



Smile – Learn – Excel

Science Policy

Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so we may fear less.

-Marie Curie

Policy Reviewed: May 2021

Next Review: May 2022



Introduction

A high-quality Science education provides foundations for understanding the world. Science affects all of our lives and continued understanding, hypothesising and challenging of thinking is vital to our world's future. Our children are the scientists of the future. Through the building of key knowledge and development of understanding of concepts, our children are encouraged to appreciate the power of rational explanation whilst developing a sense of excitement and curiosity about natural phenomena. Through their journey at Shortlanesend School children are provided with opportunities to fully understand how key knowledge and concepts can be used to explain what is occurring, predict how things will behave, and analyse causes. Science is by its very nature interactive and provides many 'wow' moments of learning; these are harnessed by teachers to ensure that all children enjoy their learning and are inspired to shine; this reflects our ethos of:

Smile – Learn – Excel

Aims

- Develop scientific knowledge and conceptual understanding through the 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 hypothesise, experiment and 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
- Research and discover the facts concerning famous scientists, discoveries and invention from history
- Understand how science supported civilisations from the past and is currently utilised by people in different parts of world
- Encourage self-reflection to ensure children continue to ask themselves how they learn more, remember more and understand more

Teaching and Learning

At Shortlanesend School our immersive curriculum encourages teachers to plan and teach subject areas through interdisciplinary learning. Interdisciplinary learning is a planned approach to learning which uses links across different subjects to enhance learning. As a school, we accept that this is not always naturally possible with science, and therefore to ensure coverage and depth of learning teachers follow the *Developing Experts* curriculum in Key Stage 1 and 2.



Teachers design and customise their science lessons to meet the needs of all their children, whilst ensuring that children experience the full National Curriculum content. This ensures our teaching and learning meets the demands and interests of the full range of learners, whilst providing the depth and coverage required.

All science learning at Shortlanesend School involves

- highly focused lesson design with acute learning intentions
- high demands of pupil involvement and engagement with their learning
- high levels of interaction for all pupils
- quality teacher questioning, modelling and explaining
- an emphasis on learning through dialogue, with regular opportunities for pupils to talk both individually and in groups
- an expectation that pupils will accept responsibility for their own learning and
- work independently and as part of a group

Early Years

In the Early Years Foundation Stage Science is taught through Understanding of the World. Science is developed by building upon the children's natural curiosity and fascination for their environment and the world around them. Children are encouraged to use all their senses to investigate, explore and make predictions.

Key Stage 1

KS 1 science is planned and taught to ensure all children experience and observe the natural and man-made world around them. Children are encouraged to be curious and ask questions about what they notice.

Children are inspired to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative tests and finding things out using secondary sources of information.

Children are taught to use 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 importantly, most of a child's learning about Science should be experienced with first-hand practical experiences, supported by appropriate secondary sources, such as books, photographs and videos. Pupils should read and spell scientific vocabulary at a level consistent with their reading and spelling knowledge at Key Stage 1.

Key Stage 2



During a child's scientific journey through Key Stage Two, their experiences enable them to broaden their scientific view of the world around them. They should do this through exploring, discussing, hypothesising, testing and developing ideas about everyday phenomena and the functions, relationships and interactions which occur.

Children gain confidence in asking their own questions about what they observe and make some decisions about which enquiry types are most likely to be the best ways of answering them. Our children become adept at drawing conclusions based on their data and observations, using evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

Children develop the appreciation and need for carrying out fair tests and researching using secondary sources of information. Children are taught the importance of the need to read, spell and pronounce scientific vocabulary correctly.

As our children approach the end of their primary scientific education, they develop a deeper understanding of a wide range of scientific ideas, from exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically.

Our children will begin to be challenged by more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They are encouraged to recognise that scientific ideas change and develop over time.

Assessment

Children's learning is continually assessed in lessons; there is high quality dialogue between teacher or TA and the children throughout the lesson which offers both support and challenge. Once the children complete a piece of work, it is marked and commented on as necessary according to the school's marking policy. We use our knowledge of the children's learning to support the subsequent planning of lessons. A progression grid is used to ensure that depth and coverage of the science curriculum is complete.

The Role of Science Co-ordinator

Monitoring the standards of children's learning and the quality of teaching in Science is the responsibility of the Science subject co-ordinator. The Science subject co-ordinator monitors children's books, wall displays, planning and carries out pupil interviews, learning walks and an audit. The work of the Science co-ordinator also involves supporting colleagues in the teaching of Science and keeping informed about current developments in the subject.



Shortlanesend School

Smile – Learn - Excel

Resources

The majority of scientific resources are stored in the central store cupboard in the hall. The Science Co-ordinator is able to bid for finance from the school's curriculum budget to update and improve the quantity and quality resources across the school.

Inclusion

At Shortlanesend School Science is always all inclusive. We achieve this by teachers adapting planning so that individuals have specific learning outcomes. Resources are adapted as necessary so that children's access to learning is not impaired. We may provide extra adult support in class so that children are focused on accessing the curriculum. In some cases, we liaise with outside agencies to receive the best advice on how to help children learn effectively.

Health and Safety

All staff are aware of the requirements of the school's Health and Safety Policy. Risk assessments are carried out for all activities, taking into account medical issues, where needed. Visits to off-school sites are arranged in line with the school visits policy and Risk Assessment Forms are completed and signed off in advance.