

## Stage 3

### Thinking and Working Scientifically

#### Models and representations

- **3TWSm.01** Know that there are different types of models in science, including diagrams and physical models that we can touch.
- **3TWSm.02** Make and use physical models.
- **3TWSm.03** Draw a diagram to represent a real world situation and/or scientific idea.

#### Scientific enquiry: purpose and planning

- **3TWSp.01** Ask scientific questions that can be investigated.
- **3TWSp.02** Know that there are five main types of scientific enquiry (research, fair testing, observing over time, identifying and classifying, and pattern seeking).
- **3TWSp.03** Make a prediction describing some possible outcomes of an enquiry.
- **3TWSp.04** Identify risks and explain how to stay safe during practical work.

#### Carrying out scientific enquiry

- **3TWSc.01** Use observations and tests to sort, group and classify objects.
- **3TWSc.02** Choose equipment from a provided selection and use it appropriately.
- **3TWSc.03** Take measurements in standard units, describing the advantage of standard units over non-standard units.
- **3TWSc.04** Carry out practical work safely.
- **3TWSc.05** Use secondary information sources to research an answer to a question.
- **3TWSc.06** Collect and record observations and/or measurements in tables and diagrams.

#### Scientific enquiry: analysis, evaluation and conclusions

- **3TWSa.01** Identify whether results support, or do not support, a prediction.
- **3TWSa.02** Describe simple patterns in results.
- **3TWSa.03** Make a conclusion from results and relate it to the scientific question being investigated.
- **3TWSa.04** Present and interpret results using tables and bar charts.

### Biology

#### Structure and function

- **3Bs.01** Describe the function of the major parts of flowering plants (limited to roots, leaves, stems and flowers).
- **3Bs.02** Identify the distinguishing features of different groups of animals, including fish, reptiles, mammals, birds, amphibians and insects.
- **3Bs.03** Identify some of the important organs in humans (limited to brain, heart, stomach, intestine and lungs) and describe their functions.

**Life processes**

- **3Bp.01** Describe differences between things that are living, that were once alive and that have never lived.
- **3Bp.02** Know that life processes common to plants and animals include nutrition, growth, movement and reproduction.
- **3Bp.03** Know that plants need appropriate conditions, including temperature, light and water, to be healthy.
- **3Bp.04** Describe and compare how the offspring of different animals grow into adults, including humans, birds, frogs and butterflies.

**Ecosystems**

- **3Be.01** Identify and describe simple food chains, where plants are producers and animals are consumers of plants and/or other animals.

**Chemistry****Materials and their structure**

- **3Cm.01** Know that materials can be solids, liquids or gases.
- **3Cm.02** Understand that a mixture contains two or more materials, where the materials can be physically separated.

**Properties of materials**

- **3Cp.01** Describe differences in the properties of solids and liquids.
- **3Cp.02** Understand that materials, generally, retain their properties within a mixture.
- **3Cp.03** Describe how to separate solid/solid mixtures based on the physical properties of the solids (processes involving dissolving are not required).
- **3Cp.04** Describe how to separate a mixture of an insoluble solid and a liquid.

**Changes to materials**

- **3Cc.01** Know that when a solid dissolves in a liquid the solid is still present, and this is an example of mixing.

**Physics****Forces and energy**

- **3Pf.01** Know that forces can be measured with a forcemeter.
- **3Pf.02** Know that gravity on Earth is a force that pulls towards the centre of the Earth.
- **3Pf.03** Know that friction is a force created between surfaces when they move against each other and it makes this movement harder.
- **3Pf.04** Describe how smooth and rough surfaces can generate different amounts of friction.

**Light and sound**

- **3Ps.01** Investigate how light can pass through some materials and is blocked by others, and use the terms transparent, translucent and opaque.
- **3Ps.02** Know that shadows are formed when light from a source is blocked by an object.
- **3Ps.03** Investigate how the size of a shadow is affected by the position of the object and the position of the light source.

### Electricity and magnetism

- **3Pe.01** Describe magnets as having a north pole and a south pole.
- **3Pe.02** Describe how magnets interact when near each other, using the terms repel and attract.
- **3Pe.03** Investigate how some materials are magnetic but many are not.

## Earth and Space

### Planet Earth

- **3ESp.01** Know that planet Earth is the source of all the materials we use and that many useful materials, including oil, natural gas and metals, come from or are found in rocks.
- **3ESp.02** Know that fossils are impressions, or remains, of things that were once alive.

### Earth in space

- **3ESs.01** Describe the regular change in the position and appearance of the Moon.
- **3ESs.02** Describe the relative movement of the Earth and Moon.
- **3ESs.03** Describe the Earth, Sun and Moon as approximately spherical.

## Science in Context

- **3SIC.01** Talk about how some of the scientific knowledge and thinking now was different in the past.
- **3SIC.02** Talk about how science explains how objects they use, or know about, work.
- **3SIC.03** Know that everyone uses science and identify people who use science professionally.
- **3SIC.04** Talk about how science helps us understand our effect on the world around us.