

Science Curriculum - Year 6

Key: Biology ■

Physics ■

Chemistry ■

Living things and their habitats

- 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.

Ideas for working scientifically:

Use classification systems and keys to identify some animals and plants in the immediate environment; research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.

Animals, including humans

- 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.

Ideas for working scientifically:

Explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.

Evolution and inheritance

- 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.

Ideas for working scientifically:

Observe and raise questions about local animals and how they are adapted to their environment; compare how some living things are adapted to survive in extreme conditions e.g. cactuses, penguins, camels; analyse advantages and disadvantages of specific adaptations e.g. being on two feet rather than four, having long or short beak, having gills or lungs, tendrils on climbing plants, brightly coloured and scented flowers.

Light

- 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.

Ideas for working scientifically:

Decide where to place rear-view mirrors on cars; design and make periscope and use idea that light appears to travel in straight lines to explain how it works; investigate the relationship between light sources, objects and shadow by using shadow puppets; extend experiences of light by looking at range of phenomena inc. rainbows, colours on soap bubbles, objects looking bent in water and colour filters (they do not need to explain **why** these phenomena occur).

Electricity

- 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.

Ideas for working scientifically:

Systematically identify the effect of changing one component at a time in a circuit; design and make a set of traffic lights, a burglar alarm or some other useful circuit.