



Science

Intent

The national curriculum for science aims to ensure that 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

Children at Keyworth Primary School are engaged, curious and excited about science. At the core of teaching and learning is the focus to ensure that children are ultimately given the tools to take ownership of their own learning and that they are given the opportunity to develop the knowledge and skills which will best serve them when undertaking the next stage of their learning journeys. In a reflection of the school's vision, the aim of science at our school is to commit to achievement and developing individual interests and talent.

It is important that children at our schools see themselves as scientists. Part of the commitment towards the children's engagement and their meeting and excelling age-related expectations is to embed the understanding and use of key scientific vocabulary throughout teaching and learning. As well as celebrating well-known scientists, we aim, where possible, to promote a greater variety of scientists who reflect the diversity of our schools.

Science is subject that encompasses the world around us. At our school we teach an inclusive curriculum with allows challenge for all students, regardless of their starting points. Support is put in place to ensure that students of all abilities are able to progress and meet their individual potential.

Through science, we prepare children to ask questions about the world around them and actively encourage them to seek the answers to these questions through real life experiences. We believe in the invaluable learning opportunities that can happen inside, as well as outside, the classroom. Our children need to see science at work in real life, as a result, we strive to offer learning through off-site visits and engaging experiments and observations.

Children from years 1–6 focus on working scientifically to answer questions about the world around them. They do this by *asking questions, collecting and analysing data, developing explanations, solving problems and seeking and using evidence to test their ideas and answer questions*. The children will work scientifically through **exploration** using all of their senses. Children conduct **observations over time**, recording changes and taking measurements. Children **seek patterns** by observing and recording natural events. The children find relationships between factors through **fair testing**. Through sorting objects or events into groups the children learn to **identify and classify**. To find out information that the children may not be able to investigate for themselves, children **research** using books and websites.

Implementation

At Keyworth Primary School, science topics are taught within each year group in accordance with the National Curriculum. Topics are blocked to allow children to focus on developing their knowledge and skills, studying each topic in depth. Every year group will build upon the learning from previous years therefore developing depth of understanding and progression of skills and vocabulary. At the start of each topic children will review prior learning and will have the opportunity to share what they already know about a current topic. There are regular opportunities to review the learning taken place in previous topics as well as previous lessons to ensure understanding is fully embedded.

Children are taught about the three core disciplines of biology, chemistry and physics and know which subject they are learning. They will build up specialist vocabulary throughout each topic as well, which enables them to engage in scientific discussion. Science is taught as a discrete subject, however, where possible, cross-curricular links are planned for, with other subjects such as maths, English and computing.

We ensure our lessons are as practical as possible as we believe this is how children learn best. Children focus on working scientifically to answer questions about the world around them. They carry out investigations in each unit, which give them the opportunity to ask questions, make predictions, solve problems, collect and analyse data and develop their own explanations and conclusions. Children are often given the opportunity to plan their own enquiries in order to develop these skills further and test their own ideas. They are encouraged to present their findings in a variety of ways, using science specific language, and, where possible, we link our mathematical knowledge to our science lessons by using a range of different charts and graphs.

Trip are planned to enrich and enhance the pupil's learning experiences. Parental engagement is evident through parental groups encouraging activities to promote and embed the science curriculum.

Teachers use assessment for learning each lesson to ensure misconceptions are highlighted and addressed. At the end of each unit, children's learning is assessed through an independent extended piece of writing to allow them to demonstrate the knowledge and understanding they have gained throughout the unit as well as to make use their newly acquired scientific vocabulary.

EYFS

The Early Years Foundation Stage Curriculum supports children's understanding of Science through the planning and teaching of 'Understanding the World.' Children find out about objects, materials and living things using all of their senses looking at similarities, differences, patterns and change. Both the environment and skilled practitioners foster curiosity and encourage explorative play, children are motivated to ask questions about why things happen and how things work. Our children are encouraged to use their natural environment around them to explore. Children enjoy spending time outdoors exploring mini-beasts and their habitats, observing the changing seasons, plants and animals. Children regularly participate in practical learning including, where possible, forest school and cooking opportunities.

Impact

The successful approach to teaching science at Keyworth results in a fun, engaging and high-quality science curriculum. This provides children with the foundations for understanding the world once they leave primary education. Pupil voice is used to further develop the science curriculum, through questioning of pupils' views and attitudes towards science, to assess their enjoyment and motivate learners.

By the end of their time at Keyworth Primary School, children:

- demonstrate a love of science and be curious about the world they live in
- are resilient and independent thinkers with a wide range of skills

- are equipped with the scientific knowledge and skills needed to succeed at secondary school
- work collaboratively and practically to investigate and experiment
- have a rich scientific vocabulary
- are able to question ideas and reflect on observations
- have an awareness of scientific careers and pathways available to them