



## Science Policy

### Introduction

This policy outlines the teaching, organisation and management of Science taught and learnt at Queensway Primary School, Banbury.

At Queensway, we believe that Science should be an engaging and practical subject, making use of a variety of resources to provide hands on experiences for all children. Science lessons at Queensway will give the children a practical application of their mathematics and literacy skills, as well as helping them develop an open and enquiring mind.

This policy has been drawn up as a result of staff discussion and has the full agreement of the Governing body. The implementation of this policy is the responsibility of all teaching staff.

### Our Aims

#### At Queensway School we aim to:

- Provide opportunities for children to think scientifically
- To encourage/develop interest, enjoyment and enthusiasm in all pupils.
- To develop an enquiring mind and a scientific approach to problem-solving, through a range of interesting and enjoyable experiences.
- To encourage an awareness of continuing scientific advances and their impact on society.
- To relate science to everyday life through the use of everyday materials and situations.
- To develop attitudes of curiosity, tolerance and perseverance.
- To develop a systematic method of communicating and recording.
- To evaluate results and draw appropriate conclusions.
- To acquire and apply relevant scientific skills and knowledge.
- To learn to work safely and carefully.
- To develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- To develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.
- To ensure that children are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

#### Through Science we can:

- Improve and develop children's skills in literacy, ICT and maths.
- Develop children's thinking and discussion skills by asking questions and exploring ideas and concepts.
- Develop children's ability to work co-operatively with others.
- Promote an enquiring mind, encouraging children to ask "big questions" about the world around them and providing them with tools to help find the answers.

### Teaching and learning

Science is a core subject in the National Curriculum. At Queensway Primary School, the teaching of Science will be in line with the teaching and learning policy.

Our Science teaching is based on the National Curriculum Programme of Study and the application of our Progression of Skills document, giving children the opportunity to work scientifically. This ensures progression and development of scientific skills as the children move through the school.

The children in KS1 and KS2 will be taught to work scientifically across the year. As stated in the National Curriculum the children will focus on the disciplines of biology, chemistry and physics. The children will focus on the following areas-

**Years 1 and 2:** Animals including humans, plants, everyday materials and their uses, living things and their habitats.

**Years 3 and 4:** Animals including humans, light and sound, rocks, plants, forces and magnets, electricity, states of matter, living things and their habitats.

**Years 5 and 6:** Animals including humans, all living things and their habitats, Earth and space, light and how it travels, electricity, properties and changes in materials, inheritance and evolution.

Scientific investigations are carried out regularly, as opportunities for working scientifically are built into each unit of work. These include planning experimental work, obtaining evidence and considering evidence. To aid the planning of experiments and investigations and record their findings children may use the 'house planning frame' (annex 1), teachers may also use alternative planning frames to suit the needs of their class. Children will be taught to read and spell scientific vocabulary through each of their units of work. Children will experience a mixture of whole class, group and individual practical tasks, and the complexity of these increases with their age and ability.

They will begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways.

Similarly, scientific words are introduced, revised and displayed, within each unit, so children develop an increasingly wide scientific vocabulary, which they are encouraged to use to explain their findings and demonstrate their knowledge. These are key factors in developing their scientific vocabulary and articulating scientific concepts clearly and precisely. Cross-curricular links are made with writing to apply key scientific vocabulary and show understanding and meaning in other areas of the curriculum.

- In the EYFS, children will learn about science through the 'understanding of the world' area of learning. Much of this learning will occur through playing and exploring, active learning and creating and thinking critically. This will build a firm foundation to develop scientific learning when they enter KS1.
- In KS1, children will begin to be introduced to scientific concepts through practical experiments. They will start to build up scientific vocabulary and develop an understanding of how the world around them works. They should start to record the results of their experiments in an appropriate format. Children will be encouraged to ask questions and expand their knowledge across the areas of science teaching. Most of the learning about science will be done through the use of first-hand practical experiences, but there will also be some use of appropriate secondary sources, such as books, photographs and videos.
- In KS2, children build upon the skills learnt in KS1, their understanding of scientific ideas will increase, following on logically from their previous learning. They will have a broader range of vocabulary which they can apply when writing about their experiments and investigations. Ever increasing links with the literacy and mathematics curriculum will be made, with children encouraged to apply their skills to their scientific learning. Children are encouraged to think more deeply about scientific concepts; allowing them to design and carry out their own investigations, making choices about methods and equipment used.

## Resources

School science resources are kept centrally and a list is updated annually, and distributed to staff with a copy kept by the Science Co-ordinator. Should staff be unable to find what they need, they should consult the Science Co-ordinator. Staff will also be consulted regarding the purchasing of new items. The coordinator will endeavor to keep resources in good working order, and to assist with this, staff are requested to report any breakages or significant wear and tear.

## ICT

Teachers ensure that children have the opportunity to use ICT and apply their skills through their work in Science. The use of ICT is noted in the medium term plans produced by teachers, and is incorporated whenever possible. Examples of ICT used may include electronic microscopes, data loggers, microphones as well as use of the computers to access virtual experiments and video clips to aid understanding.

## Assessment

Through contributions to discussions, answers to questions, Assessment for Learning (AfL), marking work and photographic and video evidence of children's progress will be monitored throughout the year. Staff will formally assess the children after each Science unit and record this at the end of the Medium Term Plan (MTP). The class teacher at the end of the year will judge which children are working towards, at expected or working above expected in science overall. This information is shared with SLT and Governors.

## Monitoring, Evaluation and Review

In collaboration with the Head Teacher the subject co-ordinator is responsible for an annual development plan for Science and for monitoring and evaluating the quality of teaching and learning within the school. Children's work will be assessed, scrutinised and monitored in line with the Teaching and Learning Policy and the school's Marking Policy.

## The Role Of The Science Co-ordinator

The Science Co-ordinator will support other teachers in delivering quality teaching and learning through giving advice and ensuring that teachers have the necessary training and support to feel confident in delivering an appropriate Science curriculum. The Science Co-ordinator will keep up to date with any changes to the Science curriculum and communicate these to other members of staff. The Science Co-ordinator will take responsibility for ensuring that resources meet the needs of the curriculum.

## Review

This policy will be reviewed every three years by the appropriate governing body sub-committee. Any alterations will be ratified by the full Governing Body.

Chair of Committee ..... Date .....

Head Teacher ..... Date .....