

Broomwood Primary School

Science Policy

Rationale

The study of Science allows children to learn, and become curious about the phenomena and events in the world around them, whilst exploring throughout a thematic curriculum. We believe all children should be encouraged to believe, achieve and succeed for a brighter future, within a positive, enjoyable atmosphere, which inspires all to learn and grow!

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 new and revised 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 & Foundation Stage

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.

Within the foundation stage, science is taught within the Understanding the World area of learning. Objectives are obtained from the Development Matters document and children are assessed against the early learning goals at the end of the foundation stage.

Foundation Stage – Throughout their time in Nursery and Reception, children experience scientific concepts within the Knowledge and Understanding of the World area of learning. They are encouraged to observe using their senses and talk about patterns and change within their environment. Children explore and ask questions within a thematic curriculum, to make sense of the world around them. Eddy the explorer is used within the foundation stage to encourage observation and use of all the five senses.

Key Stage 1 provides opportunities within a thematic curriculum for the children to observe, explore and ask questions about physical processes, living things and materials and their properties. Using 'Eddy the Explorer' they will begin to work together to collect evidence to help them answer questions and to link this to simple scientific ideas.

Key Stage 2 provides opportunities for children, within a thematic curriculum, to learn about a wider range of physical processes, living things and materials and their properties. 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. Using 'Isaac the Investigator' more systematic investigations will be carried out, with children planning more independently.

Equal Opportunities and Inclusion

The School welcomes and values disabled people taking 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 comply with the Equalities Act 2010.

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.

Broomwood Primary School is committed to challenging discrimination and promoting equality at all levels and in all aspects.

Gifted & Talented

Children are continually supported to achieve their full potential. Where a child is showing a particular 'gift' for learning and understanding scientific phenomena, the class teacher and the subject coordinator work together to provide opportunities to extend learning further.

E Safety

When any aspect of ICT is used, the school's E safety policy will be followed.

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. However, as we teach science within a thematic curriculum, teachers may choose to block the science element of the topic and teach the children's entitlement over a number of days, rather than weeks.

Teaching and Learning

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 topic 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.

There should be a chance for children to explore using practical activities at the start of each topic. This will enable teachers to assess current knowledge and understanding and therefore plan to extend children's learning further. Throughout each topic, children are encouraged to investigate using 1 or more of the 5 types of scientific enquiry.

At the end of each topic (where the topic allows) children should plan and carry out a scientific investigation using 'Eddy the Explorer' in FS & KS1 and 'Isaac the Investigator' in KS2. Children should be encouraged to become independent in the investigation process and be able

to choose their own variables, where possible. Investigations should be formally written up within literacy lessons and data analysed within Numeracy.

Planning, Continuity and Progression

Long Term Planning: The Whole School Plan for the thematic curriculum outlines which topics each year group is studying. The plan is on a two year rolling rota, with an A year and a B year, due to year groups working together. Alongside the thematic plan there is a long term plan for science, outlining the scientific concepts to be studied within each topic.

Medium Term Planning: Each area of study has been broken up into key learning objectives (taken from the Clive Davies document) which form the basis for the teaching over a half term or term. This forms the scheme of work which is then used by individual teachers, in conjunction with other relevant schemes of work, to plan the progression of activities they would use over the half term/term to deliver the curriculum.

Short Term Planning: When investigations are linked to literacy and numeracy, lessons are planned on the weekly literacy and numeracy lesson plans.

The foundation stage take their learning objectives from the Development Matters document.

Cross Curricular Links

Where possible, science is fully integrated into our thematic curriculum, with links to other subjects. In many cases, science forms the main basis for the topic area. When necessary science will be taught discreetly, to ensure all objectives are being covered throughout the year or key stage.

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 a risk assessment is carried out for each classroom.

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 the dinner hall, 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:** Written report to parents.
Annual curricular targets.
- **Medium Term:** Teacher assessment sheets filled in after each topic stating whether each child is emerging, expected or exceeding.
- **Short Term:** Annotation on weekly and medium term planning.

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

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 science coordinator will write a report, highlighting the progress made and any implications going forward.

Review of Policy

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

Revised December 2014 by Louise Gray

Approved by Governing Body.....

Date.....