

# Science Policy

## Overview

This policy for Science teaching and learning is underpinned by the school's generic curriculum policy for foundation subjects that sets out guidelines, practise etc. that should be adhered to in all foundation subjects. The areas covered in the generic curriculum policy are as follows:

- Curriculum coverage
- Teaching and learning guidelines
- Roles and responsibilities
- Inclusion
- Assessment, recording monitoring and reporting
- Key competencies

## 1) Aims and Opportunities

### 1.1 Aims

Young learners have a natural curiosity about the world around them and through science we aim to sustain and develop this, by providing purposeful scientific activities and opportunities to help understand how natural phenomena can be explained. Bridstow School promotes the use of enquiry, exploration and observation within a meaningful context. Working independently and in groups the children are encouraged to ask questions and investigate why things happen. Children develop an understanding of the way science contributes to today's world and how it can impact on their future. Preparing our pupils for further study of science at high school and for life and work thereafter is a central aim of our science curriculum as well as providing them with a fascination and love of the scientific processes involved. Our planning and practice is based upon the 2014 National Curriculum for science.

### 1.2 Opportunities

Science offers opportunities for children to:

- Build their knowledge, understanding and skills through exploration and development of our outdoor spaces and the local environment.
- Develop a respect for all living things and the environment and an understanding of their interdependence.
- Learn through enquiry-based projects where science, technology, maths and other subjects come together as one.
- Develop an interest and understanding of the ways in which scientists from the past and present have developed scientific ideas and how these contribute to our lives.
- Explore and understand different aspects of science in the news and media and consider how their choices can make a difference

## 2) Organisation and Planning

### 2.1 Time allocation

Science is a core subject and will be taught regularly every week to build on skills and provide continuity. Each week teachers will spend a minimum of two hours teaching time dedicated to developing science knowledge and skills. Opportunities within the school week to enhance the science curriculum beyond science lessons will also be taken so that children can engage in cross-curricular or thematic learning linked to science.

### 2.2 Planning

The Bridstow Primary Science Progression document provides the framework for learning and teaching in science. Because of Bridstow's combined year group model, long term planning is based upon a 2-year rolling programme to ensure complete coverage and progression for all pupils (See long-term plan). Each term, a new science topic is taught, which builds on previous learning of this topic in earlier year groups. Teachers plan a sequence of lessons based on the learning objectives for that year group, using the key questions, suggested teaching activities and recommended texts to engage the children and provide opportunities to follow different lines of enquiry. These include, comparative tests, identifying and classifying, observation over time, pattern seeking and research. Working scientifically is embedded within the teaching of each science topic, and pupils seek answers to questions through collecting, analysing, and presenting data. The Bridstow Primary Working Scientifically Progression is used to ensure skills are taught progressively throughout each key stage.

The curriculum taught in Reception meets the requirements set out in the National Curriculum at Early Years Foundation Stage. We plan the curriculum carefully for coherence and progression, focusing on developing children's skills and experiences and ensuring full coverage of all aspects of the early learning goals. We teach science IN EYFS as an integral part of the topic work covered during the year. Science makes a significant contribution to the objectives in the EYFS of developing a child's knowledge of the world.

### **2.3 Scientific Literacy**

Ensuring pupils use scientific vocabulary with understanding is a key aim of our science curriculum. At the beginning of each science topic, key vocabulary is shared through knowledge organisers or via vocabulary lists, made available on Seesaw, displays or in books. Through explicit discussion, probing of misconceptions and teacher modelling, pupils learn to reason and explain their scientific ideas.

### **2.4 Extending the curriculum**

At Bridstow we extend the curriculum by offering regular outdoor learning based around our local environment and through visits to Ross Community Gardens and other outdoor locations. We work collaboratively with Brampton Abbots Primary School to plan an annual science week based on a theme, where pupils from different key stages have the opportunity to be inspired and learn together. Pupils share their learning during assemblies and examples of work are shared with parents via Seesaw. Our science ambassador training provides pupils with the chance to work with other schools to develop their knowledge of science concepts and the skills needed to share this with pupils at Bridstow. Pupils will also have the opportunity to visit a science museum, such as 'We the Curious' in Bristol or 'Techniqest' in Cardiff.

### **2.5 The learning environment**

We aim to provide a learning environment where children feel secure and where creative risk-taking and problem-solving is encouraged. Our 'outdoor classroom' provides a meaningful way to engage learners in practical science, giving them experience of collecting and analysing data, and making predictions in the real world. The wider educational benefits of teaching and learning science through our natural environments include teamwork, motivation, and its potential to influence positively the choice of science as a future subject of study.

### **2.6 Management and organisation of resources**

The science subject leader will take responsibility for auditing science resources and equipment, which will be stored in our Fizz-Lab Trolley or in our or in our shared store areas around the school (corridor, stock room or cupboard off hall). Science topic-based boxes can be taken to the classroom for the duration of a particular topic and should be returned to the science store after. A request for alternative or additional resources can be made at the end of a term, in preparation for the following term. The Fizz-Lab Trolley can be taken to the classroom for science lessons, and this provides access to a arrange of

scientific equipment for example, magnifying glasses, crocodile clips, beakers, measuring cylinders, goggles etc.

### **2.7 Health and safety**

It is the duty of all staff to take reasonable care for the health and safety of themselves and others during science teaching. Teachers will always teach the safe use of equipment and resource and insist on good practice. Children will be taught how to take steps to control risks.

Where relevant specific risk assessments will be created (with support from professional risk management advisors) for science lessons/events over the school year.

### **3) Links with other subjects and key competencies**

Our teaching of science promotes and supports the development of children's communication and mathematical skills. For example, they build up an extended specialist vocabulary in science and apply their mathematical knowledge to their understanding of the subject, including collecting, presenting and analysing scientific data. Our science curriculum also links with other subjects, for example in geography when learning about the 'rainforest' children explore the 'living things and their habitats' science topic; in history when learning about the 'stone age era' children find out about 'fossils, rocks and soils'. Teachers use these opportunities to extend children's understanding of science concepts outside of the science lesson.