Science Policy
2025

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Sandal Magna Science Policy

Introduction

We aim to provide a high-quality science education that promotes a solid foundation for understanding the world through the specific disciplines of biology, chemistry and physics. We believe all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science and associated skills. By building up a body of knowledge and a secure understanding of concepts, pupils are encouraged to recognize the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They are encouraged to understand how science can be used to explain what is occurring, predict how things may behave and analyze the associated causes.

Our Aims

This area of learning contributes to the achievement of the Curriculum aims that all young people will:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics;
- develop understanding of nature, processes and methods in science through different types of enquiry that help them to answer scientific questions relating to the world around them and develop the associated scientific skills;
- be equipped with the scientific knowledge required to understand the uses and implications of science in today's world and for the future.

Why is this area of learning important?

The programmes of study describe a sequence of knowledge and concepts. While it is important that pupils make progress, it is vitally important that they develop secure understanding of each key area of knowledge and concepts in order to progress to the next stage. We recognise that insecure, superficial understanding will not support genuine progression and pupils may struggle at transition points, build up serious misconceptions and/or have real difficulty with higher order content.

Our Curriculum provides opportunities for children to describe key processes and key characteristics in common language and to use technical terminology accurately and precisely. It offers an opportunity for them to build and develop specialist vocabulary and to apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data.

Essential Knowledge

By the end of each Key Stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

The national curriculum for science reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of the language pupils hear and speak are key factors in developing their scientific vocabulary and articulating scientific concepts clearly and precisely. They will be assisted in making their thinking clear, both to themselves and others, and teachers aim to offer opportunities for pupils to build secure foundations by using discussion to probe, identify and resolve any misconceptions.

Key Skills

'Working scientifically' specifies the understanding of the nature, processes and methods of science in each year group. It is not taught as a separate strand. We use the notes and guidance to embed working scientifically within the content of biology, physics and chemistry, focusing on the key features of scientific enquiry so that pupils learn to use a variety of approaches to answer relevant scientific questions. These types of scientific enquiry will include: observations over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and collaboration and problem solving. Our pupils are given the opportunity to seek answers through collecting, analysing and presenting data.

Key skills and all programmes of study are delivered through a variety of topics.

Cross Curricular Studies

Pupils have opportunities to develop their scientific skills through a range of subjects. They also have the opportunity to use laptops and other technology to develop their scientific skills in a cross curricular manner.

Assessment and Recording

Pupils are assessed at the end of each topic or every half term. At this point, the teacher makes a summative judgement about the attainment of each pupil and also administers a half termly science test. The outcome is recorded and shared with the Science Curriculum Leader.

Moderation and Monitoring

We aim to moderate and monitor science as part of a self-evaluation approach to maintaining standards and supporting staff in their teaching.

Science moderation involves the analysis of children's work in relation to the learning outcomes and the National Curriculum across the school.

Monitoring of science teaching is carried out through lesson observations, book scrutinies, learning walks and pupil interviews.

Health and Safety

All equipment is checked and assessed prior to the lesson by the class teacher.

The teacher is clear as to the purpose of the work and ensures that any testing which needs to be carried out complies with Health and Safety procedures and has been practiced prior to the lesson.

Safety hazards are explained to the pupils at the beginning of any work.

Staff are expected to ensure all equipment is cleaned and put away safely and appropriately.