats (under log, on stony path, under bushes) and find out how the conditions affect the number and type(s) of plants and animals that live there.</li> </ul>	<p>or deforestation.</p> <ul style="list-style-type: none"> <li>• Children might work scientifically by: using and making simple guides or keys to explore and identify local plants and animals; making a guide to local living things; raising and answering questions based on their observations of animals and what they have found out about other animals that they have researched.</li> </ul> <p><b>Year 5</b></p> <ul style="list-style-type: none"> <li>• Children should study and raise questions about their local environment throughout the year. They should observe life-cycle changes in a variety of living things and animals in the local environment. They should find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall.</li> <li>• Children should find out about different types of reproduction in plants and animals.</li> <li>• Children 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 (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences. They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. They might observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow.</li> </ul> <p><b>Year 6</b></p> <ul style="list-style-type: none"> <li>• Children should build on their learning about grouping living things in Year 4 by looking at the classification system in more detail. They should be introduced to the idea that broad groupings, such as micro-organisms, plants and animals can be subdivided. Through direct observations where possible, they should classify animals into commonly found invertebrates and vertebrates. They should discuss reasons why living things are placed in one group and not another.</li> <li>• Children might find out about the significance of the work of scientists such as Carl Linnaeus.</li> <li>• Children might work scientifically by: using classification systems and keys to identify some animals and plants in the immediate environment. They could</li> </ul>
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			research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.
Summer 2			Evolution and Inheritance
Objectives			<p><b>Year 6</b></p> <ul style="list-style-type: none"> <li>• Building on what they learned about fossils in the topic on rocks in Year 3, children should find out more about how living things on Earth have changed over time. They should be introduced to the idea that characteristics are passed from parents to their offspring, for instance by considering different breeds of dogs, and what happens when, for example, labradors are crossed with poodles. They should also appreciate that variation in offspring over time can make animals more or less able to survive in particular environments, for example, by exploring how giraffes' necks got longer, or the development of insulating fur on the arctic fox. Children might find out about the work of palaeontologists such as Mary Anning and about how Charles Darwin and Alfred Wallace developed their ideas on evolution.</li> <li>• <b>Note:</b> At this stage, children are not expected to understand how genes and chromosomes work.</li> <li>• Children 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.</li> </ul>