

SCIENCE YEAR 4

WORKING SCIENTIFICALLY

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- ❖ asking relevant questions and using different types of scientific enquiries to answer them
- ❖ setting up simple practical enquiries, comparative and fair tests
- ❖ making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- ❖ gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- ❖ recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- ❖ reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- ❖ using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- ❖ identifying differences, similarities or changes related to simple scientific ideas and processes
- ❖ using straightforward scientific evidence to answer questions or to support their findings.

LIVING THINGS AND THEIR HABITATS

Pupils should be taught to:

- ❖ recognise that living things can be grouped in a variety of ways
- ❖ explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- ❖ recognise that environments can change and that this can sometimes pose dangers to living things.

ANIMALS, INCLUDING HUMANS

Pupils should be taught to:

- ❖ describe the simple functions of the basic parts of the digestive system in humans
- ❖ identify the different types of teeth in humans and their simple functions
- ❖ construct and interpret a variety of food chains, identifying producers, predators and prey.

STATES OF MATTER

Pupils should be taught to:

- ❖ compare and group materials together, according to whether they are solids, liquids or gases
- ❖ observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)
- ❖ identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

SOUND

Pupils should be taught to:

- ❖ identify how sounds are made, associating some of them with something vibrating
- ❖ recognise that vibrations from sounds travel through a medium to the ear
- ❖ find patterns between the pitch of a sound and features of the object that produced it
- ❖ find patterns between the volume of a sound and the strength of the vibrations that produced it
- ❖ recognise that sounds get fainter as the distance from the sound source increases.

ELECTRICITY

Pupils should be taught to:

- ❖ identify common appliances that run on electricity
- ❖ construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- ❖ identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
- ❖ recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
- ❖ recognise some common conductors and insulators, and associate metals with being good conductors.