



## Ashmole Primary School

### Science Policy

#### Introduction

The school's policy for science is based on the 2014 Curriculum for Key Stages 1 and 2. The policy has been drawn up to reflect the whole school approach to science including the aims, principles and strategies for the learning and teaching of Science at Ashmole Primary School.

Science teaches an understanding of natural phenomena. It aims to stimulate a 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.

The aims of science are to enable children to:

- Ask and answer scientific questions;
- Plan and carry out scientific investigations, using equipment, including computers, correctly;
- Know and understand the life processes of living things;
- Know and understand the physical processes of materials, electricity, light, sound and natural forces;
- Know about the nature of the solar system, including the earth;
- Evaluate evidence and present their conclusions clearly and accurately.
- 

#### Teaching and learning style

We use a variety of teaching and learning styles in science lessons. Our principal aim is to develop children's knowledge, skills and understanding. Sometimes we do this through whole-class teaching, while at other times we engage the children in an enquiry-based research activity. We encourage the children to ask, as well as answer, scientific questions. They have the opportunity to use a variety of data, such as statistics, graphs, pictures, and photographs. They also use Computing in science lessons where appropriate. Wherever possible, we involve the pupils in 'real' scientific activities, for example, researching a local environmental problem or carrying out a practical experiment and analysing and presenting results.

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;
- Setting tasks of increasing difficulty (we do not expect all children to complete all tasks);
- 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 support staff to guide the work of individual children or groups of children.

## **Science Curriculum Planning**

The school follows the programme of study outlined in the Curriculum 2014. We carry out our curriculum planning in science in three phases (long-term, medium-term and short-term). The long-term plan maps the scientific topics studied in each term during the key stage. The science subject leader works this out in conjunction with teaching colleagues in each year group. In some cases, we combine the scientific study with work in other subject areas; at other times the children study science as a discrete subject. Our medium-term plans give details of each unit of work for each term. The class teacher is responsible for writing the short-term plans. These plans list the specific learning objectives, activities and outcomes for each lesson.

We have planned the topics in science so that they build upon prior learning. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit and we also build progression into the science scheme of work, so that the children are increasingly challenged as they move up through the school.

## **Early Years Foundation Stage**

We teach scientific skills in the reception class as an integral part of the topic work covered during the year. We relate the scientific aspects of the children's work to the objectives set out in the Early Years Outcomes. Science makes a significant contribution to achieving the Early Years Outcomes and understanding of the world, e.g. through investigating what floats and what sinks when placed in water.

## **The contribution of science to other subjects**

### **English**

- Reading texts of a scientific nature
- Discussing what they have learnt
- Recounting their observations of scientific experiments
- Writing reports and recording information

### **Maths**

- using weights and measures and applying number
- estimating and predicting in investigations
- Recording, presenting and interpreting data
- Reviewing, modifying and evaluating their work
- Taking measurements

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

- Raising matters of citizenship and social welfare.
- Taking part in debates and discussions.
- Organising campaigns on matters of concern to them
- Promoting the concept of positive citizenship.
- Understanding their bodies and how to keep them healthy

## **Assessment and recording**

We assess children's work in science by making informal judgments as we observe them during each science lesson. At the end of a unit of work, the teacher makes a summary judgement about the work of each pupil in relation to the expectations stated in the medium term planning. These judgements are recorded against the 'I can...' statements inside the pupil's book. In addition to this we use Rising Stars Progress Tests at the end of each unit of work to track pupil progress. We use this to inform future planning and we pass this information on to the next teacher at the end of the year.

Teachers use the judgments made at the end of each unit to make an overall assessment of the children's work in science at the end of each year.

### **Resources**

We constantly review that there are sufficient resources for all science teaching units in the school. We keep these resources in a central store. The library also contains a supply of topic books to support children's individual research.

### **Equal Opportunities/Special Educational Needs**

We ensure that all pupils have equal access to a broad and balanced curriculum regardless of age, gender, race and ability.

All children will participate in Science activities. Tasks will be differentiated to provide appropriate challenges to specific individuals and groups. Adult support will be used when appropriate.

### **Health & Safety**

Activities are planned with due regard to our Health & Safety policy. Risk assessments are undertaken as appropriate.

When working with tools, equipment and materials in practical activities and in different environments, pupils should be taught:

- about hazards, risks and risk control;
- to recognise hazards, assess consequent risks and take steps to control the risks to themselves and others;
- to use information to assess the immediate and cumulative risks;
- to manage their environment to ensure the health and safety of themselves and others;
- to explain the steps they take to control risks.

### **Monitoring and review**

Monitoring of the standards of children's work and of the quality of teaching in science is the responsibility of the science subject leader. The work of the science subject leader also involves supporting colleagues in the teaching of science, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

September 2023

To be reviewed September 2024