



Our Science Curriculum

Our Science curriculum is based on the National Curriculum (2014), and is planned on a mostly 2-year rolling programme so that children do not miss or repeat any learning. Core concepts such as working scientifically are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, conducting experiments and investigation, building arguments and explaining concepts confidently, being familiar with scientific terminology and, most importantly, to continue to ask questions and be curious. These concepts and themes may be revisited over time so children can make links and integrate their new learning with what they already know. Key aspects include:

- Declarative knowledge: what are the key facts that all children need to know?
- Procedural knowledge: what are the things that all children should be able to do (skills)?
- Experiential knowledge: what knowledge can only be gained through first-hand experience?

From this overall curriculum map, teachers then identify the exact core elements of learning, vocabulary and experiences that will be taught, and sequence these carefully and coherently into smaller steps through a unit of work at an appropriate level of challenge for the age and stage of the children.

Teaching and learning expectations for science:

- Appropriate scientific language will be used in talking and writing.
- We build upon the learning and skill development of the previous years. Misconceptions are identified and are addressed by the teacher
- Working Scientifically are embedded into lessons to ensure these skills are being developed throughout the children's school career, and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in keeping with the science curriculum.
- Teachers demonstrate how to use scientific equipment, and the various working scientifically skills in order to embed scientific understanding.
- Writing opportunities must be appropriate for the scientific context (for example, no 'story of a raindrop')
- Research tasks must be sharply focussed on a key question or challenge to move learning forward



Science in the Early Years Foundation Stage

In the EYFS, science is covered through Understanding the World, one of the specific areas of learning:

'Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters.'
(Statutory Framework for the EYFS 2021)

Children at the expected level of development at the end of the Reception year will:

- Explore the natural world around them.
- Describe what they see, hear and feel whilst outside.
- Recognise some environments that are different from the one in which they live.
- Understand the effect of changing seasons on the natural world around them.

As well as this area of learning, well-planned science in the EYFS also supports children's learning and development in the areas of Communication and Language, and Literacy.

Provision for science in the EYFS may include learning about ideas such as investigating the school grounds throughout the year and naming the trees and plants; daily time for discussing the weather/season; investigating a range of materials and changes in state, such as ice melting, baking; studying a range of well chosen story books about other countries and cultures, for example, 'Handa's Surprise', to compare with our local area.

Understanding the World is also explored through the indoor and outdoor provision as child-led learning.