



Science at Woodnewton a learning community

Children are growing up in a rapidly developing world that requires scientific and technological understanding, together with critical thinking and problem solving skills. Science is all around us; it helps children to make sense of their surroundings and discover their sense of awe and wonder at the complexity of the world we inhabit.

At Woodnewton a learning community, we believe that science inspires children, encouraging them to be inquisitive, nurturing their innate curiosity and enabling them to develop a lifelong love of learning. Our children are naturally curious and we strive to maintain a high quality science education, where children experience the joys of exploration, discovery and improvement.

Science teaching at Woodnewton a learning community aims to foster children's curiosity and encourage them to confidently explore and discover the world around them. Our vision is to provide a hands-on science curriculum, which enables children to acquire the knowledge to understand scientific processes and develop the ability to work scientifically, applying enquiry based skills to answer questions and explore concepts.

This teaching will support the development of a Woodnewton scientist, who is practical and inquisitive; they ask questions and understand a range of scientific methods and skills to enable them to find answers. They are developing the knowledge that leads to a thorough understanding of the world in which they live, and empowers them to contribute positively to their community.

Through a stimulating enquiry-based curriculum, we provide excellent opportunities for all children to:

- Develop their scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
We ensure children make meaningful links between their classroom learning and the real world in order to develop their understanding. We do this by providing frequent, high quality, real life experiences related to science.
- Develop their understanding of the nature, processes and methods of science through different types of enquiries that help them to answer scientific questions.
We support the children in developing scientific enquiry and critical thinking skills. We do this by providing opportunities for children to ask their own questions, design experiments and carry out their own investigations.
- Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.
We encourage children to become confident members of their community, with the skills to adapt to an ever changing, technological world.

Early Years Foundation Stage

Early Years children learn about the world in which we live and their immediate environment through a wide range of opportunities which encourage them to explore, observe and discover during classroom based teaching and Independent Learning. Most of these opportunities are experiences that encourage a hands on approach to their learning through first hand experiences. They begin to notice patterns, changes and differences in the world around them and understand

simple processes related to science. They develop an understanding of living things, watching them grow and develop over time. Their curiosity is fostered by nurturing adults to enable them to make sense of the ever-changing world in which they live. This in turn is laying the foundations to support future scientific learning throughout their primary years at school.

Key Stage 1: Years 1 and 2

In Key Stage 1, children look more closely at the natural and constructed world around them. They are encouraged to be curious and to ask questions about what they notice. They begin to use different types of scientific enquiry to answer their own questions, including observing changes, noticing patterns, grouping and classifying, carrying out simple tests, and using information sources. They use simple scientific language to talk about what they have found out and communicate their ideas in a variety of ways. Most of the science learning is done through first-hand practical experiences, with references to books, photographs and videos.

Lower Key Stage 2: Years 3 and 4

In Lower Key Stage 2, children explore, discuss, test and develop their ideas about everyday phenomena and the relationships between living things in familiar environments. They become more independent learners, asking their own questions about what they observe and using their knowledge of scientific enquiry methods to decide how to answer them. They conduct simple, practical tests and make careful observations of the results. They learn to draw simple conclusions and use some scientific language, first to talk about, and later to write about, what they have found out. They begin to make predictions and suggest questions for further enquiries.

Upper Key Stage 2: Years 5 and 6

In Upper Key Stage 2, children deepen their knowledge of a wide range of scientific ideas, build on their previous learning and gain a thorough understanding of the world around them. They are encouraged to explore and discuss their ideas, ask questions based on their observations and use a wider range of methods and equipment when planning and carrying out investigations. They take accurate measurements, recording their results systematically. They draw conclusions, provide evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings. Children will encounter ideas that are more abstract and begin to recognise that scientific ideas change and develop over time.