Science

‘Pupils in our school will have a love of sport, ***of the sciences***, and of language, a love of the arts, and a love of learning.’ ***King’s Meadow Vision Statement February 2024***

Intent

The national curriculum for science aims 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.

Through our teaching of Science in King’s Meadow Primary School, we aim to foster a culture of excitement, consideration and curiosity of the world around us through a scientific lens. Children will be motivated to develop their knowledge and understanding of the national curriculum aims and use accurate scientific methods and vocabulary to investigate their enquiries. Children will have a structured progression building consistently on prior learning and their own experiences.

We firmly believe that all children irrespective of their starting point and understanding will experience and be able to access this broad and ambitious curriculum through careful scaffolding. Recording ideas and findings in a variety of ways, children will make links in their science learning with the wider school curriculum, and will utilise skills from other curriculum areas.

Our aim at King’s Meadow Primary School is that children will successfully master the foundations of biology, chemistry and physics and hold the belief that they can impact the world by being successful scientists of the future.

Implementation

EYFS (Foundation stage)

The Foundation Stage deliver science content through the ‘Understanding of the World’ strand of the EYFS curriculum. This includes 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. They are assessed according to the ‘Development Matters’ attainment targets.

Key Stage 1

The principle focus of science teaching in Key Stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They are encouraged to be curious and ask questions about what they notice. They are helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information.

Children will begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, there will also be some use of appropriate secondary sources, such as books, photographs and videos.

‘working scientifically’ is described separately in the programme of study, but must always be taught through and clearly related to the teaching of substantive science content in the programme of study.

Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at Key Stage 1.

Lower Key Stage 2

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

'Working scientifically' is described separately at the beginning of the programme of study, but must always be taught through, and clearly related to, substantive science content in the programme of study. Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge.

Upper Key Stage 2

The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

'Working and thinking scientifically' is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study. Pupils should read, spell and pronounce scientific vocabulary correctly.

Impact

We believe that our science curriculum is progressive and challenging, whilst remaining relevant. It is carefully planned to demonstrate progressions. We measure the impact of our curriculum in several ways, which includes: learning walks, pupil voice, lesson observations and identifying key skills to aid teacher assessment.

Through our science curriculum we envisage that:

• Children will become resilient, independent and curious scientists who ask questions and find things out for themselves.

• Science will be a high-profile subject throughout the school

• Children will be enthusiastic and motivated scientific learners

• Parents and the wider community will support science learning through trips and visitors

• Children will have an awareness of the full range of scientific careers and pathways available to them, and will be keen to pursue STEM subjects at secondary school

• Children will leave for secondary school equipped with the scientific knowledge and skills needed to succeed in their further education