

Science: Year six

Essential Skills and Knowledge

- I can 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
- I can give reasons for classifying plants and animals based on specific characteristics
- I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
- I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
- I can describe the ways in which nutrients and water are transported within animals, including humans
- I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
- I can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
- I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
- I can recognise that light appears to travel in straight lines
- I can 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
- I can 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
- I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them
- I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
- I can 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
- I can use recognised symbols when representing a simple circuit in a diagram

Communication Skills

- I can report and present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- I can discuss reasons why living things are placed in one group and not another
- I can explain how to keep my body healthy and how my body might be damaged by some drugs and other substances that can be harmful to

Working together Collaborative Skills

- I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- I can identify scientific evidence that has been used to support or refute ideas or arguments
- I can explore and answer questions that help me to understand how the

Problem solving

- I can use test results to make prediction to set up further comparative and fair tests
- I can classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals)
- I can design and make a periscope and

<p>the human body</p> <ul style="list-style-type: none"> • I can explain the idea that characteristics are passed from parents to their offspring e.g.- consider different breeds of dogs, and what happens when Labradors are crossed with poodles • I can appreciate that variation in offspring over time can make animals more or less able to survive in particular environments e.g.- How giraffes necks got longer or the development of insulating fur on the Arctic fox • I can explain how to work with electricity safely 	<p>circulatory system enables the body to function</p>	<p>using the idea that light appears to travel in straight lines to explain how it works</p> <ul style="list-style-type: none"> • I can use shadow puppets to investigate the relationship between light sources, objects and shadows • I can construct simple series circuits to help me answer questions about what happens when I try different components e.g. switches, bulbs, buzzers and motors • I can design and make a set of traffic lights, a burglar alarm or another useful circuit • I can represent a simple circuit in a diagram using recognised symbols
<h3>Application of number</h3>		<h3>Information Technology</h3>
<ul style="list-style-type: none"> • I can take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • I can record 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"> • I use ICT to explain my hypothesis, my methods and my results • When recording my results, I can use a digital camera or I pod independently • I can use secondary sources and recognise when they will be most useful to research my ideas and begin to separate opinion from fact • I can use ICT to research the work of famous palaeontologists e.g. Mary Anning, Charles Darwin and Alfred Wallace • I can explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health • I can find out about the significance of the work of scientists such as Carl Linnaeus (pioneer of classification)