Little Bowden School

Science

Curriculum Journey

Y6

- Animals including humans
- Living things
- Animals including humans
- Electricity
- Evolution and inheritance
- Light
- Animals including humans
- Changing state
- Living things
- Forces

Y5

- Properties and uses of Materials
- Space
- Animals including humans
- Living things
- Animals including humans
- Electricity
- Living things (Plants)
- Living things (Plants)
- Light
- Sound
- Changing state
- Forces

Y4

- Animals including humans
- Rocks, fossils, soil
- Rocks, fossils, soil
- Living things
- Living things (Plants)
- Living things (Plants)
- Animals including humans
- Materials
- Materials
- Animals including humans
- Seasons/ Materials
- Animals including humans
- Seasons/ Materials

Y3

Y2

Y1

EYFS

The National Curriculum Program of Study for Science describes a sequence of knowledge and concepts, processes and methods. This sequence of knowledge and concepts is arranged as progressive blocks of key ideas in biology, chemistry and physics, alongside a progression in the skills of working scientifically.

Our curriculum is designed to build upon pupils' [prior] knowledge of scientific products (substantive knowledge) and practices (disciplinary knowledge)

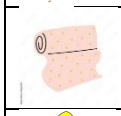
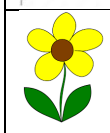
Substantive knowledge:

Substantive knowledge is the subject knowledge and explicit vocabulary used to learn about the content of the topic which pupils are learning about.

Disciplinary knowledge:

Children are encouraged to think like a scientist in lessons. It is through disciplinary knowledge (working scientifically) that children will deepen their skills through asking questions, making observations, using comparisons and recording data and drawing their own conclusions. Children will also learn how to use a variety of enquiry types through planning.

Key:

	Animals including humans
	Seasons
	Materials
	Living things (plants)
	Living things
	Rocks, fossils and soils
	Light
	Forces
	Sound
	Changing state
	Electricity
	Space
	Evolution and inheritance

Substantive Knowledge: Concepts, models, laws and theories (the national curriculum)

Biology

• Living things and their environment (Animals, humans, plants, habitats)

• Reproduction, inheritance and evolution (Evolution, inheritance, life processes, life cycles)

Chemistry

• States of matter (Solids, liquids, gases)

• Materials (properties and changes including reversible/irreversible changes,)

Physics

• Energy (Light, sound, electricity)

Forces (Friction, air resistance, gravity, magnets)

Earth Science

• Earth and space (Seasons, day and night, solar system and beyond)

• Rocks and fossils

Disciplinary knowledge: Working scientifically

Disciplinary knowledge is taught and embedded within the teaching of each unit of substantive knowledge.

• Methods used to answer questions (use of models, classification, correlations and patterns, experimentation, fair testing)

• Using equipment and techniques (accurate measurement, collecting and recording data, carrying out procedures safely and accurately)

• Data analysis (processing and presenting data, exploring relationships, communicating results in tables / graphs, identifying correlations)

• Using evidence to develop explanations (using evidence / scientific knowledge to draw conclusions, explain laws, models, concepts and findings) As part of working scientifically which is embedded throughout all units, pupils will also learn to use a variety of enquiry strategies to answer scientific questions. Different questions lead to different types of enquiry and are not limited to fair testing. By the end of primary school, children will be able to use these enquiry strategies confidently and know that different strategies may be needed at different times.

• Observing over time: (observing or measuring how one variable changes over time)

• Identifying and classifying: (identifying and naming materials/living things and making observations or carrying out tests to organise them into groups)

• Looking for patterns: (making observations or carrying out surveys of variables that cannot be easily controlled and looking for relationships between two sets of data)

• Comparative and fair testing: (observing or measuring the effect of changing one variable when controlling others)

• Answering questions using secondary sources of evidence: (answering questions using data or information that they have not collected first hand) As well as this, pupils will learn about:

• Using models: (Developing or evaluating a model or analogy that represents a scientific idea, phenomenon or process)