# BORROW WOOD PRIMARY SCHOOL

# Science Policy

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## Rationale

Science is about developing, understanding and making sense of our environment, primarily through child led investigations, exploration, and interaction with scientific phenomena and developing scientific language. It is a body of knowledge built up through experimental testing of ideas. Science is also methodology, practical way of finding reliable answers to questions we may ask about the world around us. Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, as well as using and applying process skills.

Planning should include "Big questions" as suggested in the Challenge Curriculum that the school has signed up for. These can viewed on their website and should drive science planning and the children's learning. As part of this scheme a "Pre" and "Post" learning challenge is set. This is to assess where the child's learning is before the topic and after.

## Aims

- To develop attitudes of curiosity, originality, cooperation, perseverance, open mindedness, self-criticism, responsibility and independence in thinking.
- Providing our children with an enjoyable experience of science, so that they will develop a deep and lasting interest and may be motivated to study science further.
- To develop pupil understanding of the effects of their actions on the environment.
- To prepare our children for life in an increasingly scientific and technological world.

## Objectives

- To develop the child's ability to observe and find patterns in observation, raise questions, experiment and investigate reason systematically and logically, solve problems and communicate.
- To develop manipulative skills using appropriate equipment.
- To complement other areas of the curriculum.
- To ensure that pupils know how to access relevant scientific information.
- To develop the ability to work in a variety of ways including, working together in groups, independently, in partners and as a whole class.
- To follow the new curriculum for science making sure that all statutory objectives are covered.
- To increase the profile of science within school.

## National Curriculum

For the year 2014-2015 Year groups 2 and 6 will follow the old science curriculum. The other year groups will follow the new science curriculum and cover the following aspects of science:

Key Stage One

- Working scientifically
- Plants
- Everyday materials and their uses
- Seasonal changes
- Living things and their habitats
- Animals including humans

Key Stage Two

As above and including:

- Rocks
- Light
- Forces and magnets
- States of matter
- Sound
- Electricity
- Properties and changes of materials
- Earth and space
- Evolution and inheritance

## Children's Experiences

The school will provide these scientific experiences through:

- The Foundation stage curriculum.
- Making science an integral part of the school experience.
- Using and applying science in practical, real life and problem solving situations using the appropriate scientific language.
- Visiting specialist from outside organisations to provide enrichment activities.
- Science days delivered once a term across the whole school. This will give children another opportunity to use their investigations skills.

## Equal Opportunities

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

- We ensure that all our 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, linguistic or gender bias.
- We aim to teach science in a broad global and historical context.
- We value science as a vehicle for the development of language skills, and we encourage our children to talk constructively about their science experiences.

- We exploit sciences special contribution to children's developing creatively; we develop this by asking and encouraging challenging questions and encouraging original thinking.
- In our teaching science is closely linked with English and mathematics. Children will have the opportunity to showcase their writing skills by cross curricula English activities such as instruction, diary and biography writing.
- We recognise the particular importance of first-hand experience for motivating all children.
- We recognise that science may strongly engage our gifted and talented children and we aim to challenge and extend them.
- We aim to ensure that teaching is matched to children's individual needs.

## Assessment

We use assessment to inform and develop our teaching.

- All topics begin with a pre-learning task to assess what the children already know and to enable next steps in their learning to be identified.
- Children are involved in the process of self-improvement, recognising their achievements and acknowledging where they could improve through teacher feedback, peer assessment and self-assessment.
- After the completion of a topic there will be a post learning task assessing children's attainment linked to the programmes of study for that scientific area.
- Assessment is continually under review in light of the changes to the new curriculum.
- A whole school tracking system is currently being developed in line with the new national curriculum expectations in science.
- The Y2 and Y6 teachers assess children's level attainment at the end of the KS1 and KS2 against the programmes of study. This teacher assessment is based on assessment records and work samples.

## Health and Safety

The children's safety is paramount and therefore all risks during lessons are assessed.

In all instances where there is a potential risk, teachers consult Be Safe (Health and Safety in School – science and technology).

## Resources

Science resources are located in a central store in the upper school building, including science related topic books. Auditing of resources is undertaken in the summer term annually. Members of staff inform the coordinators of any requirements for new apparatus.

## Monitoring and Review

It is the responsibility of the science subject leader to monitor the standards of children's work and the quality of teaching in science. The science subject leader is also responsible for supporting colleges in the teaching of science, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. The science subject leader provides the senior leadership team regular reports in which they evaluate the strengths and weaknesses in the subject and indicates various areas for further improvement. The science subject leaders have specially allocated time for fulfilling the vital task of reviewing samples of children's work, looking at planning and carrying out pupil interviews.