



Milton Parochial Primary School



Science Intent, Implementation and Impact

At Milton Parochial Primary School, we teach a high quality, enjoyable and enriching curriculum which provides children with the knowledge needed to achieve at a high level. Through our strong Christian ethos we aim to aspire children to do well and provide them with the skills for future learning and employment. We teach our children to become role models and follow our Christian values which are embedded in all areas of our curriculum.

Intent

We intend that our high-quality science teaching will 'provide the foundations for understanding the world through the specific disciplines of biology, chemistry and physics.' (National Curriculum, 2014).

Specifically, our teaching will ensure that all pupils will:

- Be able to develop scientific knowledge through the teaching of biology, chemistry and physics.
- Be able to develop understanding of the nature, processes and methods of science through scientific enquiry that help them to answer scientific questions about the world around them.
- Know the scientific vocabulary and the knowledge required to understand science, today and for the future.

Scientific skills

The intent of our science curriculum is to provide children with a progressive system through key stage one and key stage two. This is taught and planned through:

Declarative knowledge that is needed for children to build on prior knowledge and be prepared for the next stage of their learning.

Procedural knowledge through working scientifically which specifies the understanding of the nature, processes and methods of science for each year group. It is not taught as a separate strand. Scientific investigations are

embedded within the content of biology, chemistry and physics, focusing on the key features of scientific enquiry. These types of scientific enquiry include:

- observing over time;
- pattern seeking;
- identifying, classifying and grouping;
- comparative and fair testing (controlled investigations);
- researching using secondary sources.
- seeking answers to questions through collecting, analysing and presenting data.

Lessons are planned with a focus on: Asking questions, planning to answer a question, equipment, observing, setting up tests / methods, classifying evidence, recording of evidence, presenting findings, drawing conclusions with a further extension in Key Stage 2, with prediction and evaluation.

Implementation

The long term planning of science is created using the National Curriculum, ensuring that there is coverage of all aspects of the science curriculum this is further planned through the use of the procedural and declarative knowledge documents.

These include:

KS1:

- Plants
- Animals including humans
- Everyday Materials
- Seasonal Changes
- Living things and their habitats

Lower KS2:

- Plants
- Animals, including humans
- Rocks
- Light
- Forces and Magnets
- Living things and their habitats
- States of Matter

- Sound
- Electricity

Upper KS2

- Living things and their habitats
- Animals, including humans
- Properties and changes of materials
- Earth and Space
- Forces
- Evolution and Inheritance
- Light
- Electricity

Scientific skills (procedural knowledge) will be incorporated into each unit of work, providing progression year on year. Pupils in KS1 and KS2 will be taught science for the equivalent of one hour per week throughout the academic year.

In lessons teachers use questioning to check the understanding of all students. Questioning checks that children have understood concepts, with teachers frequently asking students to explain how they know answers and what they have understood during lessons.

Vocabulary is referenced frequently with all new vocabulary being focused upon, added to our working wall and repeatedly being referred to within lessons to ensure that children are confident with using the words in their work and when discussing scientific knowledge.

Assessment happens within lesson through the use of questioning, live marking and observation. Further scaffolded support is offered to children to allow them to make better progress and gain confidence. Pre and post assessments are used to attain what children already know about a specific science area and repeated at the end of the unit to establish what they have learnt and retained.

Impact

The successful approach at Milton Malsor Parochial Primary results in a fun, engaging, high-quality science education, that provides children with the foundations for understanding the world. Our Science Curriculum is planned to demonstrate progression whilst ensuring it has real life meaning for the children.

As well as meeting the National Curriculum outcomes:

- Children will enjoy science and have fun!
- Children will be proud of their science work and talk about their science lessons with excitement.
- Children will have high aspirations for their science learning and take their science learning further into higher education and potentially future jobs.
- Children will retain knowledge that is relevant to science with a real life context.
- Children will work collaboratively and practically to investigate.
- Children will understand that science has changed our lives and is vital to the world's future.