



Science

We strive to ensure that all children enjoy science and experience opportunities to explore the world around them in creative, meaningful and memorable ways. Our science teaching is engaging and fosters a sense of curiosity. We aim to develop clear and rational thinking and the children's ability to precisely articulate their understanding of biology, chemistry and physics-based concepts.

Intent

We aim to:



Develop scientific knowledge and conceptual understanding.

Develop understanding of the nature, processes and methods of scientific enquiries.

Answer scientific questions about the world around them.

Broaden their understanding and use of scientific vocabulary.

Develop critical and creative thinking skills

Implementation

How we achieve our aims:



Ambitious Curriculum for All

Our approach to teaching science is underpinned by the [EYFS Framework](#) and the [National Curriculum](#), delivered through the CUSP curriculum and by evidence from: [Education Endowment Fund – Guidance Report – Primary Science](#)

[OFSTED Subject Report – Science](#)

[OFSTED Research Review - Science](#)

Substantive Knowledge

A spiral approach aligned with the National Curriculum, revisiting key concepts at greater depth as children progress and are scaffolded by the CUSP curriculum:

- Biology- The study of living things (organisms), their structure and environments.
- Chemistry- The study of the composition, behaviour and properties of matter, and of elements of the Earth and Structure.
- Physics- The study of matter, forces and motion, sound, light and waves, electricity and magnetism and Earth in space.

Disciplinary Knowledge

We develop pupils' ability to think, learn and work like scientists so they can:

- Collect
- Use
- Interpret
- Understand and
- Evaluate

the evidence from scientific processes.

Curriculum Links

Science links in various areas across the curriculum. Examples include:

- Maths - Shape, Space and Measure concepts such as; time, graphs, length, weight and volume.
- Design and Technology - Healthy eating, materials and structures.
- The human body: its parts and their functions.

Enrichment

We enhance our science curriculum through:

- Use of visitors in and visits out of school.
- Use of our wonderful school site.
- Forest school.
- Termly enrichment days across the school.

Inclusive and Adaptive Teaching

The expectation is that the majority of children will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of children' understanding and their readiness to progress. (National Curriculum)

Support

- Connections to previous learning are made in a clear manner, both verbally and visually.
- Activities are adapted to meet need and avoid cognitive overload for all, especially children with SEND.
- Access to knowledge organisers, visual aids and vocabulary.
- One to one and small group support within lessons.
- Clarification and simplification of language and instruction.

Challenge

- Higher level questioning throughout lesson.
- Challenged to recall with reduced access to support materials.
- Greater depth activities.
- Empowering peer-led discussions to foster confidence in explaining scientific concepts to others.

Assessment

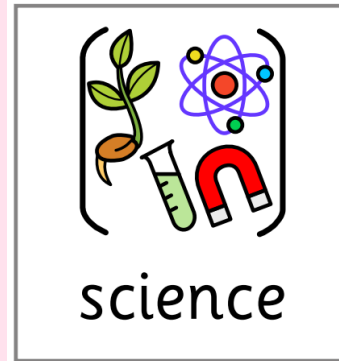
Formative assessment takes place every lesson:

- Questioning
- Use of 'Show Me' boards
- Assessing if the children are ready to move on at the point of teaching through in-class observation and live, in lesson marking
- Active feedback post lesson to identify misconceptions and plan next steps
- Low stakes quizzing

Components of Effective Lessons

- The use of carefully designed screens and images.
- Paired and group work to support exploration and promote oracy and discussion.
- Direct teaching which makes clear connections with previous learning.
- High quality modelling.
- Practice to embed learning and make progress.
- Consolidation through revisiting and evaluation in order to deepen learning.
- Access to support materials, knowledge notes and vocabulary.
- Teachers and LSAs supporting learning, asking skilful, probing questions.
- Use of physical resources and practical activities where appropriate.

Science



Subject Leadership

Resources

- Carefully designed screens using a range of images.
- Practical science resources.
- Knowledge organisers.
- Video clips.

CPD

CPD ranges from in-house training, online STEM training and visiting trainers.

Quality Assurance

We quality assure through:

- Pupil book study.
- Learning walks.
- Book looks.
- Staff voice.

Impact

Our outcomes:



Children show an enjoyment of and curiosity science and the world around them.

Children use scientific vocabulary effectively.

Children are confident when carrying out Scientific enquiry and handle resources accurately and with care.

Teaching teams are confident when teaching Science.

All children make progress from a range of starting points.