

SCIENCE POLICY

Lakenheath Community Primary School



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Document Change History

Version	Date	Change Details
1	January 2009	N/A
2	February 2020	Format update and content review.
3	February 2021	Minor amendments to reflect processes.
4	March 2022	Policy review, some minor amendments.
5	March 2023	Policy review, amendment to section 4.

1. Aims and objectives

- 1.1 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.
- 1.2 At Lakenheath we aim to develop creative and independently thinking scientists with the motivation, knowledge and skills to succeed in a changing world.

2. Teaching and learning style

- 2.1 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 graphs, pictures and photographs. They use ICT in science lessons where it enhances their learning. They take part in discussions and they present reports to the rest of the class. They engage in a wide variety of problem-solving activities. 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 the results.
- 2.2 We recognize 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);
 - providing resources of different complexity, matched to the ability of the child;
 - using classroom assistants to support the work of individual children or groups of children.

3. Science curriculum planning

- 3.1 The school uses the national curriculum for science as the basis of its curriculum planning. The national scheme has been adapted to the local circumstances of the school in that we make use of the local environment in our fieldwork
- 3.2 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, (upper and lower in KS2). To ensure coverage and progression throughout the school. The senior leadership team have worked this into our schools long term plan which covers a two year cycle. In some cases we combine the scientific study with work in other subject areas, but all pupils receive a weekly science lesson.
- 3.3 Our medium-term plans, which we have based on the national curriculum in science, give details of each unit of work for each term. We also use resources available from 'The association for science education' to aid our planning and assessment. The science subject leader has run staff meetings to give teaching colleagues guidance to use these plans. The science subject leader and teaching colleagues keep and review these plans. As we have mixed-age classes, we do our medium-term planning on a two-year rotation cycle. In this way we ensure complete coverage of the National Curriculum without repeating topics.
- 3.4 The class teacher is responsible for planning each lesson (short-term plans). The plans have the specific learning objectives of each lesson. The class teacher keeps these individual plans, and s/he and the science subject leader may discuss them on an informal basis.
- 3.5 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.

4. Foundation Stage

- 4.1 We teach science in reception classes as an integral part of the topic work covered during the year. As the reception class is part of the Early Years Foundation Stage (EYFS), we relate the scientific aspects of the children's work to the objectives set out in the Early Learning Goals (ELGs) which underpin the curriculum planning for children aged three to five. Science makes a significant contribution to the objective in the ELGs of developing a child's understanding of the world, e.g. through *exploring the natural world around them, making observations and drawing pictures of animals and plants.*

5. The contribution of science to teaching in other curriculum areas

5.1 English

Science contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. Some of the texts that the children study in Literacy are of a scientific nature. The children develop oral skills in science lessons through discussion (for example of the environment) and through recounting their observations of scientific experiments. They develop their writing skills through writing reports and projects and by recording information. They also improve their vocabulary skills learning many new words which link to scientific vocabulary.

5.2 Mathematics

Science contributes to the teaching of mathematics in a number of ways. The children use weights and measures and learn to use and apply number. Through working on investigations they learn to estimate and predict. They develop the skills of accurate observation and recording of events, such as drawing tables, graphs and charts. They use numbers in many of their answers and conclusions.

5.3 Information and communication technology (ICT)

Children use ICT in science lessons where appropriate. They use it to support their work in science by learning how to find, select, and analyse information on the Internet and certain computer programmes. Children use ICT to record, present and interpret data and to review, modify and evaluate their work and improve its presentation.

5.4 Personal, social and health education (PSHE) and citizenship

Science makes a significant contribution to the teaching of personal, social and health education. This is mainly in two areas. Firstly, the subject matter lends itself to raising matters of citizenship and social welfare. For example, children study the way people recycle material and how environments are changed for better or worse. Secondly, children benefit from the nature of the subject in that it gives them opportunities to take part in debates and discussions. They organise campaigns on matters of concern to them, such as the environment or health issues. Science promotes the concept of positive citizenship. It also promotes the advantages of healthy Eating, exercise and ways to keep our bodies healthy.

5.5 Spiritual, moral, social and cultural development

Science teaching offers children many opportunities to examine some of the fundamental questions in life, for example, the evolution of living things and how the world was created. Through many of the amazing processes that affect living things, children develop a sense of awe and wonder regarding the nature of our world. Science raises many social and moral questions. Through the teaching of science, children have the opportunity to discuss, for example, the effects of smoking and the moral questions involved in this issue. We give them the chance to reflect on the way people care for the planet and how science can contribute to the way we manage the earth's resources. Science teaches children about the reasons why people are different and, by developing the children's knowledge and understanding of physical and environmental factors, it promotes respect for other people.

6. Teaching science to children with special needs

- 6.1 We teach science to all children, whatever their ability. Science forms part of the school curriculum policy to provide a broad and balanced education for all children. We provide learning opportunities that are matched to the needs of children with learning difficulties. We provided varied resources, activities and support to allow access for all. Our work in science takes into account the targets set in the children's Individual Education Plans (IEPs)

7. Assessment and recording

- 7.1 We assess children's work in science by making informal judgements as we observe them during lessons. On completion of a piece of work, the teacher marks the work and comments as necessary. At the end of a unit of work s/he makes a summary judgment about the work of each pupil in relation to the National Curriculum level of attainment. We also use exemplification materials provided by 'The association for science education' to aid our assessments. We use these grades as the basis for assessing the progress of each child and we pass this information on to the next teacher at the end of the year.
- 7.2 Teachers make an assessment of the children's work in science at the end of Key Stage 1. We report these assessments to parents along with the teacher assessments, which are made whilst observing the work of children throughout the year.

8. Resources

- 8.1 We have specific resources for science teaching in the school. We keep these in a central area, where each box of equipment is clearly labelled. The library contains a good supply of science topic books and computers are provided to support children's individual research.

9. Monitoring and review

- 9.1 It is the responsibility of the science subject leader to monitor the standards of children's work and the quality of teaching in science. The science subject leader is also responsible for supporting colleagues in the teaching of science, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. The science subject leader has specially-allocated time for fulfilling the vital task of reviewing samples of children's work and visiting classes to observe teaching in the subject.

