

Year 6 Science Coverage

'As Scientists, we question how the world around us works so we can make predictions, experiment and explain our understanding.'			
Unit:	In Their Footsteps	Facing the Challenge	London Calling
National Curriculum Science Knowledge taught as stand-alone lessons	<p>Animals identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>describe the ways in which nutrients and water are transported within animals, including humans</p>	<p>Evolution and Inheritance 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>recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p>	<p>Electricity 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 when representing a simple circuit in a diagram</p>
National Curriculum Science Knowledge Linked to topic	<p>Light recognise 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>Draw and explain results from investigation with torches and mirrors, shadows</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 recognise the impact of diet,</p>	<p>Living things and their habitats 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>identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p>	

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	exercise, drugs and lifestyle on the way their bodies function		
Subject Focus	<p>In this topic, children be exploring light; measuring angles of reflection; and explaining how the knowledge of how light travels helped scientists develop periscopes and telescopes. They will be looking at the research of Galileo and Newton.</p> <p>Using the theme 'Fit to Fight', the pupils will be looking at the human circulatory system and how to stay healthy (including the impact of exercise, drugs and lifestyle)</p>	<p>In this topic, children will learn about the physical and biological features of habitats in the Himalayas; how animals and plants are adapted to these environments; revise food chains and webs; and use their knowledge to create a new species which could survive on Everest. Studying the famous scientist Charles Darwin, looking at his discoveries and how it led him to develop his theory of evolution. Revisiting their work on fossils to see how secondary sources lead us to make our own ideas and conclusions about creatures and plants in the past.</p>	<p>In this Science Unit, children will look at the safety considerations and applications of electricity. They will construct, compare and evaluate a range of circuits following diagrams and then adapting them to test their predictions. They will be able to create a device or model using an electrical circuit.</p>
Fab Five/ Top Ten	<ol style="list-style-type: none"> 1. I can explain how a periscope works. 2. I know why Galileo was famous. 3. I can describe how blood is pumped around my body. 4. I can explain what happens to my body when I exercise. 5. I can list 5 ways to stay healthy 	<ol style="list-style-type: none"> 1. I can describe the features of a mountain environment. 2. I can describe how animals have adapted to survive in the Himalayas. 3. I can classify a range of creatures and plants based on physical features. 4. I know and am able to subdivide main groups into flowering / non-flowering/ deciduous/ etc. Bacteria, fungi and viruses. Arachnids, insects, worms, etc. 5. I am able to able to justify my classification choices by describing features such as 'live young' gills, warm / cold-blooded, fur, scales, flowers, needles etc 	<ol style="list-style-type: none"> 1. I can explain the effect of changing a circuit and predict what will happen. 2. I can set up a circuit from a circuit diagram. 3. I can draw a diagram using recognised symbols. 4. I can demonstrate an awareness of potential dangers when working with electricity. 5. I can produce a simple working model using electrical components.

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Topic specific Vocabulary	<p style="text-align: center;">All previous plus</p> <div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>straight prism lens image pupil retina</p> </div> <div style="width: 45%;"> <p>blood vessels heart circulatory artery vein capillary drugs</p> </div> </div>	<p style="text-align: center;">All previous plus</p> <div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>characteristics vertebrates invertebrates grasses cereals shrubs deciduous coniferous ferns mosses algae</p> </div> <div style="width: 45%;"> <p>offspring variation adaptation habitat evolution</p> </div> </div>	<p style="text-align: center;">All previous Plus</p> <div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"></div> <div style="width: 45%;"> <p>voltage series parallel component circuit diagram symbols motor</p> </div> </div>
	<ul style="list-style-type: none"> planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs 	<ul style="list-style-type: none"> planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and 	<ul style="list-style-type: none"> planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate recording data and results of increasing complexity using scientific diagrams using test results to make predictions to set up further comparative and fair tests

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	<ul style="list-style-type: none">identifying scientific evidence that has been used to support or refute ideas or arguments.	<p>written forms such as displays and other presentations</p> <ul style="list-style-type: none">identifying scientific evidence that has been used to support or refute ideas or arguments.	
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