



Ely St John's



Science Curriculum Vision

Principles of our curriculum:

"I have not failed; I have just found 10,000 ways that won't work." Thomas Edison

Our Science curriculum is planned and delivered to ensure that all pupils develop their scientific knowledge and understanding of the three key areas that make up Science; biology, chemistry and physics. Our curriculum encourages children to develop their understanding about the world around them through experimentation and different lines of enquiry. From EYFS to Key Stage 2, our curriculum builds upon, and develops skills and knowledge required for today and later life.

Over the course of an academic year, the children will carry out several investigations which involve different types of enquiry approaches:

- Observation over time
- Identifying and classifying
- Pattern seeking
- Research
- Comparative and fair tests
- Problem solving

Intent:

At Ely St. Johns we intend for our children to:

- develop scientific knowledge and conceptual understanding through the scientific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries
- be equipped with the scientific skills to understand the uses and implications of science, today and for the future.

Implementation:

EYFS

Science at Foundation Stage is covered in the 'Understanding the World' area of the EYFS Curriculum. It involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment. At Ely St. John's, learning through play is a fundamental part of teaching science. Activities that allow for exploration of scientific concepts, as well as giving children time and space to explore these concepts, independently, establish a lifelong love of learning.

Key Stage 1

During Years 1 and 2 teachers work hard to provide a practical science that encourages children to answer questions through 'hands on' experiences and the use of simple equipment. Planning is carefully thought out to enable children to experience and observe phenomena, looking more closely at the world around them. To develop their understanding of scientific ideas, children are readily exposed to different types of scientific enquiry to help them answer their own questions, setting up and carrying out simple comparative tests, and then observing changes over time and noticing patterns. Teachers encourage the use of simple scientific language. They provide clarification when needed and consistently model how and when to use relevant vocabulary.

Key Stage 2

In Lower Key Stage 2, the focus is broadening children's scientific view of the world around them. They do this through exploration, experimentation, talking about and recording. All children are encouraged to not only answer given questions, but to begin to ask their own questions about what they observe, as well as make decisions about which types of scientific enquiry they are likely to use in order to answer their questions. Throughout units of work, there are an abundance of opportunities to engage with and carry out practical experiments. With the reinforcement of 'working together to get the job done.' When carrying out simple tests, children are

encouraged to draw simple conclusions and use some scientific language to explain what they think will happen, first, and then, later.

In Upper Key Stage 2, teachers are working hard to build upon and extend the children's knowledge and scientific skills. For every unit of work, they plan in a variety of types of experiments and lines of enquiries to explore ideas and raise different kinds of questions. Children are encouraged to plan and conduct fair tests, recording data in a variety of ways that are familiar to themselves. Once this has been completed, children are supported to use their results to separate opinion from fact. All of this is expected and needs to be done with an increased level of sophistication and complexity.

Impact of our Curriculum:

Ely St. John's maintains a strong commitment to a broad and balanced science curriculum. We are committed to providing a pupil led, practical 'hands on' learning that is carefully planned for and maximized, giving a real life context where possible.

As a school, we acknowledge that it is extremely important that pupils develop a secure understanding of each unit of work. Not only building upon prior knowledge, but developing their current understanding and practical skills throughout their school life. With this in mind, we tailor our planning to meet the needs of all children, no matter their capabilities and when teaching units of work, we ensure that our delivery is child friendly and accessible for all.

In our school, children's enthusiasm and curiosity for science is promoted at every opportunity. From the Foundation Stage, through to Key Stage 2 we encourage children to engage, explore, enquire and explain.

Engage and Explore

- Differentiated planning, meeting the needs of all children
- Exploration into new vocabulary and its meaning
- Wow factors
- Trips, visitors and virtual visits
- Artefacts and items relevant to different areas of Science
- Observing closely and using a variety of equipment

Enquire and Explain

- Gathering and recording data in a variety of ways, to help answer questions
- Encouraged to work with other children, when conducting experiments
- Using their observational skills and ideas to suggest answers to questions