



## Science Policy

This document outlines the guiding principles of the teaching and learning of science at Monksdown Primary School. It also provides a framework for all staff with classroom responsibilities to work within, by providing guidance for planning, teaching and assessment.

### Rationale for teaching science

Science is a body of knowledge built up through the experimental testing of ideas. Science is also methodology, a 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. Science is also a collaborative activity where ideas and suggestions are shared and investigated together. Through practical activities and team work, children experience and learn how to work together have mutual respect for one another and value social cohesion. Our aims in teaching science include:

- Preparing our children for life in an increasingly scientific and technological world.
- Fostering concern about, and active care for, our environment.
- Helping our children acquire a growing understanding of scientific ideas.
- Helping develop and extend our children's scientific concept of their world.
- Developing our children's understanding of the international and collaborative nature of science.
- Encouraging the development of positive attitudes to science by:
  - Building on our children's natural curiosity and developing a scientific approach to problems.
  - Encouraging open-mindedness, self-assessment, perseverance and responsibility.
  - Building our children's self-confidence to enable them to work independently.
  - Developing our children's social skills to work cooperatively with others.
  - 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.
- Develop scientific skills by:
  - Giving our children an understanding of scientific processes.
  - Helping our children to acquire practical scientific skills.
  - Practising the skills of investigation - including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
  - Developing the use of scientific language, recording and techniques.
  - Developing the use of ICT in investigating and recording.
  - Enabling our children to become effective communicators of scientific ideas, facts and data.

## **Our teaching aims**

Through the framework of the National Curriculum 2014 we aim to:

- Teach science in ways that are imaginative, purposeful, well managed and enjoyable;
- Encourage and support children to ask questions about the world and use scientific processes to try and answer them;
- Support children to make links between science and other subjects.

## **School Curriculum**

Our curriculum follows the Programme of Study set out in the National Curriculum. Key Stage 1 and 2 teachers are expected to use the LPDS Curriculum Support Materials as guidance to help them plan lessons. All planning for the LPDS Curriculum Support is available electronically on the staff drive. An overview of the science curriculum is available online.

## **Planning & Teaching**

In EYFS children develop scientific skills through play-based learning in the prime areas learning (Communication, Physical and PSED) and the 'Understanding the world' strand of learning.

In Key Stages 1 and 2, teaching of science is planned using the National Curriculum 2014 and the LPDS National Curriculum Support Materials, which are adapted to suit their children's needs, their own teaching style and resources available. Where science is a 'Lead Subject' in the LPDS document, science is taught weekly in discrete lessons.

Teaching in Key Stages 1 and 2 should be completed in the following order:

- pre-assessment to ensure children have the prerequisite skills and knowledge (as per progression documents);
- development of scientific knowledge and understanding of scientific concepts;
- development of scientific skills through investigation and enquiry (using newly acquired knowledge and understanding);
- end of unit assessment.

## **Progress & Assessment**

Teachers should use the PLAN/ASE progression documents and PLAN/ASE Primary Science – Supporting Assessment documents to ensure work is planned to meet the expected standard or above, assess children's work and ensure progress.

Assessment for learning is continuously undertaken by teachers throughout the planning, teaching and learning cycle. Teachers assess children's work in science by:

- Observing pupils at work, individually, in pairs, in a group, and in classes.
- Questioning, talking and listening to pupils
- Considering work/materials/investigations produced by pupils together with discussion about this with them.

An overall assessment should be made at the end of each unit. At the end of each unit of work, class teachers should assess children's achievement in terms of scientific knowledge and skills. At the end of the year, these assessments should be used to make an overall judgement should be made on

whether each child is meeting the expected standard or not. The PLAN Assessment Matrices should be used to aid judgements.

Pupils' progress is continually monitored and tracked throughout their time at Monksdown Primary School. Records of assessment will be recorded on Target Tracker as outlined in the school's Assessment Policy.

The Y2 & Y6 staff assess children's attainment and progress at the end of each key stage. This is based on assessment records and work samples from across the key stage and is supported by the science coordinator and previous class teachers if needed.

### **Health and Safety**

At Monksdown Primary School we follow the guidance recommended in the ASE document, 'Be Safe 4th Edition: Health & Safety in School Science & Technology for Teachers of 3-12 Year Olds', a copy of which is available from the Science Subject Leader.

During practical Science investigations, it is not possible to remove all risks and hazards. The important consideration is that the pupils should be carefully supervised in rooms where the activity is well managed and the pupils learn to work in safe, appropriate ways.

Teachers need to think about any possible dangers and take necessary precautions through risk assessment. There are a number of tools that are potentially hazardous, such as scissors, knives, heat sources and chemicals and their suitable storage is as important as their sensible and safe use. Plastic containers should be used instead of glass jars. Tools and materials should be labelled. Staff should follow the school's Health & Safety Policy know the procedure to follow should an accident occur.

The pupils should be encouraged to develop an awareness of safe working practices such as:

- wearing protective clothing such as safety glasses and vinyl gloves (where necessary)
- tying back long hair
- washing their hands after handling chemicals or potentially hazardous materials.

### **Inclusion and Equal Opportunities**

All teaching and non-teaching staff at Monksdown Primary School are responsible for ensuring that every pupil, regardless of gender, race, culture, background and ability have the opportunity to experience education at an appropriate and challenging level. To ensure that pupils experience high standards of success, Science needs to be taught with regards to pupil's abilities to ensure progress. We aim to identify and minimise barriers to learning and take account of gender, ability, disability, social, cultural, and linguistic background when planning lessons. Provision is made to enable all pupils to participate effectively in curriculum and assessment activities. A wide range of gender specific and cultural images that challenge stereotypes will be used.

This policy ensures that certain aspects of Science are not seen as more appropriate for boys or girls. Individual teachers consider carefully the groupings they have. These might depend on the experiences the children have had in their home environments.

## **Accessibility and Teaching Science to pupils with Special Educational Needs**

We teach Science to all pupils, whatever their ability, in accordance with the information set out in our school curriculum overviews, providing a broad and balanced curriculum to all. Teachers provide learning opportunities matched to the needs of children of all capabilities, setting and reviewing appropriate targets.

### **Subject Leadership**

The Subject Leader will:

- Ensure that the subject is regularly discussed, reviewed and monitored within the school;
- Keep resources up-to-date and relevant, particularly in preparation for each unit of work;
- Promote good subject practice throughout the school;
- Set a good example of subject practice;
- Support long term planning for the whole school;
- Inspire learning;
- Provide support and guidance to colleagues on teaching the units of work;
- Purchase and organise resources;
- Maintain equipment and make them easily accessible for teachers;
- Attend courses for CPD and report back to staff.

### **Policy Review**

This policy was last reviewed: Spring 2020

Date of next review: Spring 2022