

Science Curriculum Policy

**Brookhurst Primary
School**

July 2009

Science Curriculum Policy - Brookhurst Primary School

The purpose of this document

This policy reflects the school values and philosophy in relation to the teaching of Science. It sets out the framework within which the teaching and non-teaching staff can operate and gives guidance on planning, teaching and assessment. This policy should be read in conjunction with the Scheme of Work for science, which sets out in detail what pupils in each year group will be taught. This document is intended for all teaching staff and non-teaching staff with classroom responsibilities, School Governors, parents, inspection teams, L.E.A. advisors and interested others. Copies are provided for School Staff and the Governing Body. Other copies are kept in the school office.

Why we teach science at Brookhurst School

Science teaches children understanding of natural phenomena and aims to stimulate their natural curiosity and encourage them to find out why things happen. Children learn to ask scientific questions and begin to understand the way in which science will affect their future on a personal, national and global level.

The most exciting phrase I hear in science, the one that heralds new discoveries, is not 'Eureka!' (I found it!) but 'That's funny....' (Quote by Isaac Asimov).

Our aims in teaching science

Through teaching science we aim to:

- Build on our children's natural curiosity;
- Know and understand the properties of materials, electricity, light, sound and natural forces.
- Know and understand the physical processes which can change the properties of materials, electricity, light, sound and natural forces.
- Know and understand the life processes of living things;
- Stimulate them to investigate and question;
- Develop scientific skills which include
 - observing, exploring and ordering;
 - posing questions and devising experiments to answer these questions;
 - use equipment, including computers, correctly to test out theories, record findings and analysis data
 - Evaluate evidence and present their conclusions clearly and accurately.
 - Interpreting findings critically
 - Communicating findings.

How do pupils learn science?

Children learn best in science through first hand experiences. This could be through observing mini-beasts in their natural habitat, rolling a toy car down a ramp or investigating if the tallest person in the class has the longest stride.

Children also need opportunities to share what they know, ask questions to extend their own understanding and to reflect on their work and what they have learned.

Teachers will endeavour to provide practical experiences through which children can explore their ideas and develop their knowledge and understanding of science.

'The important thing is not to stop questioning. Curiosity has its own reason for existing..... (Quote Albert Einstein)

Planning the Science Curriculum

Planning is the responsibility of the class teacher with help from the Science Co-ordinator. The Early Learning Goals will inform planning for children in reception; the National Curriculum programmes of study in all other year groups. The Q.C.A. scheme of work for science forms the basis for planning in Years 1 - 6. Teachers should add to or develop further the activities described in this document to extend and consolidate children's experiences in meaningful contexts. Plans should be completed half-termly and weekly.

Planning is used to:

- set clear, achievable goals;
- ensure that work is matched to pupils' abilities, experience and interests;
- ensure that there is continuity within each year group
- ensure progression, continuity and subject coverage throughout the school;
- provide criteria for assessment and evaluation of teaching and learning;
- provide real experiences through which pupils can learn

As the class teacher plans the teaching of science, he/she will consider how the curriculum will be differentiated. Consideration will be given to:

- pupil groupings, e.g. ability or mixed ability groups; or group, paired or individual activities;
- resources, e.g. different equipment for different levels of ability;
- pupil activity, e.g. different group tasks, different pupil roles and responsibilities, different allocations of time and variation of pace within the lesson to meet the needs of different levels of ability;
- other opportunities, e.g. extra-curricular / cross curricular activities, club links and interest groups, for the development of excellence

Cross Curricular Links:

Literacy;

Science actively promotes the skills of reading, writing, speaking and listening.

The children develop oral skills in science through discussions and through reporting their observations of scientific investigations.

They develop their writing skills through writing reports and projects and recording information.

Mathematics;

Science can contribute to the teaching of maths in several ways.

They use numbers to record answers and findings in investigations.

Through investigations children learn to predict and estimate.

They use weights and measures

Develop accurate observational and recording skills.

ICT:

Children develop their ICT skills by;

Researching information on the internet

Using the computer to analyse information

Children use ICT to record, present and interpret data and to review and evaluate findings.

PSHE:

Science can make a significant contribution to the teaching of personal, social and health education.

Children can consider and debate how society's attitude to recycling affects their and the global environment

Children can discuss the pros and cons of energy efficiency e.g. Are wind turbines good for all aspects of the environment?

Science can encourage positive citizenship.

The Role of the Science Co-ordinator

The Science Co-ordinator has the responsibility for the development and monitoring of the science curriculum. He/she is responsible for updating the School's Policy, Scheme of Work and Subject Development Plan for the School Development Plan.

He/she has responsibility for the day to day maintenance of the science equipment in the resources area and for purchasing new equipment and materials to support science activities in school within the constraints of the budget. The co-ordinator will offer support and guidance to colleagues in planning science activities when requested and also monitor work throughout school including assessment and record keeping. He/she

will also liaise with colleagues in secondary schools and outside agencies where opportunities arise.

In monitoring and evaluating the Science curriculum the co-ordinator will analyse pupils' access to the subject, review teachers' plans, observe classroom practice and monitor levels of achievement.

Resources

Resources are located in the main resource area. These are stored in labeled storage boxes / trays. It is the responsibility of the class teacher to ensure that all equipment is put away in an appropriate manner and is returned to the resource area in working order. Any breakages / damage to equipment should be reported to the Science Co-ordinator who will make arrangements for repairing or replacing as appropriate.

We also have extensive school grounds which provide an invaluable resource for Science activities, especially for the study of *Life and Living Processes*. Where teachers identify a need for additional resources to support their science teaching, this should be reported to the science co-ordinator who will plan to obtain those resources within budget constraints.

Equal Opportunities

All Children have the same access to science activities regardless of their ability, gender, race or cultural background. All children benefit from the study of science. In our selection of curriculum materials we are careful to avoid stereotyping in any way.

Special Educational Needs

In accordance with Special Needs Policy children with special educational needs are included in all lessons.

Children of all abilities benefit from the study of science. We seek to choose initial stimuli which appeal to all. Wherever practicable, provision will be made for pupils with special educational needs, where it affects their ability to take part in science lessons. They may have sensory difficulties, physical difficulties, cognitive limitations and / or emotional and behavioural disorders. It is the responsibility of the class teacher to ensure that any special equipment for a lesson is available to such children. If teachers need and special equipment not currently available they must bring this to the attention of the science co-ordinator.

We also take care to ensure that children's ability in science is not limited by their ability to record what they are doing / have done. Opportunities are provided for

children to record in different ways, e.g. in pictures, using a tape recorder, using an adult to scribe work for them.

Health and Safety

It is the duty of all staff (and, where relevant, non-employees such as parent helpers) to take reasonable care for the health and safety of themselves and others who may be affected by their errors or omissions. Class teachers take responsibility to plan safe activities in science. Safety issues are identified for all activities which form part of the science scheme of work and staff will ensure that these are followed. Staff will also observe the guidance in '**Be Safe! Some aspects of safety in school science and technology for Key Stages 1 and 2** (2nd Editions 1990, Association for Science in Education), a copy of which is kept in the resources area. In addition the school subscribes to the CLEAPSS School Science Service through which they receive termly newsletters. The science co-ordinator will be responsible for bringing to the attention of staff any information in these which requires a change in existing procedures and for making any necessary amendments to the health and safety guidance contained within the scheme of work. Back copies of relevant CLEAPSS newsletters are kept in a file in the resource area, together with copies of relevant CLEAPSS guidance notes. Where there is any doubt about an activity then this will be referred to the science co-ordinator who will make a risk assessment, seeking further guidance if necessary. Safety goggles and glasses are kept in boxes in the resource area. These should be worn by the children and adults in the classroom during scientific experiments that carry a risk of eye damage due to foreign particles entering the eye. E.g. stretching springs, experiments involving liquids or fine particle materials (sand etc.). These risks should be highlighted on the planning and appropriate precautions taken.

Classroom Organization and Teaching Style

Within classes pupils are taught as a class, within a group and individually according to the learning task. The class teacher will select the appropriate style / organisation to suit particular lessons / groups of pupils.

Assessment and Record Keeping

Science work is assessed in line with the requirements of the Marking and Assessment Policy. On going teacher assessment has always been an integral part of good practice, its main purpose being to enable the teacher to match the task set to the abilities and needs of the pupils as they progress. Class Teachers use the end of Key Stage Level Descriptions and the Assessment Opportunities mentioned in the Scheme of Work for assessment purposes (see also Assessment Policy).

Review Date: Spring 2012

This policy was adopted by *Governors* on the _____ and will be reviewed either as necessary or every three years.

Linda Wythe
July 2009