



Science Policy

	Name	Date
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Approved by		

Science Policy

Introduction

At Leeson's Primary School we believe the best way to learn about Science is through hands-on investigation of the physical, chemical and biological aspects of the world, so children can develop their understanding of the nature, processes and methods of science through a range of scientific enquiries.

Aims

Science teaching at Leeson's should provide opportunities and experiences for children to:

- develop a positive and enthusiastic attitude to Science
- to cultivate pupils' enjoyment and interest in Science and an appreciation of its contribution to all aspects of everyday life, today and in the future.
- become more aware of and able to use scientific approaches and methods.
- given opportunities to develop their scientific understanding of the world and their skills of investigation to include observation, measuring, predicting, hypothesising, experimenting, fair testing, communicating and interpreting.
- take an active lead in their learning, posing and finding ways of answering their own questions.
- develop their Oracy so they can develop with confidence their use and understanding of scientific language.

Implementation

Leeson's has adopted the Kent Primary Science Scheme of Work as the basis for termly and weekly planning. The scheme ensures full coverage in line with the National Curriculum, progression between year groups, expected learning outcomes and guarantees that topics are revisited.

Learning in Literacy and Mathematics are used to support a variety of science topics, providing good opportunities for speaking and listening, non-fiction reading and writing as well as opportunities for using weights and measuring, data collection and handling in Mathematics.

Children are encouraged to use ICT opportunities wherever appropriate, especially in collecting, recording and presenting data and graphs, including the use of digital photography, word processing, data logging, data handling programs and the Internet.

Aims for Early Years Foundation Stage (Year R)

At Foundation stage, Science is within the area of learning, 'Understanding the World' and in the sub-section 'The World'.

Children's knowledge, skills and understanding are developed in areas that help them make sense of the world around them. This helps to create a foundation for later work in many other areas of the curriculum. They are:

Early Learning Goal (2021):

Children know that the environment and living things are influenced by human activity. They can describe some actions, which people in their own community do, that help to maintain the area they live in. They know the properties of some materials and can suggest some of the purposes they are used for. They are familiar with basic scientific concepts such as floating, sinking, experimentation.

Aims for Key Stage 1 (Year 1 and 2)

During KS1, pupils observe, explore and ask questions about living things and materials. They begin to work together to collect and evaluate evidence to help them answer questions and to link this to simple scientific ideas. They use a range of reference materials to find out more about scientific ideas. They experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions.

Across the Key Stage, pupils will study:

- Seasonal change
- Plants
- Animals, including humans
- All living things and their habitats
- Everyday materials

Working scientifically:

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- Asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment
- Performing simple tests
- Identifying and classifying
- Using their observations and ideas to suggest answers to questions
- Gathering and recording data to help in answering questions.

Aims for Key Stage 2 (Year 3, 4, 5 and 6)

During KS2, pupils learn about a wider range of living things, materials and phenomena. They begin to make links between ideas and to explain things using models and theories. They apply their knowledge and understanding of scientific ideas to familiar phenomena, everyday things and their personal health.

They begin to think about the positive and negative effects of scientific and technological developments on the environment and in other contexts. They carry out more systematic investigations, working on their own and with others. They use a wider range of reference sources in their work. They talk about their work and its significance, and communicate ideas using a range of scientific language, conventional diagrams, charts and graphs.

Across the Key Stage, pupils will study:

- Forces and magnets
- Light
- Rocks
- Animals, including humans
- Plants
- Sound
- States of Matter
- Electricity
- Earth and space
- Properties and changes of materials
- Evolution and inheritance

Working scientifically:

During years 3 and 4, pupils are taught to use the following practical scientific methods, processes and skills:

- Asking relevant questions and using different types of scientific enquiries to answer them
- Setting up simple practical enquiries, comparative and fair tests
- Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- Identifying differences, similarities or changes related to simple scientific ideas and processes
- Using straightforward scientific evidence to answer questions or to support their findings.

During years 5 and 6, pupils are taught to use the following practical scientific methods, processes and skills:

- Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- Using test results to make predictions to set up further comparative and fair tests
- Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- Identifying scientific evidence that has been used to support or refute ideas or arguments.

Assessment

At Leeson, we use both formative and summative assessments. On completion of a piece of work, the teacher marks the work and comments as necessary. We have also established a quizzing culture at Leeson. where at the beginning and end of each lesson, the children are quizzed on aspects of their learning taught so far. At the end of each unit children are given a quiz based on the term's learning.

Monitoring and Reviewing

Monitoring of the standards of children's work and of the quality of teaching in Science is the responsibility of the subject leader. The work of the Science subject leader also involves supporting colleagues in the teaching of Science, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The Science subject leader submits an action plan annually to the curriculum lead and head teacher, in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement.