LEYS FARM JUNIOR SCHOOL

SCIENCE POLICY 2025

Leys Farm Junior School's policy for science is based on the primary curriculum which has been statutory since September 2014. The implementation of this policy is the responsibility of all teaching staff.

Aims and Objectives of Science at LFJS

'A high-quality science education provides the foundations for understanding the world. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena,' National Curriculum, 2014.

At LFJS we believe that the best science teaching develops pupils' curiosity in the world around them. For our pupils to achieve well in science, they need to acquire necessary scientific knowledge embedded in practical scientific enquiries.

Intent

- to provide our pupils with scientific knowledge as stated in the National Curriculum, embedded within practical investigations where appropriate;
- to equip children with the scientific skills to plan and explain different and appropriate types of enquiries;
- children to be able to be critical of their own investigations in terms of reliability and validity;
- to make links between science learning and other areas of the curriculum;
- give children access to high-quality outdoor learning to further extend their scientific understanding of the world around them;
- through high-quality science teaching, we intend to help our pupils understand how major scientific ideas have played a vital role in society. Most importantly, we aim to prepare our pupils for life in an increasingly scientific and technological world.

Implementation

By delivering high quality, interesting and engaging science lessons where children's questions are encouraged, teachers aim to ensure the expectations of the National Curriculum are met and sometimes exceeded.

Science should be taught in a global or historical context where possible linking where possible to current themes of learning, so the subject is covered in depth. Teachers should develop and extending pupils' scientific knowledge and understanding about science, where possible, through first-hand practical experiences, to develop their understanding of how to test an enquiry precisely.

Pupils' scientific vocabulary and ability to articulate scientific concepts clearly and precisely should be encouraged and modelled enthusiastically by all teachers. Opportunities for children to work collaboratively in pairs, groups and/or individually should be provided to share ideas. Children's research skills need to be developed through the appropriate use of secondary sources. Children's questioning, predicting, observing, measuring, and interpreting skills should be built upon, ensuring they are open-minded when given or obtaining facts and results and show an understanding of validity and reliability by the end of KS2.

Impact

Children will:

- revise and build upon the knowledge and understanding gained from KS1 National curriculum;
- have been taught the necessary science content needed to understand the world around them and as a basis for future learning as set out in the National Curriculum;
- have been taught how to plan, perform, and analyse experiments and investigations to answer questions;
- be able to present findings in a variety of ways by the end of KS2;
- have gained practical skills linked to outdoor learning;
- be able to make clear links with other curriculum subjects.

Monitoring and Reviewing

We monitor and review the implementation and impact of the teaching of science at LFJS through:

- learning walks/lesson visits (by subject leaders, headteacher,SLT and governors);
- sharing and scrutiny of planning;
- scrutiny of work produced in children's workbooks across the curriculum linked to science;
- discussions and sharing of good practice through necessary CPD and staff training.

Science Curriculum Planning

Teachers at LFJS plan science lessons guided by the National Curriculum (2014). The science leader provides a long-term plan to ensure coverage of the units of learning set out within the National Curriculum allowing for mixed-age classes. Science is matched where possible to overarching themes of learning, to ensure cross-curricular learning and to ensure the science curriculum is broadened.

Areas of learning are updated yearly to ensure all children are taught the appropriate content of biology, chemistry, and physics. *Please refer to the long-term plan for details of the specific areas of learning covered in each class over the year.*

All science lessons are planned based on the Grammarsaurus medium term planning and have focussed learning objectives (knowledge and/or enquiry based), scaffolding and success criteria to ensure that pupils make at least good progress over a series of linked lessons. Individual lessons will be adapted by the class teacher to suit the needs of the children and available resources. Links to additional free resources to aid planning individual lessons can be found in the 'Approved Resources' document.

'Working scientifically' needs to be embedded throughout the areas of learning wherever possible as we aim to involve children in first-hand investigative work. This focuses on the key aspects of scientific enquiry which enable pupils to find answers to their own scientific questions.

Assessment

At present, children's **attainment** is measured termly, based on age-related expectations set out in the National Curriculum. Children are compared against these expectations and are categorised into 'working towards and working towards plus'- still working towards the national standard, 'expected' - having reached expected standard and 'greater depth' - having mastered the expectations for each of their units of learning. Work is marked and verbal or written feedback given.

Science books are to be passed on and continually used when a pupil enters a new year, to ensure they have displayed coverage of all the curriculum needs by the end of Year 6.

Impact of Science on Teaching in Other Areas of the Curriculum

At LFJS, we value the links that science has on other curriculum areas. Collaborations should be made frequently with other subject areas by planning projects that encompass other curriculum skills: scientific texts and non-fiction books should be made available to all children to promote a love and curiosity of the subject alongside exposing them to different genres. Parts of investigations should be communicated professionally using the LFJS Investigation Proforma and the link between Maths and science must be developed through data collection, analysis and graph drawing. Links between science, computing, engineering, and DT are to be created through project work. Science should also be explored in a global and historical context, with children beginning to understand how ideas have developed, and how they are currently developing. Teachers are also encouraged to make links with science within English writing lessons.

British Values

It is important to LFJS that links are made to British values within science. We aim to include the work of scientists that will reflect the diversity of the world we live in. We aim to develop respect for differing opinions on scientific matters, exposing children to a variety of scientific opinions whilst ensuring tolerance is at the forefront in line with our Strengths work.

Science Capital

Science Capital refers to the knowledge, attitudes, and experiences that individuals possess and draw upon to engage with science. It encompasses the idea that everyone has the potential to be a scientist and that their personal backgrounds and interests contribute to their understanding of the world around them. By nurturing science capital, we aim to empower our students to explore, question, and develop a love for scientific inquiry.

Encouraging hands-on experiments, field trips, and interactions with real-world scientists, we provide opportunities for students to build their science capital, fostering curiosity, critical thinking, and a sense of belonging in the scientific community. Emphasising the importance of diverse perspectives and individual experiences, we believe that by developing science capital, we can inspire the next generation of innovative thinkers and problem solvers.

Cultural Capital

We are aware that children's understanding of the world around them will differ vastly based upon their life experiences. We aim to give them experiences that impart knowledge and make links within their learning by providing a rich, experienced based scientific education and by creating outdoor learning opportunities and cooking workshops which further their development.

We are constantly on the lookout for scientific opportunities which will further the children's cultural capital, such as using volunteers in school with a diverse range of skills. Children are taught that the units they are learning about in science are either biology, chemistry, or physics so that they are clear about the different areas and focus of science.

Health and Safety

We are committed to providing a safe and healthy environment for all students, staff, and visitors. All staff will ensure that science lessons and activities are conducted in a manner that prioritises the well-being and safety of everyone involved. This Health and Safety Statement outlines our school's commitment to maintaining high standards of health and safety within the science curriculum.

Legal Compliance: We will comply with all relevant health and safety legislation, including but not limited to the Health and Safety at Work Act 1974 and the Control of Substances Hazardous to Health Regulations 2002. We will also adhere to the guidelines and recommendations provided by the local education authority.

Risk Assessment: We will conduct risk assessments where appropriate for science activities, experiments, and demonstrations, considering the potential hazards and implementing appropriate control measures to mitigate risks. Risk assessments will be documented, reviewed, and updated, as necessary.

Safe Facilities and Equipment: We will ensure that classrooms, and practical areas are appropriately equipped, maintained, and fit for purpose. All equipment will be regularly checked, tested, and safely stored to prevent accidents and injuries.

Training and Supervision: We will provide relevant training and guidance to all science teachers and support staff involved in delivering science lessons. This will include training on safe practices, the proper use of equipment and chemicals, and emergency procedures. Adequate supervision will be provided during practical activities to ensure student safety.

Safety Procedures: We will establish and communicate clear safety procedures to be followed during science lessons and activities. These procedures will cover areas such as the handling of hazardous substances, fire safety, and first aid protocols. In the event of an emergency, appropriate measures will be taken to ensure the safety and well-being of all individuals involved.

Personal Protective Equipment (PPE): We will provide and encourage the use of suitable personal protective equipment, such as safety goggles, gloves, lab coats, and aprons, as necessary for specific activities. Students and staff will be instructed on the correct use and maintenance of PPE.

Communication and Consultation: We will maintain open lines of communication with staff, students and parents regarding health and safety matters within the science curriculum. We encourage feedback, suggestions, and reporting of any concerns or incidents to ensure continuous improvement.

By adhering to this Health and Safety Statement, we are committed to fostering a safe and conducive learning environment for all students and staff engaged in science education. We recognise the importance of health and safety in enabling students to explore and discover the wonders of science with confidence and peace of mind.

Resources

All science resources are stored in the science cupboards in themed boxes. The subject leader must be informed of any changes regarding science resources i.e., missing, or broken resources and/or when new or replacement resources are required. Alongside practical equipment, teachers are encouraged to use:

Natural Curriculum
Explorify
PSTT

Reviewed: July 2023
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