

	<b>Statutory Requirements</b>	<b>Working Scientifically non-statutory</b>	<b>Vocabulary</b>
<p>Year 6</p> <p>Working scientifically</p>	<p>During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>• Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> <li>• Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>• Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</li> <li>• Using test results to make predictions to set up further comparative and fair tests</li> <li>• Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and</li> </ul>	<p><b>Classifying</b>  <b>Observing over time</b>  <b>Pattern seeking</b>  <b>Research</b>  <b>Comparative/fair testing</b></p>	

	<p>written forms such as displays and other presentations</p> <ul style="list-style-type: none"> <li>Identifying scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>		
Living Things and their habitats	<ul style="list-style-type: none"> <li>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</li> <li>Give reasons for classifying plants and animals based on specific characteristics.</li> </ul>	<p><b>Classifying</b> To use classification systems and keys to classify animals and plants in the immediate environment.</p> <p><b>Research</b> To conduct research on the significance of the work of scientists such as Karl Linnaeus, a pioneer of classification.</p> <p>To research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.</p>	<p><b>Revision vocabulary</b> component, habitat, plant, structure, fish, bird, amphibian, reptile, mammal, kingdom, classification key, species, fungi, bacteria, characteristics, offspring, vertebrate, invertebrate, insect</p> <p><b>New vocabulary</b> micro-organism, virus, thorax, arthropod, abdomen, arachnid, antenna, jointed limbs</p>
Animals including humans	<ul style="list-style-type: none"> <li>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</li> <li>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</li> <li>Describe the ways in which nutrients and water are transported within animals, including humans.</li> </ul>	<p><b>Research</b> To research the relationship between diets, exercise, drugs, lifestyle and health.</p> <p><b>Observing</b> To observe the structure of a heart and identify parts.</p>	<p><b>Revision vocabulary</b> component, energy, growth, survival, nutrients, consumption, skeleton, ribcage, protein, carbohydrate, fat, digestion, skeleton, organ</p> <p><b>New vocabulary</b> artery, aorta, atrium, blood vessels capillary, circulatory system, vein, pulse, ventricle, replenished, resting heart rate, body</p>

<p><b>Evolution and inheritance</b></p>	<ul style="list-style-type: none"> <li>• Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</li> <li>• Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</li> <li>• Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</li> </ul>	<p><b>Pattern seeking</b></p> <p><b>Comparative/fair testing</b></p> <p><b>Observing over time</b> Observe and raise questions about local animals and how they are adapted to their environment.</p> <p><b>Comparative/fair testing &amp; Research</b> Comparing how some living things are adapted to survive in extreme conditions, for example, cactuses, penguins and camels. The children will research and analyse the advantages and disadvantages of specific adaptations, such as being on two feet rather than four, having a long or a short beak, having gills or lungs, tendrils on climbing plants, brightly coloured and scented flowers.</p>	<p><b>Revision</b> birth, decay, energy, habitat, irreversible, extinction, microhabitat, dead, life cycle, food chain, source, nutrients, reproduction, consumption, environment, extinction, species, characteristic, adaptation</p> <p><b>New vocabulary</b> evolution, natural selection, variation, advantageous</p>
<p><b>Light</b></p>	<ul style="list-style-type: none"> <li>• Recognise that light appears to travel in straight lines</li> <li>• 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</li> <li>• 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.</li> <li>• Use the idea that light travels in straight lines to explain why shadows</li> </ul>	<p><b>Comparative/fair testing</b> Plan where to place rear-view mirrors on cars; designing and making a periscope and using the idea that light appears to travel in straight lines to explain how it works.</p> <p><b>Pattern seeking &amp; Observing</b> They might investigate the relationship between light sources, objects and shadows by using shadow puppets.</p> <p><b>Observing</b> They could extend their experience of light by observing a range of phenomena including rainbows, colours on soap bubbles, objects</p>	<p><b>Revision</b> absorption, energy, property, reflection, wave, mirror, incident ray, image, beam, photons, solid, opaque, transparent, object, source,</p> <p><b>New vocabulary</b> angle of incidence, angle of reflection, refraction, spectrum, translucent, medium, periscope</p>

	have the same shape as the objects that cast them.	looking bent in water and coloured filters (they do not need to explain why these phenomena occur)	
Electricity	<ul style="list-style-type: none"> <li>• Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</li> <li>• 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</li> <li>• Use recognised symbols when representing a simple circuit in a diagram.</li> </ul>	<p><b>Comparative/fair testing &amp; Observing</b> Pupils systematically identifying the effect of changing one component at a time in a circuit; designing and making a set of traffic lights, a burglar alarm or some other useful circuit.</p> <p><b>Note:</b> Pupils are expected to learn only about series circuits, not parallel circuits. Pupils should be taught to take the necessary precautions for working safely with electricity.</p>	<p><b>Revision</b> circuit, component, conductor, energy, insulator, particle, property, material, appliance, charge, electron, battery, cell, bulb, buzzer, switch, wire, current electricity, static electricity, negative terminal, positive terminal, voltage, chemical reaction, emit</p> <p><b>New vocabulary</b> series circuit, resistance, voltage</p>