

Science at Offley Endowed Primary School

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Intent – through our teaching of Science we aim to:

...provide children with scientific experiences that develop their understanding of themselves and the world in which they live.

...foster in children the confidence to apply their knowledge, skills and ideas in real life contexts, both within and outside the classroom and become aware of the uses of science in the wider world.

...develop the enquiry skills of predicting, asking questions, making inferences, concluding and evaluating based on evidence and understanding and use these skills in investigative work.

...develop the ability of pupils to communicate their ideas using appropriate scientific vocabulary.

...foster a positive attitude to science as an interesting and exciting part of the curriculum and ensure safe practice in all areas of science.

Implementation

National Curriculum

Science is a core subject in the National Curriculum for England and Wales. The fundamental skills, knowledge and concepts of the subject are set out in the Programme of Study. They are categorised into the following areas:

- Working scientifically
- Living things and their habitats
- Everyday materials
- Seasonal changes
- Light
- Forces and Magnets
- Evolution and Inheritance
- Earth and Space
- Animals, including humans
- Sound
- Electricity

Planning:

Science teaching is planned in a spiral approach to ensure progression and revisited learning. A range of sources including Hamilton Trust and Plan Bee are used to support planning, which are adapted by staff. In KS2, the curriculum is taught in a two-year rolling programme.

We encourage a development of attitudes which promotes scientific thinking, including open-mindedness, perseverance, objectivity, a positive approach to problem solving and a recognition of the importance of collaboration. Active, rather than passive, learning is promoted, with the use of practical, collaborative work as frequently as possible. The time allocation for discrete Science teaching is between 60 minutes and 90 minutes each week. Teachers use a variety of interactive teaching methods to deliver the curriculum and achieve set learning objectives.

Supporting Documents

Alongside the National Curriculum, we use a series of documents to underpin the programme of study.

- The Long Term Plan provides an overview of coverage year-on-year for each year group.
- Herts for Learning Teacher Assessment Framework sheets provide a detailed progression of knowledge across each year group. These are further broken down into statutory and non-statutory statements, including 'workings towards', 'working at' and 'greater depth' levels.
- Working Scientifically statements for each Key Stage.

Cross-curricular links: Science is taught as a discrete subject.

Close topic links are made to History and Geography, as well as Art and Science. Further cross-curricular links are made with Literacy.

Impact – determines to what extent the intent of the programme has been achieved.

How will we know we have achieved our aims?

Pupils will have received a range of scientific experiences that support and embed their understanding of the world around them.

Pupils have a range of knowledge, skills and ideas that they demonstrate and apply in different aspects of their lives, both in and out of school. They have a deep understanding of the every day uses of science in their lives and the wider world.

Pupils will have used investigative work to develop and demonstrate their skills of prediction, asking questions, making inferences, conclusions and evaluation.

Pupils confidently use scientific vocabulary to discuss their work and investigative findings.

Pupils enjoy science lessons and have a positive and enthusiastic attitude towards it during lessons and pupil voice sessions.