

YEAR 4

Science Curriculum Rationale

CURRICULUM INTENT

Year 4 continues the journey from the observable to the abstract, rotating biology, chemistry and physics so each unit builds on the last. Pupils study states of matter, digestion, sound, habitats and electricity, before consolidating the year through the disciplinary History of Science. Fair testing and classification come to the fore.

WHY THIS SEQUENCE

Each term rotates the disciplines and steps further from the observable: states of matter and digestion, then sound and habitats, then electricity, drawn together by a History of Science unit that shows how scientific ideas develop over time.



Year 4 pupils working scientifically

THE SIX UNITS

AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
States of Matter	Animals Including Humans	Sound	Living Things and Their Habitats	Electricity	The History of Science

YEAR 4 • AUTUMN 1

States of Matter

NC • States of matter

 Chemistry

- Pupils compare and group solids, liquids and gases, and explore how materials change state when heated or cooled.
- They investigate the water cycle, observing evaporation and condensation in action.

NATIONAL CURRICULUM

States of matter

ENQUIRY FOCUS

Observing over time; fair testing

KEY VOCABULARY

solid, liquid, gas, state, melt, freeze, evaporate, condense



Pupil booklet for this unit

YEAR 4 · AUTUMN 2

Animals Including Humans

NC · Animals, including humans

 Biology

- The focus is the digestive system and teeth: how food is broken down and moved through the body, and the functions of different teeth.
- Pupils build food chains, identifying producers, predators and prey.

NATIONAL CURRICULUM

Animals, including humans

ENQUIRY FOCUS

Researching; classifying

KEY VOCABULARY

digestion, teeth, organ, producer, predator, prey, food chain



Pupil booklet for this unit

YEAR 4 · SPRING 1

Sound

NC · Sound

 Physics

- Children learn how sounds are made by vibrations and how sound travels through a medium to the ear.
- They investigate how the pitch and volume of a sound can be changed.

NATIONAL CURRICULUM

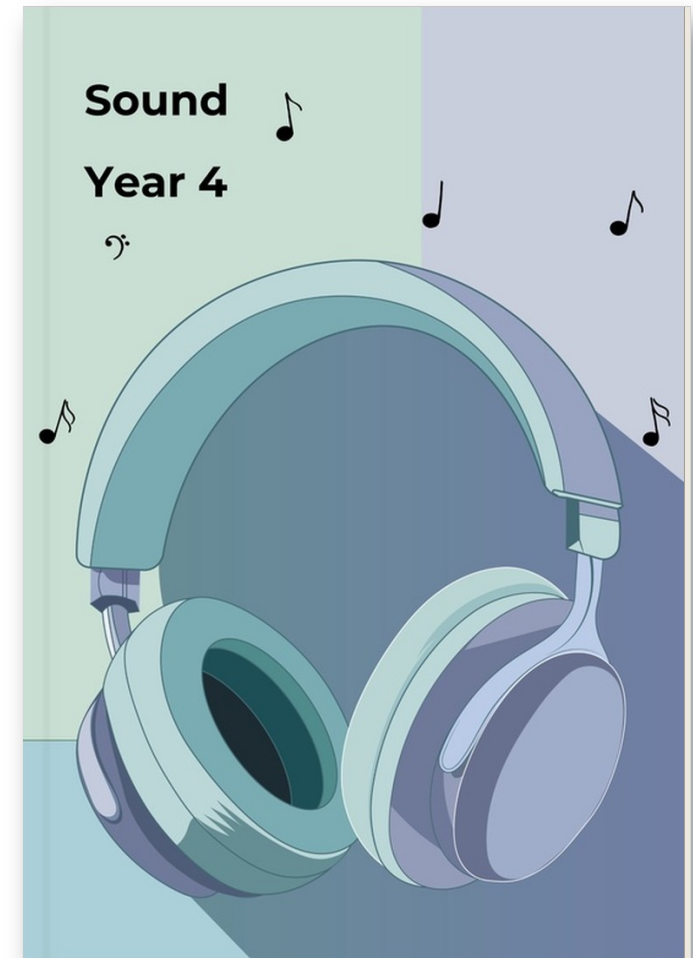
Sound

ENQUIRY FOCUS

Pattern seeking; fair testing

KEY VOCABULARY

sound, vibration, travel, pitch, volume, insulate



Pupil booklet for this unit

YEAR 4 · SPRING 2

Living Things and Their Habitats

NC · Living things and their habitats

 Biology

- Pupils group and classify a wide variety of living things using classification keys.
- They explore how environments can change, and the dangers that change can pose to living things.

NATIONAL CURRICULUM

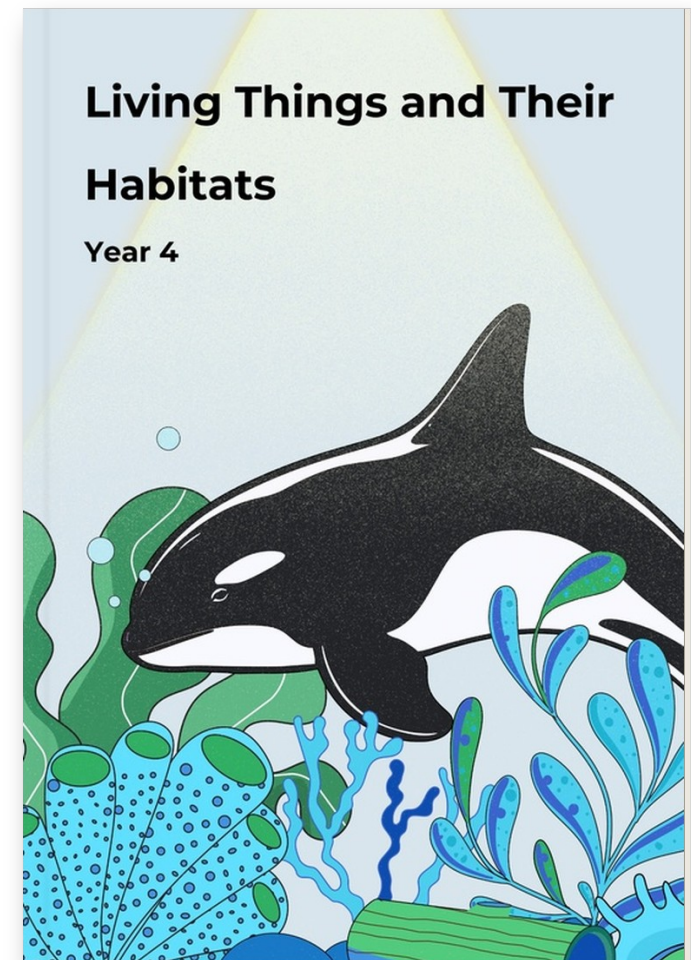
Living things and their habitats

ENQUIRY FOCUS

Identifying, classifying and grouping

KEY VOCABULARY

classification, key, vertebrate, invertebrate, environment, habitat



Pupil booklet for this unit

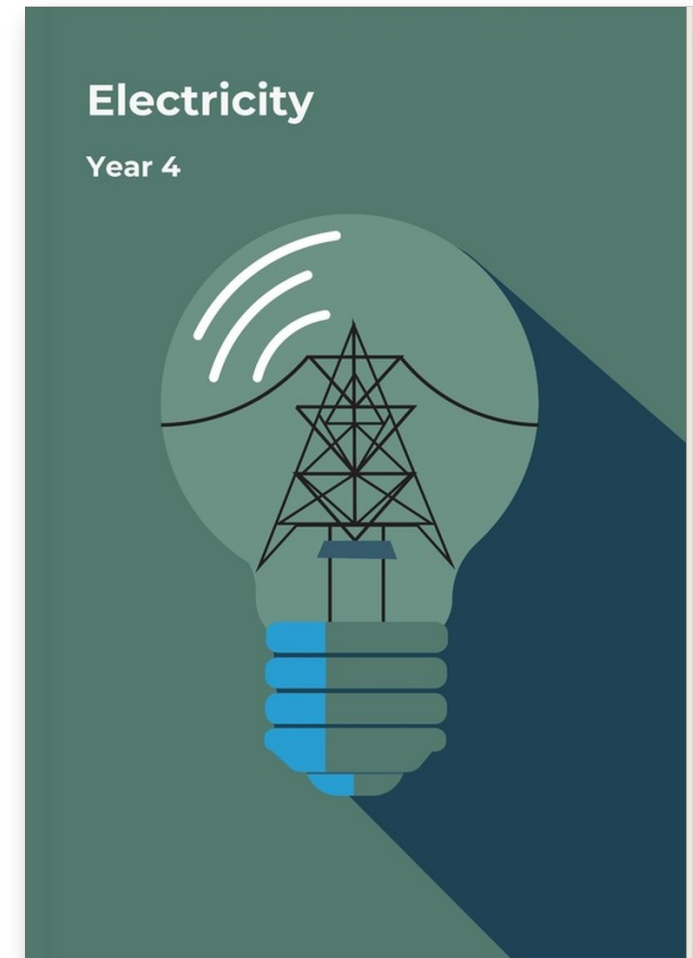
YEAR 4 · SUMMER 1

Electricity

NC · Electricity

 Physics

- Children build simple series circuits and identify common conductors and insulators.
- They learn the symbols for circuit components and how to work safely with electricity.

NATIONAL CURRICULUM Electricity**ENQUIRY FOCUS** Fair testing**KEY VOCABULARY** circuit, cell, battery, bulb, switch, conductor, insulator

Pupil booklet for this unit

YEAR 4 • SUMMER 2

The History of Science

NC • Working scientifically

 Disciplinary

- The year is consolidated through a disciplinary unit telling the story of science from Aristotle to Newton.
- Pupils explore how scientific ideas develop over time and across different cultures.

NATIONAL CURRICULUM

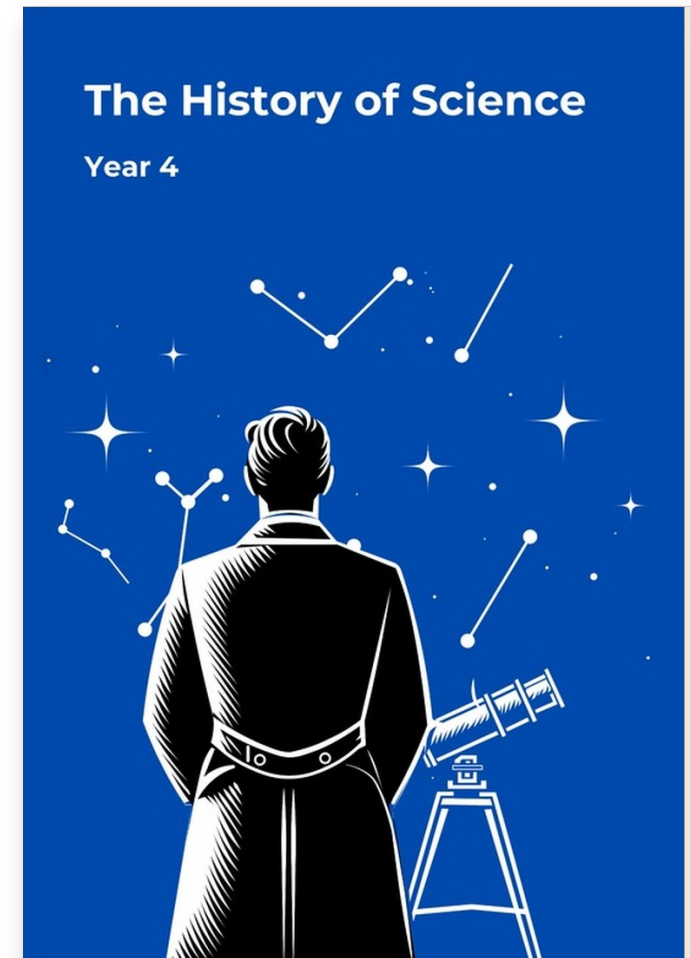
Working scientifically

ENQUIRY FOCUS

Researching using secondary sources

KEY VOCABULARY

scientist, evidence, theory, discovery, change, enquiry



Pupil booklet for this unit