



Cowling Community Primary School

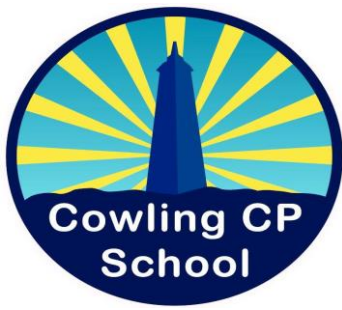


Science Long Term Plan

Subject Leader: Kate Dawson

KS1

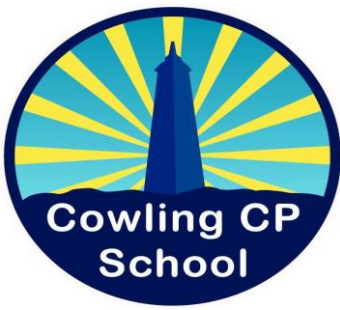
	Block 1	Block 2	Block 3	Block 4	Block 5
EYFS	<p><u>Early Learning Goal</u> Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes.</p>				
Year A	<p>Super Scientists Marie Curie Alexander Graham Bell Charles Darwin</p>	<p>Light-Additional Topic for KS1 We see with our eyes. Need light to see things. Sources of light. Without light it is dark. Sun gives us daylight. Dangerous to look at the Sun.</p>	<p>Animals including humans (a) Common animals including fish, amphibians, reptiles, birds and mammals. Carnivores, herbivores and omnivores. Structure of a variety of common animals. Parts of the human body. Senses.</p>	<p>Plants (a) Name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees.</p>	<p>Materials (a) Distinguish between an object and the material from which it is made. Name a variety of everyday materials. Simple physical properties of a variety of everyday materials. Compare and group together materials on the basis of their simple physical properties.</p>
<p>SEASONS</p> <p>Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.</p>					
Year B	<p>Forces-Additional for KS1 Pushing, pulling and twisting can make objects change shape. Pushes and pulls can make objects move. Pushes and pulls can make objects speed up, slow down change direction or stop. Objects fall downwards. Pushes and pulls are forces</p>	<p>Uses of everyday materials Suitability of a variety of everyday materials. Shapes of solid objects made from materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Animals including humans (b) Animals, including humans, have offspring which grow into adults. Basic needs of animals, including humans, for survival. Healthy lifestyle.</p>	<p>Plants (b) Seeds and bulbs grow into mature plants. Plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>Living things and their habitats Differences between things that are living, dead, and things that have never been alive. Animal's habitats. Identify and name a variety of plants and animals in their habitats, including micro-habitats. Animals obtain their food from plants and other animals.</p>



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KS2- Year A

	Block 1	Block 2	Block 3	Block 4	Block 5
LKS2	<p><u>Earth and Space</u> How the Sun appears to move across the sky from East to West. How the apparent movement of the Sun across the sky causes shadows to change How we can see the Moon because the Sun's light reflects off it. How the Earth and Moon go around the Sun in one year Recognise that humans have been to the Moon</p>	<p><u>Forces</u> Things move on different surfaces. Some forces need contact between two objects, but magnetic forces can act at a distance. Magnets attract or repel each other and attract some materials and not others. Compare and group materials on the basis of whether they are attracted to a magnet and identify some magnetic materials. Magnets have two poles- attract and repel.</p>	<p><u>Materials</u> Compare and group materials together, according to whether they are solids, liquids or gases. Some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). Evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p><u>Plants</u> Functions of different parts of flowering plants: roots; stem/trunk; leaves; and flowers. Requirements of plants for life and growth and how they vary. Way in which water is transported within plants. Life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p><u>Animals including humans</u> 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. Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>
UKS2	<p>Movement of the Earth, and other planets, relative to the Sun in the solar system. Movement of the Moon relative to the Earth. Sun, Earth and Moon as approximately spherical bodies. Earth's rotation to explain day and night and the apparent movement of the Sun across the sky. (Ptolemy, Alhazen and Copernicus).</p>	<p>Unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Effects of air resistance, water resistance and friction that act between moving surfaces. Some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	<p><u>Living things and their habitats</u> Differences in the life cycles of a mammal, an amphibian, an insect and a bird. Life process of reproduction in some plants and animals.</p>	<p>Seed dispersal ensures that new plants survive Nutrients are taken in through plant roots Leaves use light to make food for the plant Keys are a way of identifying different living things.</p>	<p>Describe the changes as humans develop to old age (puberty and SRE).</p>



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		(Galileo Galilei and Isaac Newton)			
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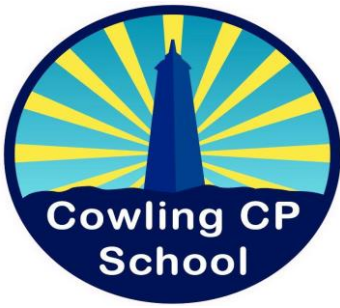
Year B

<p>LKS2</p>	<p><u>Electricity</u> Appliances that run on electricity. Simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. 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. A switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Conductors and insulators, and associate metals with being good conductors.</p>	<p><u>Rocks and Soils</u> Compare and group rocks on their appearance and simple physical properties. How fossils are formed when things that have lived are trapped within rock. Soils are made from rocks and organic matter. (Mary Anning)</p>	<p><u>Sound and light</u> How sounds are made. Vibrations from sounds travel through a medium to the ear. Patterns between the pitch of a sound and features of the object that produced it. Patterns between the volume of a sound and the strength of the vibrations that produced it. Sounds get fainter as the distance from the sound source increases. Need light in order to see things, and that dark is the absence of light. Light is reflected from surfaces. Light from the sun can be dangerous and that there are ways to protect their eyes. Shadows are formed when the light from a light source is blocked by an opaque object.</p>	<p><u>Living things and their habitats</u> Living things can be grouped in a variety of ways. Classification keys to help group, identify and name a variety of living things in their local and wider environment. Environments can change and that this can sometimes pose dangers to living things. (Carl Linnaeus)</p>	<p><u>Animals including humans</u> Simple functions of the basic parts of the digestive system in humans. Types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>
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			Patterns in the way that the size of shadows change.		
UKS2	<p>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><u>Evolution</u> Recap on how fossils are formed. Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Animals and plants are adapted to suit their environment in different ways</p>	<p><u>Materials</u> Group and compare materials on the basis of their properties. Some materials dissolve in liquid to form a solution and you can recover a substance from a solution. Separating solids, liquids and gases. Use comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Dissolving, mixing and changes of state are reversible changes. Changes result in the formation of new materials, and that this kind of change is not usually reversible.</p>	<p>Sounds can be high or low (pitched). Describe how sounds are made when objects vibrate. Not all objects can be seen to vibrate. Vibrations can travel at different speeds through different mediums.</p> <p>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. We see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. Shadows have the same shape as the objects that cast them.</p>	<p>Classification of micro-organisms, plants and animals. Classifying plants and animals based on specific characteristics (David Attenborough and Jane Goodall).</p>	<p>Main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Impact of diet, exercise, drugs and lifestyle on the way their bodies function. Ways in which nutrients and water are transported within animals, including humans.</p>



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	and that adaptation may lead to evolution. (Revisit Charles Darwin and Alfred Wallace)				
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