

YEAR 5

Science Curriculum Rationale

CURRICULUM INTENT

Year 5 increases the depth and abstraction of pupils' science, building on prior knowledge to study materials, how living things grow and reproduce, the invisible forces around us, and the scale of space. The year ends with a disciplinary unit on the scientific method, as pupils plan their own enquiries, control variables and present evidence.

WHY THIS SEQUENCE

The sequence moves from materials and their changes, through human growth and forces, to life cycles and space (the largest scale of the year), before a Scientific Method unit consolidates how scientists plan, test and conclude.



Year 5 pupils working scientifically

THE SIX UNITS

AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Properties and Changes of Materials	Animals Including Humans	Forces	Living Things and Their Habitats	Earth and Space	The Scientific Method

YEAR 5 • AUTUMN 1

Properties and Changes of Materials

NC • Properties and changes of materials

 Chemistry

- Pupils compare and group everyday materials by their properties, including hardness, solubility, transparency, conductivity and response to magnets.
- They separate mixtures and explore reversible and irreversible changes.

NATIONAL CURRICULUM Properties and changes of materials**ENQUIRY FOCUS** Comparative and fair testing**KEY VOCABULARY** property, dissolve, soluble, conductor, mixture, reversible, irreversible

Pupil booklet for this unit

YEAR 5 · AUTUMN 2

Animals Including Humans

NC · Animals, including humans

 Biology

- The focus is the human life cycle and the changes humans go through as they develop into old age.
- Pupils build on earlier work about growth and offspring to describe human development.

NATIONAL CURRICULUM	Animals, including humans
ENQUIRY FOCUS	Researching; observing over time
KEY VOCABULARY	life cycle, growth, puberty, development, gestation, adult



Pupil booklet for this unit

YEAR 5 · SPRING 1

Forces

NC · Forces

 Physics

- Children explore the effect of gravity, and the resistance forces of air and water and friction.
- They investigate how levers, pulleys and gears allow a smaller force to have a greater effect.

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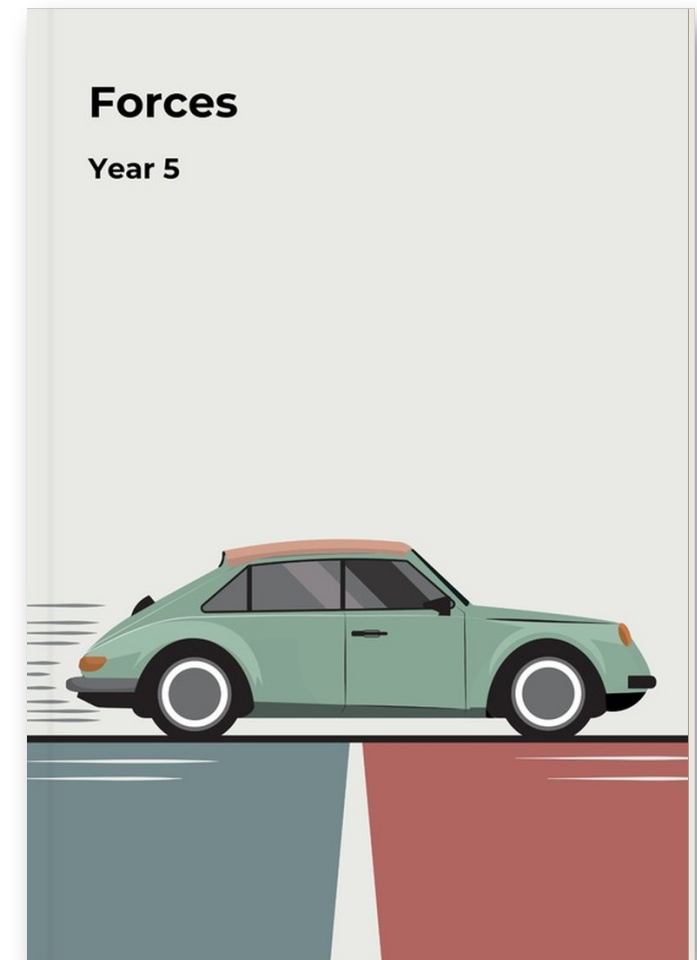
Forces

ENQUIRY FOCUS

Fair testing

KEY VOCABULARY

gravity, air resistance, water resistance, friction, lever, pulley, gear



Pupil booklet for this unit

YEAR 5 · SPRING 2

Living Things and Their Habitats

NC · Living things and their habitats

 Biology

- Pupils compare the life cycles of mammals, amphibians, insects and birds.
- They describe the life processes of reproduction in some plants and animals.

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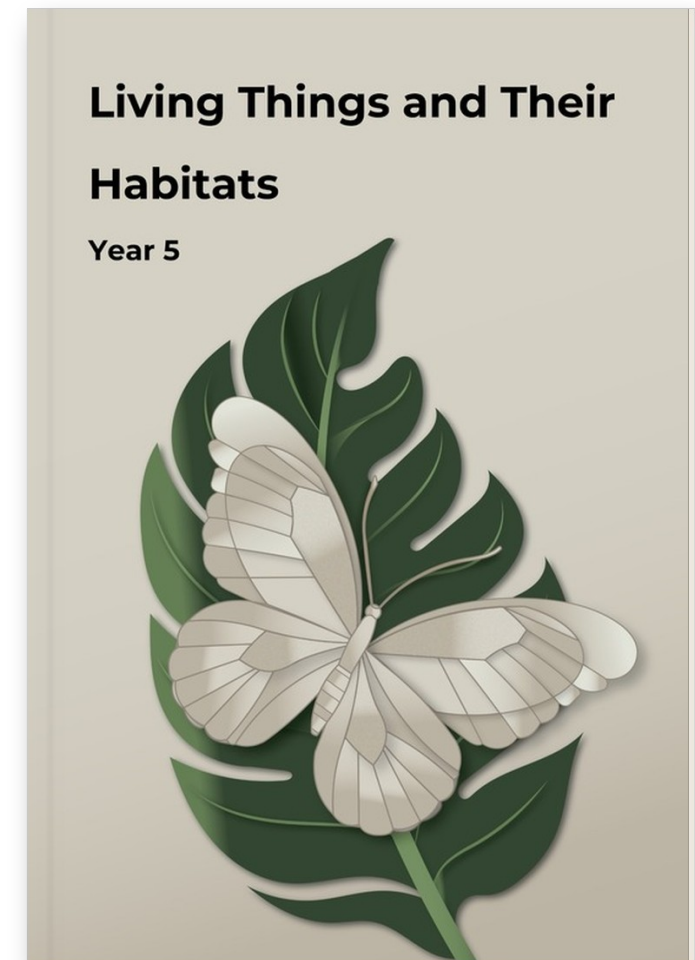
Living things and their habitats

ENQUIRY FOCUS

Researching; observing over time

KEY VOCABULARY

life cycle, reproduction, metamorphosis, sexual, asexual, offspring



Pupil booklet for this unit

YEAR 5 • SUMMER 1

Earth and Space

NC • Earth and space

 Physics

- Children study the movement of the Earth and other planets relative to the Sun, and the Moon relative to the Earth.
- They explain day and night and the apparent movement of the Sun across the sky.

NATIONAL CURRICULUM

Earth and space

ENQUIRY FOCUS

Modelling; researching

KEY VOCABULARY

planet, orbit, sphere, rotation, axis, day, night



Pupil booklet for this unit

YEAR 5 • SUMMER 2

The Scientific Method

NC • Working scientifically

 Disciplinary

- The year concludes with a disciplinary unit on how scientists really work.
- Pupils ask their own questions, identify and control variables, and use evidence to draw conclusions.

NATIONAL CURRICULUM

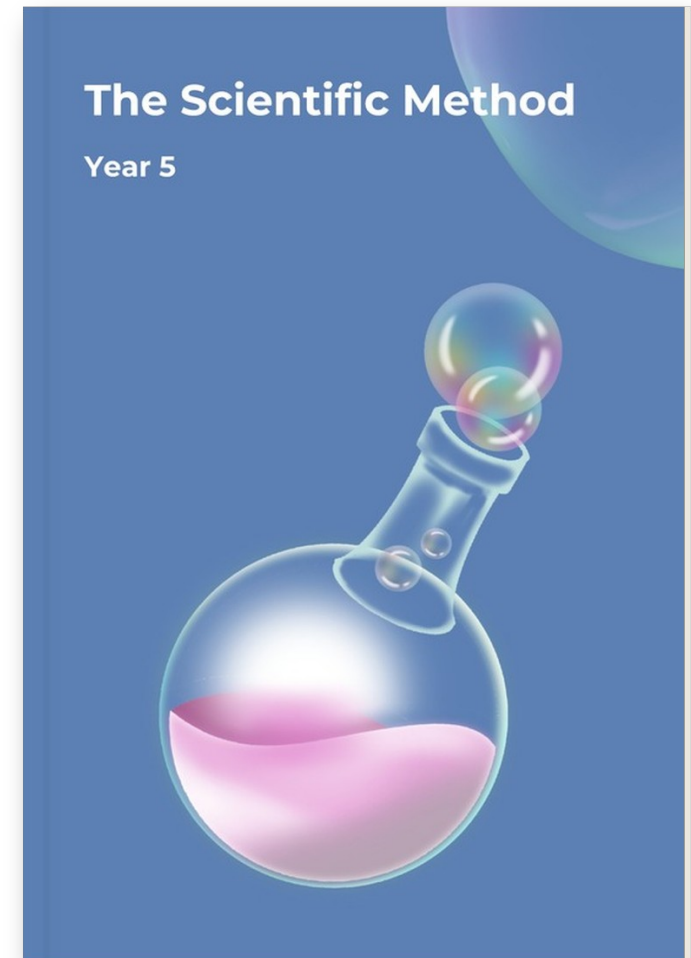
Working scientifically

ENQUIRY FOCUS

Planning and fair testing

KEY VOCABULARY

variable, control, fair test, evidence, prediction, conclusion



Pupil booklet for this unit