Braywood Cof E First School

'Aspire, Learn, Achieve'

Science Policy

"From little acorns, mighty oak trees grow, nurtured and watered by the love of God"

Our rationale for teaching science

Science is a body of knowledge which is built up through experimental testing of ideas and which is organised so that children at Braywood learn about the world around them in a structured and scientific way.
Science is 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 categorized into four attainment targets.

1. Scientific investigation
2. Life and living processes
3. Materials and their properties
4. Physical processes

We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability.

Aims

Our aims in teaching science are that all children at Braywood will:

- Retain and develop their natural sense of curiosity about the world around them.
- Develop a set of attitudes, which will promote scientific ways of thinking, including open-mindedness, perseverance, objectivity and a recognition of the importance of working co-operatively.
- Come to understand the nature of "scientific method" involving: careful observation, the making and testing of ideas, the design of fair and controlled experiments, the drawing of meaningful conclusions based on the evidence.
- Develop scientific language and begin to build up a body of scientific knowledge and understanding which will be a foundation for future learning.

Our teaching aims

- Teaching science in ways that are imaginative, purposeful, well managed and enjoyable.
- Giving clear and accurate teacher explanations and offering skilful questioning.
- Making links between science and other subjects.

Science is a core subject, has four attainment targets (see Our Rationale above) and a statement of breadth of study.

The breadth of study statement in the National Curriculum is concerned with issues such as the use of ICT, scientific language and health & safety.

Our role is to teach scientific enquiry through the contexts of the three key stage areas. Children in the Foundation stage are taught the science elements of the foundation stage document through the Early-Learning Curriculum: Understanding the World.

Strategies for teaching Science at Braywood

Planning for science is a process in which all teachers are involved to ensure that the school gives full coverage of the National Curriculum. Science teaching in the school is about excellence and enjoyment. We adapt and extend the curriculum to match the unique circumstances of our school.

KS1 children receive the equivalent of a minimum of one hour of science teaching per week, taught as a block each term.

KS2 children receive the equivalent of a minimum of one and a half hours of science teaching per week, taught as a block each term.

- Science work is integrated into a yearly programme of IPC and QCA topics for each year group, where ever possible. These are taught alongside similar topics in other areas of the curriculum.
- Children are often taught by means of co-operative group work, but where appropriate individual work and class teaching are all used.

Our Approach to Science:

- All teachers follow the IPC and QCA objectives.
- We have adopted parts of a commercial primary science scheme, which are adapted to our circumstances.
- Groups are often taught in mixed ability groups but also according to ability when appropriate.
- Teaching is by class teachers, a high level teaching assistant and by a teaching assistant in small groups following a programme devised by the class teacher.
- Classroom assistants are often used to support group activities and to provide extra help for children with special needs.
- ICT is used to enhance learning, to investigate and communicate ideas.
- Resources include DVDs, internet and specialised outside agencies.
- All scientific equipment is centrally resourced.
- The school combines these secondary sources with first-hand scientific enquiries, building children's science skills.
- We actively teach science skills, and reinforce learning with selected enquiry simulations.
- We encourage children to ask and answer questions as far as practical.
- Children complete at least one enquiry per term, taking increasing responsibility for their planning, carrying them out and recording/interpreting the results.
- We use homework to support activities.
- We use cross-curricula links to science with for example, design and technology units.
- We develop science informally through school visits, science weeks, outside visitors and other out-of- school activities.

Equal Opportunities in Science

Science is taught within the guidelines of the school's equal opportunities policy.

- We ensure all children have the opportunity to gain science knowledge and understanding regardless of gender, race, and class, physical or intellectual ability.
- Our expectations do not limit pupil achievement and assessment does not involve cultural, social, and linguistic or gender bias.

- We aim to teach science in a broad global and historical context, using the widest possible perspective.
- We value science as a vehicle for the development of language skills and we encourage our children to talk constructively about their science experiences.
- In our teaching, science is closely linked with literacy and mathematics.
- We recognise the particular importance of first-hand experience for motivating children with learning difficulties.
- We recognise that science may strongly engage our gifted and talented children, and we aim to challenge and extend them.

Assessment and recording

We use assessment to inform and develop our teaching.

- Topics commonly begin with an assessment of what children already know.
- Children are involved in the process of self-assessment, recognising their achievements and acknowledging where they could improve.
- We mark each piece of work positively.
- Work is levelled by comparing model answers.
- We have an assessment summative system to track children's progress. The science coordinator monitors progress through the school by sampling children's work at intervals throughout the year.
- Continual assessment is equally important, much of which is informal. This assessment is used to inform teaching throughout the school.
- The Y2 teacher assesses children's level of attainment at the end of the KS1 programme of study. This teacher assessment is based on assessment records and work samples.
- The school uses middle school tests to confirm its assessment of the level of children's work at the end of Year 4.
- Reports to parents are made verbally each term, and written once a year, describing each child's attitude to science, his/her progress in scientific enquiry and understanding of the content of science.

Review

This science policy will be reviewed by the science curriculum leader and staff every three years.

Angela Wilson and Christine Clarke