

Intent, Implementation and Impact Science

Intent

We aim 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

Implementation

- **Scientific knowledge and conceptual understanding**
- Science lessons follow the national Curriculum providing well-balanced lessons using key vocabulary for each block from physics, chemistry and biology. We use a spiral approach basing each concept on a previous knowledge. Children are encouraged to share their understanding of new concepts during class discussions where misconceptions are unpicked and clarified. Children of different learning abilities are supported and challenged appropriately.
- **The nature, processes and methods of science**
- The 'Working scientifically' part of The National Curriculum specifies the understanding of the nature, processes and methods of science for each year group. The scientific skills are integrated within lessons; specified in learning and scientific enquiry questions.
- The notes and guidance give examples of how 'working scientifically' might be embedded within the content of biology, chemistry and physics, focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions. Each year group plans lessons to teach the working scientific element of the National Curriculum alongside the knowledge and concepts.
- **Enrichment possibilities**
- We provide well balanced and enriched curriculum offering a number of extracurricular opportunities throughout the year. This includes outdoor learning, STEAM activities, external facilitators and trips.
- **Assessment**
- Teacher use a mixture of formative and summative assessment methods. At the end of each unit knowledge is tested, throughout the lessons working scientifically skills are being assessment by the class teacher.

Impact

- Teachers planning and children's work show good planning and implementation of the science knowledge and concepts.

- **‘Working Scientifically’ being taught alongside the knowledge and concepts**
- help the children to recognise good standards of work. This can be through effective feedback from the teacher and from other children. Children compare prior knowledge with newly gained knowledge and skills and use self- assessment.

Promoting greater interest in STEAM subjects

- Introducing Science enrichment activities
- Embedding STEAM activities through the curriculum (making links with other subjects)
- All school projects are competition
- Alumni students becoming successful in STEAM industry in the future