Brize Norton Primary School

SCIENCE POLICY

Philosophy

Science stimulates and excites pupil's curiosity about events in the world around them. It also satisfies this curiosity with knowledge. As science links direct practical experience with ideas , it can engage learners at many levels. Scientific method is about developing and evaluating explanations through experimental evidence and modelling. This is a spur to critical and creative thought. Through science, pupils understand how major scientific ideas contribute to technological change – impacting on industry, business and medicine and improving quality of life. Pupils recognise the cultural significance of science and trace its world-wide development. They learn to question and discuss science-based issues that may affect their own lives, the direction of society and the future of the world.

Aims and objectives

Through the teaching of science we expect our children to:

- Build on their natural curiosity.
- Think about why things happen and link cause and effect.
- Take an active part in investigating scientific concepts and explore a range of first and second hand experiences.
- Develop a knowledge and understanding of science.
- Apply their knowledge and understanding.

To enable our children to achieve these aims we plan to develop the following skills:

- To listen to, retrieve, investigate and question information.
- To formulate their own opinions and ideas regarding scientific information and events.
- To record information in an appropriate and organised way bearing in mind their age, ability and factual nature of the subject.
- To share and exchange information and ideas.
- To be able to extract different information from a variety of sources e.g. primary –evidence gathered in an investigation, and secondary – computers, pictures and books.
- To handle scientific equipment safely.

We aim to create a positive attitude by encouraging our children to:

- Develop an enthusiastic, questioning and enquiring approach to science.
- Have confidence when discussing scientific concepts and be able to put forward their comments and views.
- Work cooperatively and independently.

Planning

Teachers plan using the Brize Norton School's skills progression, Primary Frameworks and the National Curriculum, to ensure continuity and progression across the key stages.
Planning is done at three levels:

- whole school (long term)
- class (medium term)
- individual teacher's weekly planning (short term)

Teachers plan specific learning intentions and success criteria for their lessons based on developing children's skills, knowledge and understanding in each subject.
Where possible teachers make links between subjects to provide experiences that enrich learning and to consolidate and apply the skills that the children have learnt in a variety of contexts.

Teaching and Learning

In the Foundation Stage scientific concepts are taught in the context of the Early Learning Goals;

Children at Key Stages 1 and 2 have access to science as a core subject in the National Curriculum. The fundamental skills, knowledge and concepts of the subject are set out in 'Science in the National Curriculum' where they are categorised into four areas:

- Scientific Enquiry
- Life and Living Things
- Materials and their Properties
- Physical Processes

These areas are taught following a two-year cycle using the LCP scheme, which in turn is linked to the QCA scheme. Wherever possible links are made with other areas of the curriculum, although on occasion science can be studied as an independent topic. The use of ICT is incorporated in the teaching of science often as a tool for finding and communicating information, or as a means of collecting data.

In order to allow all children to reach their full potential, differentiation within activities is planned to meet the needs of groups of children, or individuals. This can be by task or outcome.

Resources

A stock of resources and equipment to support the most commonly taught topics are stored centrally in topic boxes found in the hall cupboards.
The LCP Scheme is stored in class cupboards, there is also an older Collins scheme available as an additional resource if required.
The library holds a wide range of books for staff and children covering most themes. Where relevant classes will have science books related to their current topics on their classroom bookshelves. In addition, the Internet is a valuable source of information.

Assessment

Assessment of pupil work and progress is ongoing by the class teacher and informs future planning. In addition to this pupils engage in a formal levelled assessment termly. In the core subjects, statutory assessments are made at the end of Foundation Stage and end of Key Stage. Parent/teacher discussions are held each term and they receive an annual report at the end of the year. Teachers record progress against key skills each term in all subjects (See Assessment Policy for further details).

Special Needs and Equal Opportunities

All children have access to the National Curriculum at a level that is appropriate to their individual needs. Teachers plan differentiated learning experiences in all curriculum subjects. Some children are withdrawn from the class individually or in small groups for additional support to be given within different subject areas. (See Special Needs and Equal Opportunities policies).

More Able, Gifted and Talented

Work in all lessons is differentiated to meet the needs within the class. Teachers plan using a 'top down' approach to ensure that the more able are challenged. Differentiation may be by outcome, support, resource or sometimes by the lesson input that is given to different groups by the teacher or a teaching assistant. All children also have individual or group targets that they are working towards. Children who have been identified as more able, gifted and talented are given opportunities to extend their learning through problem solving, investigation and open-ended activities. We create possibilities for them to work independently and with others to develop higher order thinking skills. In all subjects success criteria are set and questioning used to broaden children's knowledge and understanding whilst extending and challenging them, children are

actively involved in this process. This ensures that each child is working to their full potential and being challenged at the right level. (See More Able, Gifted and Talented policy)

Homework

All classes receive homework each week mainly related to work in English or Maths. There are times that children are asked to complete research or other home-based activities related to other curriculum areas, such as science, particularly in upper Key Stage Two.

Roles and Responsibilities

The Role of the Headteacher:

The overall responsibility for each subject rests with the senior management of the school. The head, in consultation with the staff:

- determines a curriculum that is inclusive to all;
- decides the provision and allocation of resources;
- decides ways in which progress can be assessed, and records maintained;
- ensures that each subject is used in a way to achieve the aims and objectives of the school;
- ensures that there is a subject policy, and identifies a subject co-ordinator.

The Role of the Subject Co-ordinator:

- ensure the development of subject resources and the curriculum;
- supports the staff in planning for and teaching their subject;
- monitors the quality of teaching and learning through observations of lessons, reviews of teacher's plans and scrutiny of children's work;
- analyse data trends, reviewing standards and setting future priorities for development;
- promotes staff inset.

The Role of the Teacher:

Individual teachers are responsible for the implementation of each subject policy. It is their responsibility to plan appropriate experiences that teach key skills while developing children's knowledge and understanding. Teachers are responsible for assisting the co-ordinator in the monitoring and recording of pupil progress in each subject.

Health and Safety

It is important that the children are taught to observe the rules of safety when carrying out experiments and investigations. Materials and equipment need to be handled sensibly and we make every effort to ensure children do this.

Review and Evaluation

This policy was drawn up by the Science coordinator in consultation with the staff.
September 2008.