



Science Year 5/6



Working Scientifically

1. I am able to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
2. I am able to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
3. I am able to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs and bar and line graphs.
4. I am able to use test results to make predictions to set up further comparative and fair tests.
5. I am able to report and present findings from enquiries, including conclusions, causal relationships, and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.
6. I am able to identify scientific evidence that has been used to support or refute ideas or arguments.

Living things and their habitats

1. I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
Describe the life process of reproduction in some plants and animals (including self-pollination and selective pollination for higher attainers)
2. I am able to identify the impact the declining bee population has on the environment and agriculture.
3. I can give reasons for classifying plants and animals based on specific characteristics
4. I can 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
5. I know how microorganisms can be classified and can give examples.
6. I know how microorganisms can benefit and harm us and ways that these are controlled.
7. I can identify how microorganisms can cause disease and spread but can also be used to treat illness.

Animals including humans

1. I can describe the changes as humans develop to old age.
2. I know the impact of exercise on heart rate
3. I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
4. I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
5. I can describe the ways in which nutrients and water are transported within animals, including humans.

Earth and space

1. I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system
2. I can describe the movement of the Moon relative to the Earth
3. I describe the Sun, Earth and Moon as approximately spherical bodies
4. I use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.
5. I can talk about ways in which the ideas about the solar system have developed

Forces

1. I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
2. I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces
3. I recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.
4. I am able to construct an accurate force diagram with correctly labelled load and effort.

Properties and changes of materials

1. I can compare and group everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (to electricity and thermal) and response to magnets
2. give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
3. I know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.
4. I can demonstrate that dissolving, mixing and changes of state are reversible changes
5. I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
6. I can explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Light

1. I know that light appears to travel in straight lines
2. 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
3. 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
4. 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.

Electricity

I 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 use recognised symbols when representing a simple circuit in a diagram.

Evolution and inheritance

1. I recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
2. I recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
3. identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

STEM

1. I can challenge stereotypes about the STEM industry e.g. the role of women in STEM and that all scientists wear lab coats and all engineers wear boiler suits.
2. I know some of the different routes into STEM industries including apprenticeships, FE and HE.