

Broomwood Primary School

Mission Statement

We aim for all to achieve their full potential in a caring environment

Science

(3)

Introduction

Definition of Science

The study of Science allows children to learn, and become curious about the phenomena and events in the world around them.

Aims

At Broomwood Primary School we believe that Science should provide the children with a range of learning experiences which are both stimulating and relevant to everyday life. The children will have access to the full Science Curriculum and it is our intention that over time they will;

1. Develop a sense of awe and wonder for the world around them.
2. Develop curiosity and a desire to find answers.
3. Develop the skills to explore and investigate in their environment.
4. Link direct practical experience with ideas and thoughts.

Science in the National Curriculum

The National Curriculum states that Science is one of the core subjects and a framework is provided for children in Key Stage 1 and Key Stage 2. Within the framework there are programmes of study which outline what pupils should be taught and this forms the basis of the scheme of work. There are also attainment targets which set out the knowledge, skills and understanding that pupils are expected to have by the end of each key stage.

Key Stage 1 provides opportunities for the children to observe, explore and ask questions about living things, materials and phenomena. They will begin to work together to collect evidence to help them answer questions and to link this to simple scientific ideas. They will evaluate evidence and consider whether tests or comparisons are fair. They will use reference materials to find out more about scientific ideas and they will also share their own ideas and communicate them using scientific language, drawings, charts and tables. (National Curriculum 2000)

Key Stage 2 provides opportunities for children to learn about a wider range of living things, materials and phenomena. They begin to make links between ideas and to explain things using simple models and theories. They will apply their knowledge and understanding of scientific ideas to familiar phenomena, everyday things and their personal health. They will begin to think about the positive and negative effects of scientific and technological developments on the environment and in other contexts. More systematic investigations will be carried out, with children working on their own and with others. They will use a range of reference materials and talk about their work and the significance of it. In communicating their ideas they will use a wide range of scientific language, conventional diagrams, charts and graphs. (National Curriculum 2000).

Foundation Stage

The National Curriculum does not apply to the Foundation Stage, but there is curriculum guidance in the form of Stepping Stones that build up to Early Learning Goals. As part of the curriculum the children will develop some Knowledge and Understanding of the World. The children will develop the crucial skills, knowledge and understanding that help them to make sense of the world. This forms the foundations for later work in Science. (See Early Years Policy)

Equal Opportunities

All children should be presented with the opportunity to experience success and enjoyment in Science, regardless of race, ethnicity gender, ability and disability. See the Equal Opportunities Policy.

The School welcomes and values disabled people to be an active part of school life.

Broomwood Primary School is keen to make sure that we do not make it difficult for disabled children, young people and adults to be involved in every part of school life. We have a legal duty not to discriminate against disabled people and to monitor how many of our pupils. Staff, parents/carers and governors are disabled under the Disability Discrimination Act 2005.

Broomwood Primary School recognises that disabled people are very diverse and include people with a physical impairment, visual impairment, hearing impairment, learning difficulty, specific learning difficulty (e.g. dyslexia), mental health issues, people who are deaf, British sign language users and people with long term health conditions.

Methodology

Time

The legal requirement is that Science should be taught for;

1.5 hours per week in Key Stage 1

2 hours per week in Key Stage 2

There is also a requirement that Scientific Enquiry should form 50% of the Science Curriculum.

Teaching and Learning

In order to enable the children to begin to develop the skills and concepts of Science through first hand experience, classrooms will have an investigation area set aside for free exploration. This area will be linked to the area of study currently being taught and will provide opportunities for the children to try out some of their own ideas.

It is important that a range of teaching styles are used to deliver the Science Curriculum allowing all children to access it at appropriate levels. There should be a mixture of whole, class, group and individual teaching, with some part of each lesson being given over to practical activities (if the area of study allows). It is also necessary that there is a combination of demonstration, participation and written work, with teachers using their professional judgment to decide which strategies are most appropriate to the lesson content.

Good teaching in Science will occur if pupils are grouped according to scientific ability, not literacy/numeracy skills, and work is differentiated accordingly.

Scientific language is an important part of learning science and as such key words relating to the topic should be displayed within the classroom.

Planning, Continuity and Progression

Long Term Planning: The Whole School Plan for Science outlines the areas of study to be taught throughout each year, from Year 1 to Year 6. The Resource Base follow a different two year rolling programme and Foundation Stage follow cross curricular topics and continuous provision areas (see Early Years Policy).

Medium Term Planning: Each area of study has been broken up into key learning objectives (based on programmes of study) which form the basis for the teaching over a half term. This forms the scheme of work which is then used by individual teachers, in conjunction with the relevant QCA Scheme of work, to plan the progression of activities they would use over the half term to deliver the curriculum.

Short Term Planning: Weekly lesson plans are completed by individual teachers using the medium term planning. The lesson plan identifies the objectives being taught, the introduction to the lesson, the main part and then the plenary. Within the main part of the lesson the plan will identify the activities and any differentiation.

Cross Curricular Links

Science work provides a useful context in which other areas of the curriculum can be developed. Some examples include, maths (data handling), literacy (report writing), ICT (recording and collecting data), geography (environment), PSHE (individual differences, respect for life) and many more.

Differentiation

For all children to access the Science curriculum the work will be presented in a variety of ways allowing the needs of all children to be met. Individuals or groups will be catered for through breaking down the task/objective into smaller achievable goals, or extending the children by using additional, more complex, objectives. The actual tasks set may be different, as would the support and expectation. The use of questioning, including open ended questions, is also a valuable tool when tailoring the learning to individual needs.

Health and Safety

Generally primary science is a safe activity but when pupils are engaged in a variety of open ended investigations there is always the possibility that something could go wrong. Staff in our school will be vigilant and will carry out a risk assessment where possible.

Areas where particular care is needed are indicated in the scheme of work for science. School will follow COSHH (Control of Substances Hazardous to Health) regulations. No chemicals are to be used until a risk assessment has been carried out and reference made to the ASE health and safety guidelines in "Be safe". No mains powered electrical equipment will be brought in from home unless it is safe, appropriate for the age of pupils and has been checked according to the LEA safety check criteria. Teachers keeping animals in their classroom will adopt the safe practices outlined in "Be safe" and will take due regard to pupils' allergies and possible health concerns.

Role of the Co-ordinator

The co-ordinator will lead the school in the teaching of science through;

- Good practice
- Organisation and purchase of resources
- Attending relevant courses
- Monitoring planning
- Work scrutiny
- Lesson observation and feedback
- Help and support for all staff
- Identification of strengths and weaknesses in the school
- Setting curricular targets
- Reports to Staff, Head and Governors.

Resources

Resources for the planning and delivery of the science curriculum are stored centrally. Equipment is stored in the Science Store Room in boxes related to each of the areas of study. Science books and videos are stored in the staff room. In order to maintain good quality resources the science co-ordinator should be informed of any breakage or loss.

Review

Assessment and Recording

Assessment is a continuous process and is a central feature of teaching and learning Science and is in line with the assessment policy (see policy).

- Long Term:**
1. Internal Science Test each May.
 2. Written report to parents.
 3. Annual curricular targets.

- Medium Term:**
1. Termly tracker sheets recording Teacher Assessment
 2. Termly update against attainment targets.
 3. Assessment column on medium term planning.
 4. Science Tests termly (level recorded on tracker sheet)

- Short Term:**
1. Annotation on weekly planning.

All assessments carried out are used to inform planning to allow each child to progress appropriately.

Monitoring

The co-ordinator will monitor medium term planning on a termly basis and provide a written report for staff. Work will also be scrutinized termly with a second member of staff. Again this information is presented to staff in a bid to continue to raise standards. Throughout each year the co-ordinator will also observe some Science teaching in all classes.

Evaluation

At the end of each half term teachers will review the work undertaken by the children and record their observations for future planning. At the end of the year the staff will evaluate the strengths and weaknesses of the children in their class through analysis of the tests. The co-ordinator will then look for trends and use this information to set curricular targets for the coming year.

Review of Policy

This policy will be reviewed and revised in line with developments in the National Curriculum and the School Improvement Plan.

Written September 2002	A.McCarthy
Revised October 2004	K Newbury
Revised July 2005	S Stevenson
Revised September 2007	M.Unsworth
Revised September 2008	L.Gray
Revised September 2009	L Gray

Approved by Governing Body.....

Date.....