



Science Curriculum

EYFS to Year 6

Overarching Principles

Science

Subject Intent

- Children to know that science is a subject – focusing on learning about how things work – including living things
- Our Science curriculum is knowledge and skills rich and provides the foundations for understanding the world through the specific disciplines of Biology, Chemistry and Physics.
- Understand that ‘working scientifically’ is at the heart of science– and what kinds of simple investigations we can use.
- Understand that scientific knowledge is usually factual, not an opinion
- Know the key knowledge identified in each unit.
- Children to develop an understanding about scientists appropriate to their age and based upon the areas of science that they study. The scientists that children study are from a range of cultures, races and backgrounds.
- Children to understand a range of scientists and their impact on our view of the world. Without such great minds, our knowledge and understanding of the world may be completely different.
- Children to be appreciative and show respect for the natural world around them.

Essential Knowledge

- An understanding of the three areas of science – biology, chemistry and physics as their learning journey progresses.

Disciplinary Skills

- Children can collect, use, interpret, understand and evaluate evidence from scientific processes.

Scientific analysis

- identifying and classifying
- pattern seeking
- researching
- observing over time
- fair and comparative testing

Key Subject Teaching Approaches

- Science is a fine balance between direct instruction and scientific enquiry
- Lessons will begin with a recap of previously learnt vital knowledge and tier 2 and 3 vocabulary which children need to know in order to build their learning; vocabulary is high value and high priority.

Misconceptions

- All units of work will encompass a range of scientific enquiry approaches

Some examples of misconceptions:

- Plants get their food from the soil.
- Particles expand when they are heated.
- Light travels from pupils' eyes to the object.

How to explore misconceptions in the classroom:

Multiple choice questions

Children can select scientific answers from a series of options, one of which will contain the misconception. To discuss and talk about the answers including the misconception.

Open-ended questions

These are a great way to explore the learners' thinking processes e.g. are humans still evolving?

Using statements

Provide pupils with some statements about scientific concepts. Children must comment whether the statement is correct, partially correct or incorrect, and justify their answer with reasons.

	Autumn	Spring	Summer
EYFS	<p>Children's understanding of history will begin in EYFS</p> <p>Throughout EYFS children will learn to:</p> <ul style="list-style-type: none"> - Talk about what they see using a wide vocabulary - Talk about what happens in autumn - Talk about how we care for the natural world 		
Years 1 & 2 Cycle A	Living things and life cycles	Materials	Plants Animals including humans
Years 1 & 2 Cycle B	Materials	Animals including humans	Seasonal Change Plants

Years 3 & 4 Cycle A	Animals including humans (Y4) Sound	Living things and their habitats	Electricity States of matter
Years 3 & 4 Cycle B	Rocks Forces and magnets	Light	Plants Animals including humans (Y3)
Years 5 & 6 Cycle A	Light Electricity	Living things and their habitats (Y6) Evolution and inheritance	Animals including humans
Years 5 & 6 Cycle B	Earth and Space	Forces Properties and changes of materials	Properties and changes of materials All living things and their habitats (Y5) Animals including humans