



## Primary Stage 4 Science for Year 4

### Scientific enquiry

#### Ideas and evidence

- Collect evidence in a variety of contexts.
- Test an idea or prediction based on scientific knowledge and understanding.

#### Plan investigative work

- Suggest questions that can be tested and make predictions; communicate these.
- Design a fair test and plan how to collect sufficient evidence.
- Choose apparatus and decide what to measure.

#### Obtain and present evidence

- Make relevant observations and comparisons in a variety of contexts.
- Measure temperature, time, force and length.
- Begin to think about the need for repeated measurements of, for example, length.
- Present results in drawings, bar charts and tables.

#### Consider evidence and approach

- Identify simple trends and patterns in results and suggest explanations for some of these.
- Explain what the evidence shows and whether it supports predictions. Communicate this clearly to others.
- Link evidence to scientific knowledge and understanding in some contexts.

### Biology

#### Humans and animals

- Know that humans (and some animals) have bony skeletons inside their bodies.
- Know how skeletons grow as humans grow, support and protect the body.
- Know that animals with skeletons have muscles attached to the bones.
- Know how a muscle has to contract (shorten) to make a bone move and muscles act in pairs.
- Explain the role of drugs as medicines.

#### Living things in their environment

- Investigate how different animals are found in different habitats and are suited to the environment in which they are found.
- Use simple identification keys.
- Recognise ways that human activity affects the environment e.g. river pollution, recycling waste.

### Chemistry

#### States of matter

- Know that matter can be solid, liquid or gas.
- Investigate how materials change when they are heated and cooled.
- Know that melting is when a solid turns into a liquid and is the reverse of freezing.
- Observe how water turns into steam when it is heated but on cooling the steam turns back into water.

### Physics

#### Sound

- Explore how sounds are made when objects, materials or air vibrate and learn to measure the volume of sound in decibels with a sound level meter.



- Investigate how sound travels through different materials to the ear.
- Investigate how some materials are effective in preventing sound from travelling through them.
- Investigate the way *pitch* describes how high or low a sound is and that high and low sounds can be loud or soft. Secondary sources can be used.
- Explore how pitch can be changed in musical instruments in a range of ways.

**Electricity and magnetism**

- Construct complete circuits using switch, cell (battery), wire and lamps.
- Explore how an electrical device will not work if there is a break in the circuit.
- Know that electrical current flows and that models can describe this flow, e.g. particles travelling around a circuit.
- Explore the forces between magnets and know that magnets can attract or repel each other.
- Know that magnets attract some metals but not others.