



SCIENCE CURRICULUM

Science Overview

INTENT

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity. For this reason, all pupils are taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils are encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They develop an understanding of how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

The national curriculum for science aims to ensure all pupils:

- develop **scientific knowledge and conceptual understanding** through the specific disciplines of biology, chemistry, and physics.
- develop understanding of the **nature, processes and methods of science** through different types of science enquiries that help them to answer scientific questions about the world around them.
- are equipped with the scientific knowledge required to understand the **uses and implications** of science, today and for the future.

To support our teaching and learning, we use the **Mastery Science Scheme of work** which reflects our vision and teaching strategies.

IMPLEMENTATION

Pupils study aspects of physics, chemistry and biology, that build on what has been taught before – one of which is a depth study and a longer unit.

Children's scientific experience in school encourage them to:

- ask and answer questions
- make observations and take measurements
- engage in practical enquiry to answer questions
- record and present evidence
- answer question and conclude
- evaluate and raise further questions and predictions
- communicate their findings

LONG TERM PLAN

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Physics	Seasons		Forces and magnets Light and shadows	Electricity Sound	Earth and space Forces	Electricity Light
Chemistry	Everyday Materials	Uses of materials Protecting our environment	Rocks and fossils –	States of matter	Materials: properties and changes	
Biology	Animals Plants	Animals: needs for survival Plants and growth Habitats	Skeletons, muscles, and nutrition Plants: needs for survival	Teeth and digestion Living things and environments	Life cycles Growing older	Circulation and lifestyle Evolution and inheritance Classification

EYFS

In Early Years, children learn about science through 'Knowledge and Understanding of the World'. Understanding of the world develops as children take notice of everything around them including places objects, materials and living things. Children begin to develop an understanding of growth, change and decay in relation to themselves, others and the natural world - asking questions and making observations. They show concern for living things and the world, and begin to notice similarities, differences and patterns, making attempts to explain why things happen. Much of children's learning is rooted in stories, where their understanding is anchored.

Key Stage 1

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- asking simple questions and recognising that they can be answered in different ways
- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering questions.

Lower Key Stage 2

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

Upper Key Stage 2

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments.