



Longhill Primary School

Science Policy



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**This Policy should be read in conjunction with the
Marking Policy**

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SCIENCE POLICY

1. Introduction

1.1 What is Science?

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

2. Aims & Objectives

2.1 Our aims in teaching Science are that all children will:

- develop a sense of curiosity about the world around them;
- plan and carry out scientific investigations, using equipment appropriately;
- develop effective communication of scientific ideas using appropriate vocabulary;
- know about and understand the life processes, habitats and evolution of living things;
- know about and understand the physical processes of materials, electricity, light, sound and natural forces;
- know about the nature of the solar system, including the earth with its seasonal changes;
- know about and understand the uses and implications of science, today and for the future;
- evaluate evidence and present their conclusions clearly and accurately.

3 Teaching and learning styles

3.1 A variety of teaching and learning styles are used to ensure that children develop an in-depth understanding of each aspect of science. The children are taught the fundamental foundations of science in whole class sessions, but they are encouraged to make conscious connections as they apply their understanding during investigative lessons and continuous provision sessions. Children are encouraged to ask scientific questions and use the vocabulary specific to topic as accurately as possible. Whole school science weeks enhance the learning further as children are taught to 'work scientifically' in a science rich environment. This has close connections to maths as the children will be expected to record their findings in the most suitable format.

3.2 We recognise that there are children of widely different scientific abilities in all our classes and we ensure we provide suitable learning opportunities for all children by matching the challenge of a task to the ability of the child. We achieve this in a variety of ways by:

- setting common open ended tasks which can have a variety of responses;
- setting tasks of increasing difficulty;
- providing resources of varying complexity for different groups;

- using classroom assistants to support the work of individual children or groups. Pupils with language/communication difficulties are given support with reading and writing during science lessons
- pupils with a particular ability and flair for science are provided with extra challenges that allow them to use and apply their knowledge, deepening and consolidating their ability to think scientifically.

3.3 The emphasis in our teaching of Science is on first-hand experience and we encourage children increasingly to take control of their own learning. In response to analysis of children's work and test results, our focus is on improving their ability to 'work scientifically' using the vocabulary specific to the specific aspect of science, thus:

- most study of science is through practical investigative work;
- Children are given termly opportunities to plan and carry out a complete scientific investigation.
- resources are made readily available and accessible;
- pupils are encouraged to communicate their scientific findings to others using a variety of methods including written or verbal reports and use of graphs or pictures.
- 'Working scientifically' objectives are planned for each lesson and shared with the children.
- Children are assessed termly on the foundation subject assessment tracker and this is reviewed regularly by individual staff members as they acknowledge individual children's progression within the subject.

4. Science Curriculum Planning

4.1 The school worked collaboratively, as part of HCAT, to create a set of non-negotiable objects for the teaching of science from FS1-Y6. This is closely linked to the National Curriculum for KS1 and KS2 science and will inform planning to ensure that the children receive a broad and balanced science education covering all the topics of science. In the Foundation Stage, the science curriculum is organised around the 6 areas of learning as described in "The Early Learning Goals" document.

4.2 We carry out our planning of science in three phrases (long-term, medium-term and short-term). The long-term plan sets out the units of work to be studied each term for each year (following the national curriculum requirements). This is part of the year group curriculum document and is linked to the topic being covered at that specific time. This ensures that children can build on prior learning. Individual teachers then use a variety of resources (i.e. internet-based schemes of work such as Hamilton Trust) to provide ideas for medium and short-term planning. Teachers use their ongoing assessments to help inform their planning and they adapt their lesson plans to meet the changing needs of their class. Every effort is made to link work with other subject areas. (Suggestions for cross-curricular links are set out in long-term planning). Individual teachers write plans for each lesson with objectives which are shared with the children.

4.3 Science actively promotes the skills of reading, writing, speaking and listening in real contexts. Some of the texts children study in literacy lessons are of a scientific nature. The practical activities provide opportunities for children to develop their oral skills. Children's writing skills are developed through recording and evaluating their findings.

4.4. Mathematics

Science contributes to the teaching of mathematics in many ways. Work in investigations involves children in estimating and predicting. Recording findings and evaluating them involves children in producing and interpreting tables, charts and graphs. Many tests involve children using and applying work in number and measure.

4.5 Information and Communication Technology (ICT)

Children are involved in using ICT in science when appropriate. They may use it as a research tool (internet, CD-ROMS, E-mail), to collect, record, present and interpret their results (word processing and graphics/drawing packages) and to model events (simulations and spreadsheets).

4.6 Personal, Social and health education (PHSE) and Citizenship

Science provides opportunities for studying many aspects of citizenship. For example, when looking at pollution, electricity production and recycling. Secondly, science can provide opportunities for group work and the chance to take part in discussions. It also teaches children about keeping healthy and the effect of physical activity on the body.

4.7 Spiritual, Moral, Social and Cultural Development

Science provides a context for children to look at some of the fundamental questions in life, for example the evolution of life and how the world was created. Children's sense of awe and wonder is stimulated and social and moral issues are raised. Children are given the chance to reflect on how people care for our planet and how we use its resources.

5. Assessment and recording

5.1 We assess children's work in two ways. Teachers make informal judgements through observing children in lessons. Work is marked and Next Steps are indicated to children. At the end of each unit of work, children are assessed and placed on the assessment tracker. A particular emphasis has been placed on providing children with opportunities to secure greater-depth knowledge so that more children are GD in science at the end of each academic year.

5.2 Children's progress in science is shared with parents informally at open evening. A written report is sent home at the end of each year.

6. Resources

We have sufficient resources for all science teaching units in the school. Year group-specific resources are kept in classrooms by individual teachers. These include equipment for carrying out practical investigations as well materials to support knowledge and understanding in each unit. There is also a range of books to support teachers' planning and pupil books to support learning in all areas. We also have computer software on the school network to develop children's learning.

7. The Role of the Science Co-ordinator is to:

- take the lead in policy development and the production of schemes of work and planning designed to ensure progression and continuity in science throughout the school;
- support colleagues in their development of short term plans, their implementation of the scheme of work and in assessment and record keeping activities;
- monitor progress and standards in science and advise the head teacher on action needed;
- take responsibility for the purchase and organisation of central resources for science;
- keep up-to-date with developments in science education and disseminate information to colleagues as appropriate. This will include attending relevant courses and organising staff development activities.

8.0 Every Child Matters School Policy Statement

Every pupil with additional needs in this inclusive school has an entitlement to fulfil his/her optimum potential. This is achieved by ensuring the well-being of all pupils in relation to: being healthy, staying safe, enjoying and achieving, making a positive contribution, and achieving social and economic well-being.

These well-being outcomes are embraced in every aspect of school life: personalised teaching and learning approaches; access to ICT across the curriculum; flexible learning pathways and out-of-hours learning activities; support for emotional well-being; flexible timetables; assessment for learning which engages pupils in having a say about their progress and additional provision; and partnership with parents/carers, other schools, the local community and with practitioners from health, education and social services providing 'wrap around' care and personalised services.