Broom Barns Primary School

Science Policy

September 2022

At Broom Barns, we aim to inspire and empower our children to learn by providing a stimulating and exciting learning environment. We provide a modern and relevant science curriculum to enable all children to achieve their full potential, regardless of gender, beliefs and academic ability. We want our children to have a passion for science and understand the impact it has on our daily lives. We want them to be constantly asking questions, both 'big' and 'small', as they seek to better understand the world they live in and the fundamental scientific laws that govern it. Therefore, this should develop good learning habits and an enthusiasm for skills, knowledge and understanding, leading to "Lifelong learning for all".

Our science lessons encourage the development of children's natural curiosity about the world. Children are given the opportunity to ask ambitious questions and think about the best way to find out the answers. It is through five types of scientific enquiry that this is achieved:

- Observing patterns over time
- Identifying, classifying, and grouping
- Using secondary research
- Looking for patterns
- Conducting fair and comparative tests

Aims:

At Broom Barns we believe children learn best through:

- weekly, differentiated, lessons that engage and challenge all learners
- lessons that focus on both working scientifically skills and knowledge
- teaching and learning activities enthuse, engage and motivate children to learn, and foster their curiosity and enthusiasm for learning
- having learning environments and resources that stimulate and inspire all children's learning
- there are strong links between home and school, and the importance of parental involvement in their children's learning is recognised, valued and developed
- experiencing visitors who share their expertise and help raise the science capital within our school
- lessons being planned alongside the National Curriculum Programme of Study, the Twinkl Science Scheme and other resources to ensure children are experiencing a range of topics which link to meaningful contexts, as well as cross-curricular links

Early Years and Foundation Stage:

Science is taught using the EYFS framework and matched with the statements for Understanding of the World, Physical Development, Communication & Language and Expressive Arts & Design. Activities are planned that encourage children to explore, observe, problem solve, predict, think, make decisions and talk about the world around them.

Key Stage 1:

For Key Stage 1, this involves the children asking simple questions and recognising that they can find out the answers in different ways. They will perform simple tests, observe closely using simple equipment and record their findings. They will then use their observations and ideas to suggest answers to questions.

Lower Key Stage 2:

In Years 3 and 4, the children are taught how to set up simple practical enquiries and begin to make some decisions about which types of scientific enquiry would be most effective. They begin to conduct fair tests, make systematic observations, take accurate measurements using standard units, use a range of equipment, record their findings using simple scientific language, through drawings, labelled diagrams, bar charts, tables, and finally, they learn how to use their results to draw simple conclusions.

Upper Key Stage 2:

In Years 5 and 6, the children's 'working scientifically' skills are further developed. They are now encouraged to independently plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. When taking measurements, the children now use a range of scientific equipment confidently, with increasing accuracy and precision, and are taught to take repeat readings when appropriate. The children record data and results of increasing complexity using scientific diagrams and a range of graphs. They are taught how to use their results to set up further comparative and fair tests, and present and explain their findings in both oral and written form.

Evidence in the learning environment:

- progress in the children's learning, specifically related to Science skills *and* knowledge (in their books, on the school website, working wall displays, in conversation, in their learning behaviours)
- Science resources used to support children's understanding of new concepts (scientific vocabulary, books, posters etc.)
- photos, resources and follow-up work from out-of-school learning in the classroom to emphasise the value of these experiences
- concrete materials to assist particularly with more abstract themes

- specialist resources used to build on children's skills where appropriate
- related out-of-school and enrichment activities
- the pace and depth of learning is maximised as a result of their monitoring of learning during lessons and any consequent actions in response to pupils' feedback
- they have high expectations for all children, and plan, resource and direct differentiated learning activities that give support and issue challenge for all

Monitoring:

- a monitoring cycle to support the progress of individuals and groups of learners: lesson observations, learning walks, planning and book scrutiny, pupil voice.
- Subject leader will ensure appropriate resources are sourced, related out-of-school learning opportunities are shared and links are made with other schools and institutions
- Subject leader will analyse planning and topic books to ensure individuals and/or groups are achieving their potential, including providing a provision for G&T children
- there is a broad and balanced curriculum map in place for all teachers to use which

Teachers will ensure:

- effective teaching strategies are used to successfully engage pupils in scientific learning
- ensures continuity and progression throughout the science curriculum
- they use their expertise, including their science subject knowledge, to develop pupils' knowledge, skills and understanding in a structured way, across the range of subjects and areas of learning
- use of key scientific vocabulary is emphasised and children are supported with using this within all science lessons
- well framed questions, knowledgeable answers and the use of discussion, promotes deep learning
- they ensure the children have opportunities to be active learners, using and developing their scientific enquiry skills
- the safe use of resources
- risks have been assessed carefully before carrying out any practical activities
- health and safety procedures are in place and are adhered to by all teachers
- parents are welcomed in to share in their children's science learning, through class workshops and Science Week activities
- ensure parents are informed about school events and relevant topics through regular newsletters, termly calendars, letters, text messaging, notice boards and the school website

DISSEMINATION OF THE POLICY

The policy will be given to all members of staff and copies will be available for parents on the school website.

PROCEDURES FOR MONITORING AND EVALUATION

The head teacher, the senior leadership team and governors will monitor the policy.