

# **Science Policy**

## **Intent**

“At Corfield, we believe the children should have the opportunity to **ACHIEVE** and progress in their learning and their life. They should be given the confidence to **BELIEVE** in and respect themselves, God and others and use their skills to **CARE** and communicate to ensure a better tomorrow.”

Science in Key Stage One, as in all other stages, is about developing a deep understanding of the world around us. It is concerned with a particular part of this world, the living and the non-living materials in it, and with understanding which is developed through testing ideas against available evidence. Learning science is the gradual building of these ideas and of the skills required to test ideas to see if they fit evidence from the world around. It is the job of science education to extend experience, to develop scientific ones. For the child learning science, as for the scientist, the way understanding develops depends both on the existing ideas and on the process by which those ideas are used and tested in new situations.

### **1 Aims and Objectives**

Science teaches an understanding of natural phenomena. It aims to stimulate and encourage every child's curiosity in finding out why things happen in the way they do. It teaches methods of enquiry and investigation to stimulate creative thought. Children learn to ask scientific questions and begin to appreciate the way science will affect their future on a personal, national, and global level.

#### **1.1 The aims of science are to enable children to:**

- Build on their natural curiosity
- Work scientifically and develop their scientific knowledge
- Learn and develop a variety of scientific skills

- Be stimulated to investigate, question and develop attitudes of science
- Learn how to communicate ideas using appropriate scientific language, diagrams and graphics.
- Explore how to evaluate their findings and suggest explanations, improvements and adaptations.
- Be exposed to a wide variety of experiments and experiences to generate awe and wonder.
- Have equal opportunity to explore the world around them and be part of those real ‘WOW’ moments.
- Be excited to become lifelong learners.

## **2 Teaching and learning style**

**2.1** At Corfield, we have adopted the White Rose Science scheme to ensure coverage and progression of skills from Reception to Year 2. As part of this we use a variety of teaching and learning styles in Science lessons in order to develop children’s knowledge, skills and understanding.

Children are given the opportunity to work scientifically and to experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions. They are given the opportunity to gather data through simple tests, to record this data and to talk about what they have found out as a result of their investigations. Through teacher modelling and child talk they begin to use and understand simple scientific vocabulary. Teachers will ensure that children’s scientific knowledge is developed and deepened as a part of science lessons. Children will use ICT in lessons where it enhances their learning. They take part in discussions, and have the opportunity to present their work to the rest of the class.

**2.2** We recognise that there are children of widely different scientific abilities in all classes and we ensure that we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child.

We achieve this in a variety of ways by:

- setting common tasks which are open-ended and can have a variety of responses;
- grouping children by ability in the room and setting different tasks for each ability group;
- providing resources of different complexity, matched to the ability of the child;
- using teaching assistants to support the work of individual children or groups of children.
- ensuring we have a high level of knowledge about the child's abilities and also **believing** and **caring** that every child can **achieve** their best.

### **3 Science curriculum planning**

As part of the White Rose scheme of work, children are actively taught how to work scientifically through eight key areas:

- Ask questions
- Plan (mainly verbally at Key Stage One)
- Make observations
- Take measurements
- Gather, record and classify data
- Present findings
- Answer questions and make conclusions

### **4. The contribution of science to teaching in other curriculum areas**

#### **4.1 English**

Science contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening.

The children develop oral skills in science lessons through discussions, debates, questioning and presenting their findings or observations of scientific experiments. They develop their writing skills through writing reports and by recording information using such skills as labelling diagrams and drawing tables of results. They are encouraged through science to become deep thinkers and to question things, another fantastic speaking and listening skill. The vocabulary learned through science lessons will enhance their personal word banks too. They will also feel more confident when reading nonfiction texts and writing non chronological reports.

#### **4.2 Mathematics**

Science contributes to the teaching of mathematics in a number of ways. The children use weights and measures and learn to use and apply number. Through working on investigations they learn to estimate and predict. They develop the skills of accurate observation and recording of data.

#### **4.3 Information and communication technology (ICT)**

Children use ICT in science lessons where appropriate. School computers, laptops and iPads are there to support the children to access the internet to research and to enable them to present their work in a different media. ICT is regularly used by teachers in lessons when creating some of the ‘WOW’ moments and when accessing resources during lessons such as videos on YouTube, BBC Teach or for activities on Explorify and Purple Mash.

#### **4.4 Personal, social and health education (PSHE) and citizenship**

Here, at Corfield we value PSHE as one way to support children’s development as human beings, to enable them to understand and respect who they are, to empower them with a voice and to equip them for life and learning.

We include the statutory Relationships and Health Education within our whole-school PSHE Programme, many of these lessons share content with our science lessons about the changing body and life cycles. To ensure progression and a spiral curriculum, we use Jigsaw, the mindful approach to PSHE, as our chosen teaching and learning programme and tailor it to your children's needs. The mapping document: Jigsaw 3-11 and statutory Relationships and Health Education, shows exactly how Jigsaw and therefore our school, meets the statutory Relationships and Health Education requirements.

#### **4.5 Spiritual, moral, social and cultural development**

Science teaching offers children many opportunities to examine some of the fundamental questions in life, for example, the evolution of living things and how the world was created. Through many of the amazing processes that affect living things, Corfield C of E Infant School children develop a sense of awe and wonder regarding the nature of our world. Science raises many social and moral questions. Through the teaching of science, children have the opportunity to discuss moral questions involved in issues. We give them the chance to reflect on the way people care for the planet and how science can contribute to the way we manage the earth's resources. Science teaches children about the reasons why people are different and, by developing the children's knowledge and understanding of physical and environmental factors, it promotes respect for other people.

### **5 Inclusion statement**

**5.1** Science forms part of the school curriculum policy to provide a broad and balanced education to all pupils. Through our science teaching, we provide learning opportunities that enable all pupils to make good progress.

We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those that require further extension and challenge, and those learning English as an additional language, and we take all reasonable steps to achieve this.

**5.2** Assessment against the National Curriculum allows us to consider each pupil's attainment and progress against expected levels. This ensures that our teaching is matched to the pupils' needs.

**5.3** We enable all pupils to have access to the full range of activities involved in learning science. Where pupils are to participate in activities outside the classroom (a trip to a science museum, for example), we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

**5.4** Those children who have a statement of special needs will be provided with an IEP (Individual Education Plan). This will direct their level of support in science lessons.

## **6 Assessment and recording**

**6.1** Teachers will assess pupils' work in science by making informal judgements during lessons. On completion of a piece of work, the teacher assesses it using the objectives for that lesson. Work is then marked and next steps provided, in line with the marking policy. Opportunities are given to respond to extend learning if necessary.

**6.2** The children are assessed at the end of each unit as set out in the White Rose scheme. The teacher records the data on iTrack on a termly basis and this is reviewed by the Head Teacher and science co-ordinator. We use these judgements as the basis for assessing the progress of each pupil, and we pass this information on to the next teacher (or next school in the case of our year 2 students) at the end of the year.

**6.3** The White Rose scheme for science allows time for consolidation and re-visiting topics that may need more time for understanding or extension.

## **7 Resources**

**7.1** Year specific planning resources are kept in year group classrooms. Additional resources are kept in the staffroom. We have sufficient resources for all science teaching units in the school. A collection of science equipment is kept in trays in the central resource cupboard.

**7.2** We are lucky enough to have a wonderful outdoor space that allows us a great selection of natural resources.

## **8 Monitoring and review**

**8.1** It is the responsibility of the science co-ordinator to monitor planning and the standards of teaching and learning in science. The science co-ordinator is also responsible for supporting colleagues 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.