

Science Curriculum 2020-2021

| 2020 - 2021 | | | | | | |
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| <u>Autumn Term</u> A Kaleidoscope of Colours | | | <u>Spring Term</u> Windows and Doors | | <u>Summer Term</u> Marvellous Movies | |
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| Y1 | <p>Animals, including Humans 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>Plants Use the local environment throughout the year to explore and answer questions about plants growing in their habitat. Observe the growth of flowers and vegetables that they have planted. <i>Planting bulbs, tree study</i></p> <p>Seasonal Changes Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies.</p> | <p>Animals, including Humans Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals Identify and name a variety of common animals that are carnivores, herbivores and omnivores Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> | <p>Plants Use the local environment throughout the year to explore and answer questions about plants growing in their habitat. Observe the growth of flowers and vegetables that they have planted. <i>Tree study, planting seeds</i></p> <p>Seasonal Changes: Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies. <i>Weather station</i></p> | <p>Everyday materials 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 Describe the simple physical properties of a variety of everyday materials Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> | <p>Seasonal Change Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies. (+ Geography - identify and compare seasonal and daily weather patterns in the United Kingdom) <i>Weather station. Measure rainfall and wind direction.</i></p> | <p>Plants Use the local environment throughout the year to explore and answer questions about plants growing in their habitat. Observe the growth of flowers and vegetables that they have planted. <i>Tree study, harvesting flowers & veg</i></p> |
| Y2 | <p>All living things & their habitats Explore and compare differences between things that are living, dead, and things that have never been alive 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>Animals, inc Humans Notice that animals, including humans have offspring which grow into adults Find out about and describe the basic needs of animals, including humans, for survival</p> <p>Plants Use local environment throughout the year to observe how different plants grow – Autumn/Winter survey</p> | <p>Uses of Everyday Materials Identify and compare the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p> | <p>Plants Observe and describe how seeds and bulbs grow into mature plants Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy Use local environment throughout the year to observe how different plants grow – Spring Survey</p> | <p>Animals, inc Humans Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> | <p>All living things & their habitats Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> <p>Plants: Re-visit Observe and describe how seeds and bulbs grow into mature plants</p> |

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| | <p>Identify and name a variety of plants and animals in their habitats, including micro-habitats</p> <p>Compare animals found in familiar habitats with animals found in less familiar habitats eg caves, make a wormery, bug hotel or indoor woodlice colony</p> <p><i>Plant bulbs.</i></p> | | | | | <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>Use local environment throughout the year to observe how different plants grow – Summer survey</p> |
| Y3 | <p>Plants</p> <p>Identify and describe the functions of different parts of flowering plants</p> <p>Explore requirements of plants for life and growth</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</p> | <p>Forces and Magnets</p> <p>Compare how things move on different surfaces</p> <p>Magnetic forces can act at a distance</p> <p>Observe how magnets attract or repel each other and 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 two poles; predict whether two magnets will attract or repel each other</p> | <p>Light</p> <p>Recognise need light in order to see things; that dark is the absence of light</p> <p>Light is reflected from surfaces</p> <p>Light from the sun can be dangerous; there are ways to protect their eyes</p> <p>Shadows are formed when the light from a light source is blocked by a solid object</p> <p>Find patterns in the way that the size of shadows change</p> <p>Data loggers</p> | <p>Animals, including Humans</p> <p>Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own 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>Rocks</p> <p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>Explore different kinds of rocks and soils, including those in the local environment.</p> | <p>Rocks</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>Recognise that soils are made from rocks and organic matter.</p> |
| Y4 | <p>All Living Things</p> <p>Identify and study plants and animals in their habitat and how the habitat changes throughout the year.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p>Take photos & complete habitat report to compare when re-visit</p> <p><i>Including school pond bug hotel etc</i></p> | <p>Re-visit & extend – All Living Things</p> <p>Identify and name a variety of living things (plants and animals) in the local and wider environment, using classification keys to assign them to groups</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p><i>Including school pond, bug hotel etc</i></p> | <p>Sound</p> <p>Identify how sounds are made</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</p> <p>Find patterns between the volume of a sound and the strength of the vibrations</p> <p>Recognise that sounds get fainter as the distance from the sound source increases</p> <p>Data loggers</p> | <p>Animals, including Humans</p> <p>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>Revisit All Living Things:</p> <p>Identify and study plants and animals in their habitat and how the habitat changes throughout the year</p> | <p>Electricity</p> <p>Identify common appliances</p> <p>Construct a simple series electrical circuit</p> <p>Identify whether or not a lamp will light in a simple series circuit</p> <p>Recognise that a switch opens and closes a circuit</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p> <p><i>British inventions/inventors - Electric motor: Michael Faraday, 1821 Television: John Logie Baird, 1925</i></p> | <p>States of Matter</p> <p>Compare and group materials together, according to 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>Identify the part played by evaporation and condensation in the water cycle and associate the rate of</p> |

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| | | | | | | evaporation with temperature. |
| Y5 | <p>All living things & their habitats</p> <p>Describe 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>Animals including humans</p> <p>Describe the changes as humans develop to old age.</p> | <p>Forces/Magnetism</p> <p>Gravity</p> <p>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces</p> <p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p> <p><i>Gallileo/Newton.</i></p> | <p>Earth and Space</p> <p>Gaia</p> <p>Movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>Movement of the Moon relative to the Earth</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>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>Properties & Changes of Materials</p> <p>Compare and group together everyday materials</p> <p>Know that some materials will dissolve in liquid to form a solution; describe how to recover a substance from a solution</p> <p>Decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>Uses of everyday materials, including metals, wood and plastic</p> | <p>Properties & Changes of Materials</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> |
| Y6 | <p>Evolution and Inheritance (incl Mary Anning)</p> <p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> | <p>Evolution and Inheritance (incl Wallace and Darwin)</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p> | <p>All Living Things</p> <p>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p> | <p>Animals (including humans)</p> <p>Identify and name the main parts of the human circulatory system, and explain 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>Electricity</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 function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches</p> <p>Use recognised symbols</p> <p><i>British inventions/inventors</i></p> <p>- <i>Electric motor: Michael Faraday, 1821</i></p> | <p>Light</p> <p>Understand that light appears to travel in straight lines</p> <p>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</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, and to predict the size of shadows when the position of the light source changes.</p> <p><i>British inventions/inventors - Light Bulb: Joseph Swan,</i></p> |

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