

# Science Long Term Plan

## 2021/2022



	<u>Autumn 1</u>	<u>Autumn 2</u>	<u>Spring1</u>	<u>Spring2</u>	<u>Summer1</u>	<u>Summer2</u>
<u>Year One</u>	<p><u>Animals including Humans</u> Identify and name a variety of common animals. Distinguish between carnivores, herbivores and omnivores.</p>	<p><u>Weather and Seasons</u> Observe changes across the four seasons and describe the weather associated with each one. Autumn/Winter</p>	<p><u>MATERIALS AND STATES OF MATTER</u> Distinguish between an object and the material from which it is made.</p>	<p><u>Weather and Seasons</u> Observe changes across the four seasons and describe the weather associated with each one. Spring</p>	<p><u>Plants</u> Identify and name a variety of common wild and garden plants. Identify and describe the basic structure of a plant.</p>	<p><u>Weather and Seasons</u> Observe changes across the four seasons and describe the weather associated with each one. Summer</p>
<u>Year Two</u>	<p><u>LIVING THINGS AND THEIR HABITATS</u> Explore and compare the differences between things that are living, dead, and things that have never been alive. Explore the local environment and microhabitats. Move onto studying global habitats.</p>		<p><u>MATERIALS AND STATES OF MATTER</u> 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><u>ANIMALS INCLUDING HUMANS (1)</u> Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p>	<p><u>PLANTS</u> Observe and describe how seeds and bulbs grow into mature plants.</p>	<p><u>ANIMALS INCLUDING HUMANS (continued)</u> Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</p>
<u>Year Three</u>	<u>LIGHT AND DARK</u>	<u>ROCKS</u>	<u>FORCES, MAGNETS AND ELECTRICITY</u>	<u>ANIMALS INCLUDING HUMANS</u>	<u>PLANTS</u>	

<b><u>Penguins</u></b>	Recognise that they need light in order to see things and that dark is the absence of light	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties .	Compare how things move on different surfaces Notice that some forces need contact between two objects, but magnetic forces can act at a distance.	Identify that animals and humans need the right types / amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.
<b><u>Year Four</u></b>	<b><u>SOUND</u></b> Identify how sounds are made, associating some of them with something vibrating	<b><u>MATERIALS AND STATES OF MATTER</u></b> Compare, observe and group materials together, according to whether they are solids, liquids or gases.	<b><u>ELECTRICITY</u></b> Identify common appliances that run on electricity Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.	<b><u>LIVING THINGS AND THEIR HABITATS</u></b> Recognise that living things can be grouped in a variety of ways Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment recognise that environments can change and that this can sometimes pose dangers to living things	<b><u>ANIMALS INCLUDING HUMANS</u></b> Describe the simple functions of the basic parts of the digestive system in humans Identify the different types of teeth in humans and their simple functions Construct and interpret a variety of food chains, identifying producers, predators and prey.
<b><u>Year Five Penguins</u></b>	<b><u>ANIMALS INCLUDING HUMANS</u></b> Describe changes as humans develop to old age Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function Describe the ways in which nutrients and water are transported within animals, including humans.	<b><u>EARTH AND SPACE</u></b> Pupils should be taught to: describe the movement of the Earth, and other planets, relative to the Sun in the solar system describe the movement of the Moon relative to the Earth describe the Sun, Earth and Moon as approximately spherical bodies use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	<b><u>PROPERTIES AND CHANGES OF 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 Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic  Demonstrate that dissolving, mixing and changes of state are reversible changes 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.	<b><u>FORCES</u></b> Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object Identify the effects of air resistance, water resistance and friction, that act between moving surfaces Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	<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 Describe the life process of reproduction in some plants and animals.

<p><b><u>Year Six</u></b></p>	<p><b><u>ELECTRICITY</u></b>  Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit  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  Use recognised symbols when representing a simple circuit in a diagram.</p>	<p><b><u>EVOLUTION AND INHERITANCE</u></b>  Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago  Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents  Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	<p><b><u>LIGHT</u></b>  Recognise that light appears to travel in straight lines  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    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  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>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 microorganisms, plants and animals  Give reasons for classifying plants and animals based on specific characteristics.</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  recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function  describe the ways in which nutrients and water are transported within animals, including humans.</p>