



Science Policy
May 2018

Rationale

Science teaches an understanding of natural phenomena. A high-quality Science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. It aims to stimulate a child's curiosity in finding out why things happen and discovering the way that they do through both investigation and first-hand experiences. It teaches methods of enquiry and investigation to encourage creative thought by being a practical way of finding reliable answers to the questions we want to ask about the world. Children learn to ask scientific questions and begin to appreciate the way in which Science will affect the future on a personal, national and global level. They should be encouraged to understand how Science can be used to explain what is occurring, predict how things will behave and analyse causes. 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 through investigation, as well as using and applying process skills.

Aims

To promote the ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings.

To instil confidence and competence in the full range of practical skills, taking the initiative in, for example, planning and carrying out scientific investigations.

To encourage excellent scientific knowledge and understanding which is demonstrated in written and verbal explanations, solving challenging problems and reporting scientific findings.

To support high levels of originality, imagination or innovation in the application of skills.

To instigate the ability to undertake practical work in a variety of contexts, including fieldwork.

To inspire a passion for Science and its application in past, present and future technologies.

To foster children's curiosity and develop a love of learning in Science by including the element of 'awe and wonder'.

The objectives of teaching Science are to enable children to:

- Develop the ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings.
- Plan and carry out scientific investigations, using a range of equipment.
- Know and understand the life processes of living things.
- Know and understand the physical processes of materials, electricity, light, sound, and natural forces.
- Know about the nature of the solar system, including the earth.
- Evaluate evidence, and present their conclusions clearly and accurately.
- Make reasoned predictions based on prior knowledge and understanding.
- Use scientific vocabulary when talking about the practices of Science.
- Recognise that scientific ideas change and develop over time.

Assessment

We assess children's work formatively in Science, through observations and marking. The assessment of knowledge and skills will be planned for as part of the teaching process. At the start of a new topic, teachers might conduct a 'prior learning check' to assess what the children already know, in order to build this into their teaching during the unit. Marking will be in line with the school marking policy, making use of photographs wherever possible to show the children learning through investigation.

Inclusion

Science is taught to all of the children in our school. Differentiation of activities will be made in planning as appropriate to the pupils being taught based upon their prior knowledge, understanding and skills. Equal opportunities in Science will be given to all pupils, ensuring that we provide suitable learning opportunities for all children. We achieve this by:

- Setting tasks which are open ended and can have a range of responses.
- Setting tasks of increasing difficulty.
- Providing resources, including key vocabulary, of different complexity.
- Using teaching assistants to support the work of individuals and groups where necessary.

Teaching and learning (including resources and planning)

The objectives outlined in the National Curriculum (2014) inform our planning, which runs on a three year cycle in Key Stage 1, a two year cycle in the mixed age classes in Key Stage 2 and a 1 year cycle in Class 5. The topics covered ensure progression of knowledge and skills across all year groups by building on prior learning in order to provide a varied and engaging coverage of the curriculum.

A wide range of teaching and learning styles are used, with an emphasis on investigative practical activities in order to develop knowledge, skills and understanding. Pupils will be taught to use a wide range of appropriate recording methods, which will include the use of Computing at both Key Stage 1 and Key Stage 2. Children engage in a wide variety of problem-solving, exploratory and investigative activities and learn to record their work in a variety of ways, including the use of photography, diagrams and explanations in a range of genres.

We have sufficient resources to teach all of the units in the New Curriculum. These are stored in various central locations and are reviewed by the Science Subject Co-ordinator to evaluate their effectiveness. The library contains a wide selection of topic-related books to support children's individual research.

Monitoring and reviewing

It is the responsibility of the Science Subject Co-ordinator to monitor the standards of children's work and the quality of teaching in Science. The Science Subject Co-ordinator is also responsible for supporting colleagues in the teaching of Science, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school.

Early Years

We teach Science in the Early Years, as an integral part of the topic work covered within Class 1. It is part of the Early Learning Goal 'Understanding of the World'. Children must be supported in developing the knowledge, skills and understanding that help them to make sense of the world they live in. There should be opportunities for them to use a range of tools safely; encounter creatures, people, plants and objects in their natural environments and in real-life situations, undertake practical 'experiments' and work with a range of materials.

Health and Safety

Please see the 'Code of Practice for Teachers in Schools' document.

The role of the Science Coordinator

- To monitor the quality of teaching and learning that goes on in school.
- To monitor the progress of the children.
- To monitor and audit resources regularly to ensure effective and appropriate provision to enhance the curriculum.
- To keep up to date with curriculum changes and adapt curriculum mapping for the school accordingly.
- To investigate opportunities for professional development.
- To review this Science policy at least every three years.