



## SCIENCE POLICY

### **RATIONALE**

Science has changed our lives and is vital to the world's future prosperity. A high-quality science education provides the foundations for understanding the world we live in. At Norwood, we believe that teaching and learning in Science should stimulate and excite children's curiosity about the world around them. It provides first-hand experience and support for children to develop enquiring minds, learn how to question and discuss science through collaboration.

### **AIMS AND OBJECTIVES**

Our aims for Science are:

- To foster pupils' excitement and curiosity and enable them to investigate the world around them in an organised way.
- To improve pupils' understanding and enjoyment of the world by introducing them to the body of scientific knowledge through the specific disciplines of biology, chemistry and physics.
- To equip pupils with scientific skills appropriate for their development: i.e.
  - to think logically
  - to observe, question, predict and hypothesise
  - to plan and carry out practical investigations
  - to record, interpret and communicate scientific findings
  - to apply scientific knowledge.
- To promote pupil's spiritual, moral, social and cultural development.

We believe this will be a foundation for learning and offer our children a broad and balanced primary curriculum which will build on previous experiences and develop wider concepts or ideas.

### **TEACHING AND LEARNING APPROACHES**

We use a variety of teaching and learning styles in Science lessons. 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. Throughout their learning they have the opportunity to:

- use a variety of data, such as statistics, graphs, pictures, and photographs.
- use ICT in Science lessons because it enhances their learning.
- take part in discussions and present their findings to the rest of the class.
- engage in a wide variety of problem solving activities which involves carrying out practical experiments and analysing the results.

We recognise that in all classes, children have a wide range of abilities 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. In the Foundation Stage, learning is instigated by the children, as they acquire an understanding of the world around them. In Key Stage 1 and 2, the programmes of study are set out year-by-year. They are divided up into the following sections and children are expected to read, use and spell topic-related scientific vocabulary correctly and with confidence.

1. Working Scientifically.
2. Biology (which includes):
  - plants
  - living things and their habitats
  - animals, including humans
  - evolution and genetics
3. Chemistry (which includes):
  - materials
  - rocks and fossils
4. Physics (which includes):
  - motion and forces
  - light
  - sound
  - magnetism
  - electricity
  - Earth and space

## **PLANNING**

Science is a core subject in the National Curriculum. The school follows the programmes of study set out by the government. We carry out the curriculum planning in Science using long-term and medium-term plans. The long-term plan maps the scientific topics studied in each term during the key stage. Our medium-term plans give details of each unit of work and define the key learning outcomes. They give a brief description of what is to be covered and which skills, attitudes, concepts, scientific vocabulary and knowledge are to be developed. All the planning is stored in files on the staff drive for easy access and monitoring by teachers and subject leaders. Planning will ensure that, in addition to the requirements of the National Curriculum, there are frequent and regular opportunities to enhance learning through cross-curricular teaching, extra-curricular activities, school projects and the annual Science Day. We further enhance children's scientific knowledge and understanding during termly Forest Schools lessons.

## **ASSESSMENT AND RECORDING**

Assessment is an integral part of effective teaching and learning. It allows progress to be recognised and celebrated and it informs the next steps and priorities of both teachers and learners. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study. At Norwood, teacher assessment is an on-going process and is used to move the children forward. Each piece of work is marked positively in line with the School's Marking policy, making it clear verbally, or on paper, where the work is good, and how it could be further improved.

At the beginning of the topic, children will be introduced to the Big Question of the Science unit, and attempt to answer it using their prior knowledge. At the end of the topic, they will answer it again, drawing on their learning during the unit.

Throughout the year, teachers will complete summative assessment sheets after a learning objective has been taught to monitor a child's depth of understanding. This gets passed up to the next year group. Data is inputted in Summer term and analysis is completed by subject leads, ascertaining strengths and weaknesses. Years 2 and 6 need to submit teacher assessments at the end of the academic year. Testing may be used to confirm judgements.

## **RESOURCES**

We have resources for all the science teaching in school. These are located in the Science resource room and are boxed and labelled for easy identification. In conjunction with Computing, every year the group has a range of scientific software to enhance their learning. In addition, the school has a well-stocked library that provides a useful reference point.

## **TIME ALLOCATION**

Given that Science is a core subject, it is taught weekly as an exclusive subject.

## **SPECIAL EDUCATIONAL NEEDS/GREATER DEPTH**

All pupils have access to materials and opportunities that are suitable to their specific needs. More able pupils are challenged with open-ended tasks which provide opportunities to tackle more complex issues and to use a wider range of resources.

A whole school approach underpins success for pupils with dyslexia and special needs. We recognise that pupils with dyslexia and special needs are likely to experience higher levels of stress than their peers and that this will impact on their learning and their emotional well-being. To respond to this, we provide differentiation, multi-sensory strategies and a dyslexia-friendly environment. Differentiation through activity, resources and outcome is used to maintain the high expectation we have for all our pupils.

## **HEALTH AND SAFETY**

The general teaching requirement for health and safety applies in this subject. We encourage children to consider their own safety and the safety of others when handling materials and equipment responsibly and with confidence. Time is spent explaining why certain things are dangerous and how danger can be avoided. Teachers refer to the School's Health and Safety Policy and the safety procedures recommended in the DfE 'Health and Safety of Pupils on Educational Visits' guidelines for the educational visits aspects of this subject.

## **REVIEW**

This policy will be reviewed at least every three years by the Standards and Curriculum Committee of the Governing Body