SCIENCE POLICY

Introduction

Science is a body of knowledge built up through the experimental testing of ideas. Science is also methodology, a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live in through investigation, as well as using and applying process skills. Science is a collaborative activity where ideas and suggestions are shared and investigated together. Through practical activities and teamwork, children experience and learn how to work together and have mutual respect for one another and value social cohesion.

Intent

Our Science teaching offers the opportunities. Our pupils will:

- Develop a sense of wonder and curiosity about the natural world.
- Be prepared for life in an increasingly scientific and technological world.
- Encourage the development of positive attitudes in science.
- Children to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them.
- Children are encouraged to ask questions about what they notice.
- Opportunities to experience and explore the local environment.
- Children will be provided with first-hand experiences.
- To experience and use high-quality language and terminology.
- Develop the skills to communicate their ideas to a range of audiences.
- Develop skills to recognise and use rational explanation.
- Use models to represent things that the children cannot directly experience.
- Conduct scientific enquiries including observing over time; pattern seeking; identifying and classifying; comparative and fair testing.
- Provided with opportunities to use appropriate secondary sources, such as books, photographs and videos.
- Develop the skills to collect, analyse and present data.
- Practise mathematical skills (measuring, drawing and interpreting graphs and charts) in real contexts.
- Children develop practical skills and the ability to think critically and independently.
- Enhance their vocabulary and communication skills through discussion and explanation of scientific ideas.
- Explore values and attitudes through science.

- Work with others, listening to their ideas and treating them with respect.
- Develop a respect for the environment and living things and show they understand how human activity impacts these things.
- Recognise the impact of science on everyday life and its role in current global challenges.
- Develop responsibility for their own health and safety and that of others when undertaking scientific activities.

Implementation of the policy

Planning

Planning for science is a process in which all teaching staff are involved. Delivering a broad and balanced science education to our children is a core principal. KS1 and Foundation stage teachers teach science for a minimum of one hour a week. KS2 teachers teach science for a minimum of one hour per week. In KS1 and Foundation stage, a minimum of one third of lessons overall include practical scientific enquiry. In KS2, a minimum of 50% of lessons overall include practical scientific enquiry. Science is taught in ways that a imaginative, purposeful, well managed and enjoyable. The school ensures that a broad and balanced science curriculum is followed in which enquiry is at the heart of our child's scientific learning. Our science scheme of learning is available on the school website and ensures progression between year groups and with regular spaced practice to revisit scientific concepts.

Resources

Science resources are stored centrally within the cupboards in the Hall and are organised into topic themes. Our school library also contains a range of science topic books to support children's individual research. Children can also use ICT resources, remotely enabling parents to become involved in their child's learning. Planning is achieved collaboratively with parallel-class teachers and plans are saved electronically on the school server for ease of access. Teachers have identified the key knowledge that is being taught, as well as the skills that are being developed across each topic, and these are recorded for each topic on a knowledge organiser. These are also explicitly outlined for each topic on the curriculum toolbox, which states the learning objectives for each lesson, thus showing the progression the children will make throughout the topic.

Assessment

Assessment for learning is continuous throughout the planning, teaching and learning cycle. Key scientific knowledge is taught to enable and promote the development of children's scientific enquiry skills. Assessment is supported by use of the following strategies:

- Observing children at work, individually, in pairs, in a group and in class during whole class teaching.
- Using open-ended questions that require children to explain and unpick their understanding.
- Providing effective feedback, including interactive marking where appropriate, to engage children with their learning and to provide opportunities for self-assessment, consolidation, depth and target setting

Book moderation and monitoring of outcomes of work to evaluate the range and balance of work and to ensure that tasks meet the needs of different learners, with the acquisition of the pre-identified key knowledge of each topic being evidenced through the outcomes.

- Use of specific and measurable learning objectives for each lesson with child and teacher review of the agreed success criteria.
- End of topic assessment that children complete in their books. This could be a range of question styles (multiple choice, matching, labelling, written response).
- Teachers and subject leader assess the children's knowledge and retrieval against the 'core knowledge' assessment document that is created by the class teacher. This document includes National Curriculum links, core knowledge, skills, key vocabulary and links to other topics.

The foundation stage

We teach Science in our Reception and Nursery classes as an integral part of the topic work covered during the year. As these classes are part of the Foundation Stage of the National Curriculum, we relate the scientific aspects of the children's work to the objectives set out in the Early Learning Goals (ELGs) which underpin the curriculum planning for children aged three to five. Early years explore scientific themes and content through the Understanding of the World and Personal, Social and Emotional Development- managing self strand of the EYFS curriculum. This involves guiding children explore the natural world around them, making observations, understanding some similarities and differences between the natural world around them and contrasting environments and understanding the important processes and changes in the natural world around them. It also includes managing their own basic hygiene and personal needs, including understanding the importance of healthy food choices. They are assessed in line with our school assessment procedures which is in line with the statutory guidance for EYFS.

Health and Safety

Within planning, teachers will anticipate likely safety issues. They will also explain the reasons for safety measures and discuss any implications with pupils. Pupils should always be encouraged to consider safety for themselves, others, the environment and the resources they use, when undertaking scientific activities. The Association of Science Education (ASE) document 'Be Safe' has been adopted by the school as a guide to health and safety in science. CLEAPPS will be contacted by teachers should they have a query concerning health and safety.

Monitoring and Review

Book scrutinies and discussions with pupils are undertaken during the year. Evidence of on-going work is also gathered through assemblies, school trips and displays. Children's work in Science is assessed by making informal judgements. This is done through on-going observation and on completion of a piece of work. Progress is currently tracked termly using OTrack and is reported annually to parents.

Impact

Our children at Meadow Farm will be equipped with scientific knowledge and conceptual understanding that will enable them to be ready for the curriculum at Key

Stage 3 and for life as an adult in the wider world. Outcomes in our creative learning journey books, evidence a broad and balanced science curriculum and demonstrate the children's acquisition of identified key knowledge. Children review the agreed success criteria at the end of every session, whilst also recording what they have learned comparative to their starting points at the end of every topic

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(Chair of the Strategic Committee)

Signed

Mrs M Gaiderman

(Head Teacher)

Signed: S Eyre

Mrs S Eyre

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