Science Policy

Policy Statement

We believe that an appreciation of science should be a fundamental part of everyday life and that good teaching will enable children to develop confidently within a scientific society. The development of scientific concepts must be based on first hand exploration which will foster curiosity, critical reflection, co-operation, independent learning, open-mindedness and the development of literacy and numeracy skills.

Aims and Objectives:

Through the framework of the National Curriculum, science aims to:

- Equip children to use themselves as starting points for learning about science, and to build on their enthusiasm and natural sense of wonder about the world.
- Develop through practical work the skills of observation, prediction, investigation, interpretation, communication, questioning and hypothesizing, and increased use of precise measurement skills and ICT (Information and Communication Technology).
- Encourage and enable pupils to offer their own suggestions, and to be creative in their approach to science, and to gain enjoyment from their scientific work.
- Enable children to develop their skills of co-operation through working with others, and to encourage where possible, ways for children to explore science in forms which are relevant and meaningful to them.
- Use appropriate scientific and mathematical vocabulary to communicate ideas.
- Teach scientific enquiry through contexts taken from the National Curriculum for science.
- Encourage children to collect relevant evidence and to question outcome and to persevere.
- Encourage children to treat the living and non-living environment with respect and sensitivity.
- Stress the need for personal and group safety by the correct usage and storage of resources.
- To enable children to appreciate that we do not always know the answers and results when carrying out scientific enquiry.

Entitlement and Inclusion:

In school we aim to meet the needs of all our children by differentiation in our science planning and in providing a variety of approaches and tasks appropriate to ability levels. This will enable children with learning and/or physical difficulties to take an active part in scientific learning and practical activities and investigations and to achieve the goals they have been set. Some children will require closer supervision and more adult support to allow them to progress whilst more able children will be extended through differentiated activities. By being given enhancing and enriching activities, more able children will be able to progress to a higher level of knowledge and understanding appropriate to their abilities.

Implementation and Planning

Science is a core subject of the National Curriculum and pupils will normally undertake some science activity every week at both key stages. The work covered in Key Stage 1 builds on the nationally recognised curriculum for pupils aged under five. Pupils in Foundation develop their

knowledge, understanding and skills through play activities and direct teaching from which the pupils undertake planned tasks.

The allocation of time will be 1½ hours each week in KS1 and 2 hours in KS2.

Where possible, science is taught as part of a cross-curricular thematic approach to learning but on occasions it is taught as a discrete subject. The programmes of study are covered in units of work some of which are supplemented by relevant parts of the 'QCA scheme of work' and with reference to the National Curriculum and expected standards documents.

Planning takes into account that the school places a high emphasis on the development of pupils' skills of scientific enquiry (Sc1). In the substantial majority of lessons the skills for Sc1 are taught alongside the knowledge and understanding in life processes and living things (Sc2), materials and their properties (Sc3) and physical processes (Sc4). In this way there is an equivalent emphasis on Sc1 as there is on Sc2/3/4 together.

All lessons should have clear learning objectives which are shared with the pupils effectively.

Assessment, Recording and Reporting

Assessment should be built into the planning stages and is likely to be periodic such as at the end of a topic in addition to ongoing teaching assessment. Particular attention should be given to children's progress and attainment in experimental and investigative science. A variety of strategies including observing, questioning, discussion, concept mapping and marking, are used to assess progress and children should be given opportunities to represent their learning in different ways. Marking of work and feedback to pupils should include achievement in relation to the learning objective and future targets.

Parents are provided with progress reports at twice yearly Parent Consultation appointments and in a written statement as part of their child's end of year report.

Resources

The majority of resources will be stored centrally and should always be returned promptly after use. Items of a consumable nature eg. batteries should be sent for recycling if dead. Individual teachers are responsible for ensuring that the school has sufficient resources which will enable the teaching of science for their year group.

The Learning Environment

Classrooms should have displays of current science work. The profile of science should reflect its place as a core subject. Resources for the unit of work being covered should be appropriately accessible. Other sources of information should be available to include books, photos, CD ROMS and DVDs. Key questions and vocabulary should be displayed.

Health and Safety:

All staff must be aware of potential risks and hazards that may arise as a result of investigative activities and every science lesson should be preceded with a risk assessment exercise.

All staff must be familiar with the “Be Safe!” safety booklet which provides guidance and advice. Children are also taught safe procedures when carrying out investigations and using tools.

Evaluation and Monitoring
All teachers are responsible for monitoring standards as well as the Head teacher, Senior Leadership Team and science co-ordinator.

Monitoring activities may include the following:

- work scrutiny to analyse pupils’ science work to evaluate standards (attainment and progress);
- subject leader to analyse teachers’ planning files to monitor coverage and balance of curriculum planned; to consider the activities planned and their appropriateness; to ensure there is effective differentiation; to ensure there are clear objectives and relevant activities.
- lesson observations when appropriate in line with the school’s lesson observation protocol.