



Whitefield Primary School

Science Policy

Updated: October 2021

Review date: September 2022

Written by L. Nugent

Aims

The aim of this policy is to outline the teaching, organisation and management of science taught and learnt at Whitefield Primary School. The school's policy for science is based on the 2014 Curriculum for Key Stages 1 and 2.

Science helps children make sense of phenomena and events in the world around them. Using the Programmes of Study from the National Curriculum our aims are to:

- Provide a stimulating and exciting curriculum.
- Encourage children to enquire, explore and observe, so that they can raise questions about themselves and their environment.
- Develop the skills children need to devise ways of finding out answers to their questions and satisfy their curiosity.
- Develop scientific knowledge and positive attitudes to science.
- Develop children's initiative and ability to work both independently and in co-operation with others.
- Develop an ability to communicate scientific ideas and findings in a variety of formats using appropriate scientific language.
- Develop an ability to interpret findings critically and relate these to phenomena and events in the world around them.
- Develop skills of investigation, including planning and testing, using equipment and measures, communicating, predicting, observing, classifying, questioning, researching, modelling, interpreting, explaining and evaluating.
- Foster concern about, and active care for our environment.

The National Curriculum

The national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Curriculum Overview

Early Year's Foundation Stage

Scientific skills are taught through topic work in the foundation stage. Following the outcomes set out in the Early Years Foundation Stage Framework, we ensure children are given broad, play-based experience of science in a range of contexts, including outdoor play. We promote children's curiosity about the world around them and provide experiences in which they can explore through investigation and questioning.

Key Stage 1

In Key Stage 1, the focus of science is for children to experience and observe phenomena in the world around them. We encourage curiosity and questioning and help children to develop their understanding of scientific ideas through scientific enquiry, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. In Key Stage 1, children begin to develop their scientific language to help them communicate their ideas and findings to a range of audiences in a variety of ways.

Key Stage 2

In Key Stage 2, the focus of science is to broaden the children's scientific view of the world around them and to develop a deeper understanding of a range of scientific ideas. This is done through exploring and talking about their ideas; asking their own questions about scientific phenomena and testing ideas. In Key stage 2, children encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. Children select the most appropriate ways to answer science questions and draw conclusions based on their data and observations, using evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

Teaching and Learning

At Whitefield Primary school we follow the Lancashire curriculum plans for science which ensure that the National Curriculum objectives are taught through a variety of key skills. Teachers plan their work so that

both 'scientific knowledge and conceptual understanding' and the 'working scientifically' skills are taught and that they are practised and developed through a range of scientific investigations.

Cross-Curricular

Throughout the science curriculum, opportunities exist to extend and promote cross-curricular learning.

Differentiation and Inclusion

In order that all children achieve in science, work is differentiated according to the level children are working at and will provide opportunities for AGT (Able, Gifted and Talented) pupils and those with SEND (Special Educational Needs and Disabilities). This is done in various ways:

- Stepped activities which become more difficult and demanding but cater for the less able in the early sections.
- Common tasks which are open ended activities/investigations where differentiation is by outcome.
- Resourcing which provides a variety of resources depending on abilities.
- Grouping according to ability so that groups can be given different tasks when appropriate. Activities are based on the same theme and usually differentiated no more than three levels.
- Support – some groups will be given support by the available adults in the classroom.
- Independent activities – some children will be challenged to complete activities independently.

Assessment

Assessment for learning is continuous throughout the planning, teaching and learning cycle and we use assessment to inform and develop our teaching using a variety of methods:-

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

Children's progress is continually monitored and tracked throughout their time at Whitefield Primary School.

Monitoring and Evaluation

Monitoring science is the responsibility of the science subject leader and will gain an overview of science teaching and learning throughout the school. This will assist the school in the self evaluation process, identifying areas of strength as well as those for development. In monitoring the quality of science teaching and learning the science subject leader will:

- Scrutinise planning to ensure coverage of the science curriculum requirements.
- Analyse children's work through book scrutiny.
- Classroom observations of computing teaching.
- Build up portfolios of evidence.
- Hold discussions with teachers and pupils.
- Follow action plan.
- Provide CPD for any additional needs.
- To maintain resources and advise staff on the use of materials and equipment.
- To attend appropriate in-service training and keep staff up to date with relevant information and developments

