

Class 3 Years 4, 5 and 6	Autumn Term	Spring Term	Summer Term
<p><b>Cycle 1</b></p>	<p style="text-align: center;"><b>Forces</b></p> <p>Children explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Children identify the effects of air resistance, water resistance and friction, that act between moving surfaces. Children recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p> <p style="text-align: center;"><b>Earth and Space</b></p> <p>Children describe the movement of the Earth, and other planets, relative to the Sun in the solar system. They describe the movement of the Moon relative to the Earth. Children describe the Sun, Earth and Moon as approximately spherical bodies. Children use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p>	<p style="text-align: center;"><b>Evolution and Inheritance</b></p> <p>Children recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. They recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Children identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	<p style="text-align: center;"><b>Living Things and Their Habitats</b></p> <p>Children recognise that living things can be grouped in a variety of ways. They explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Children recognise that environments can change and that this can sometimes pose dangers to living things. Children describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. They describe the life process of reproduction in some plants and animals. Children describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. Children give reasons for classifying plants and animals based on specific characteristics.</p>
<p><b>Cycle 2</b></p>	<p style="text-align: center;"><b>Electricity</b></p> <p>Children identify common appliances that run on electricity. They construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. They identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. They recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple</p>	<p style="text-align: center;"><b>States of Matter</b></p> <p>Children compare and group materials together, according to whether they are solids, liquids or gases. They 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). Children identify the part played by evaporation and condensation</p>	<p style="text-align: center;"><b>Animals including Humans</b></p> <p>Children describe the simple functions of the basic parts of the digestive system in humans. Children identify the different types of teeth in humans and their simple functions. They also construct and interpret a variety of food chains, identifying producers, predators and prey. Children describe the changes as humans develop to old age. Pupils should draw a timeline to indicate stages in the</p>

	<p>series circuit. Children recognise some common conductors and insulators, and associate metals with being good conductors, associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. Children compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Children use recognised symbols when representing a simple circuit in a diagram.</p>	<p>in the water cycle and associate the rate of evaporation with temperature.</p>	<p>growth and development of humans. They should learn about the changes experienced in puberty. Pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows</p> <p><b>(The various puberty changes are also covered through the Relationships and Sex Education (RSE) topic, Growing and Changing)</b></p>
<b>Cycle 3</b>	<p><b>Properties and changes of materials</b></p> <p>Children 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. They know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Children use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. They give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Children demonstrate that dissolving, mixing and changes of state are reversible changes. They 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>Sound</b></p> <p>Children identify how sounds are made, associating some of them with something vibrating. They recognise that vibrations from sounds travel through a medium to the ear. They find patterns between the pitch of a sound and features of the object that produced it. Children find patterns between the volume of a sound and the strength of the vibrations that produced it. Children recognise that sounds get fainter as the distance from the sound source increases.</p>	<p><b>Light</b></p> <p>Children recognise that light appears to travel in straight lines. They use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. Children 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. Children use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>

