Science Policy

2023

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Date Approved	
Review Date	
Approved by which committee	
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Loxdale Primary School Science Policy

This document is a statement of aims, principles and strategies for the teaching and learning of science at Loxdale Primary School. We aim to promote science as a core subject which is taught on a weekly basis across the Foundation Stage, KS1 and KS2. At Loxdale we believe it is important to teach science in a practical way, where children engage through hands on experience which will help to encourage discussion, investigation and will stimulate curiosity.

1. Rationale

Science teaches an understanding of natural phenomena and aims to stimulate a child's curiosity in finding out why things happen in the way that they do. Children learn to ask scientific questions and begin to appreciate the way in which science will affect the future on a personal, national and global level.

2. Aims and objectives

Our objectives in the teaching of science for all our children are:

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

3. Teaching and Learning Style

We use a range of teaching and learning styles in science lessons. Our principle aim is to develop children's knowledge, skills and understanding. We do this through whole class teaching and enquiry-based activities.

We encourage the children to ask, as well as answer, scientific questions. They have opportunity to use data, including graphs, statistics, pictures and photographs.

We use computing in science lessons to enhance the children's learning. As much as possible we involve children in real scientific activities e.g. carrying out a practical experiment and analysing the results.

We recognise that in all classes, children have a wide range of scientific abilities 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, by using our enquiry based target sheets. We achieve this in a variety of ways such as:

- Setting tasks which are open-ended and can have a variety of responses;
- Setting tasks of increasing difficulty;
- Children have the opportunity to work in mixed ability pairs and groups throughout the lesson.
- Providing resources of different complexity, matched to the ability of the child.
- Using Teaching Assistants to support the work of groups or individuals.

4. Science Curriculum
   Science is a core subject in the National Curriculum. The school uses the White Rose Science scheme as the base of its curriculum planning to ensure progression and continuity for children's learning. Where possible, we make use of the local environment, with the support of our local park ranger. We carry out our curriculum planning as both long and medium term plans. The long term plan maps the scientific topics studied during the term for each key stage. We are in the process of developing our medium term plans onto a whole school planning format, which will hold enough detail to be used for our lesson plans. These short term plans are written by the class teacher, in the form of a PowerPoint presentation and list the specific learning intent, and success criteria for each lesson. Teachers are then able to incorporate working scientifically skills that the children will to be develop in each lesson. These PowerPoints are then uploaded onto the learning platform at the beginning of each week. It is expected that class teachers plan at least one investigation per unit, half-termly, to give the children the opportunity to apply their investigative skills that they have been working on in lessons. Each class is expected to display a science working wall which should include; a topic title, key scientific vocabulary, key questions relating to the topic and photos of the children in lab coats to promote 'Scientist of The Week'. All classes are taught 2 hours of science per week, either as a whole afternoon block or as two separate sessions.
   Risk assessments are in the whole school folder and are in-line with the whole school policy on Risk Assessments.

5. Health and Safety in Science
   It is the duty of all staff (and, where relevant, non-employees such as parent helpers) to take reasonable care for the health and safety of themselves and others who may be affected by their errors or omissions. Class teachers take responsibility to plan safe activities in science. Safety issues are identified for all activities which form part of the science scheme of work and staff will ensure that these are followed. In addition, the school subscribes to the CLEAPSS School Science Service through which they receive termly newsletters. The Science Co-ordinator is responsible for bringing to the attention of staff, any information in these which requires a change in existing procedures and for making any necessary amendments to the health and safety guidance contained within the scheme of work. Back copies of relevant CLEAPSS newsletters are kept in a file in the Staff Room, together with copies of relevant CLEAPSS guidance notes. Where there is any doubt about an activity then this will be referred to the Science Co-ordinator who will make a risk assessment, seeking further guidance if necessary.

6. Foundation Stage
   We teach science in Nursery and Reception as an integral part of the topic work covered during the year. Understanding the World, a Specific Area in the Early Years Foundation Stage (EYFS) curriculum, underpins the science in both Nursery

and Reception. Science is taught through topic sessions and then children are able to independently access related activities during child -initiated learning.

7. Cross Curricular Links

Before each scientific unit, teachers will map out 'Cross Curricular Links', planning the ways that they are going to make links to other areas of the curriculum. These will include links to:

- Literacy e.g. developing writing skills through writing reports and projects and recording information or developing speaking and listening through presentations.
- Numeracy e.g. using weights and measures, they are learning to use and apply number, estimating and predicting, recording in tables, charts and graphs.
- PHSE e.g. recycling, global warming, debating and discussing, working together/collaborating.

8. Science and Computing

Computing is used to support teaching and learning in science, where possible, because there are some tasks for which computing is particularly useful e.g. Dataloggers for recording sound or temperature, the '2simple' programme for graphing, and laptops for research purposes. Children learn how to find, select and analyse information on the internet, relevant to the subject they are studying.

9. Science and Inclusion

At our school, we teach science to all children, whatever their ability and individual needs. Science forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our science teaching, we provide learning opportunities that enable all pupils with special educational needs, those with disabilities, those with special gifts and talents, and those learning English as an additional language, and we take all reasonable steps to achieve this. For further details, see individual whole school policies; Special Educational Needs, Disability Discrimination, Gifted and Talented Children, English as an Additional Language (EAL).

10. Assessment

Teachers assess children's work in science by making informal judgements during lessons and next steps in learning are identified to support future planning and learning. Written or verbal feedback is given to the child to help guide his/her progress. Targets are crossed off on the SC1 targets, if this is appropriate. Teacher assessment is completed termly for Science. SC1 targets and White Rose end of unit assessments will take place towards the end of unit. Each assessment will be based on the units that have been covered up to that point in the year. The results of these tests will be recorded by the class teacher and the overall judgement will be put onto INSIGHT for each term. The assessments will help to identify any gaps in the children's learning, that will be addressed through questing at the start of each lesson.

11. Resources

We have sufficient resources for all science teaching units in school. We keep these resources in a central store, where all resources are clearly labelled in boxes. There is also a resources list in the Science Co-ordinator's file, which is audited on a regular basis.

There are funds available for science, should any resources or CPD opportunities for staff be needed. The budget is also allocated to science workshops that take place in school, further enhancing the children's scientific learning.

12. Monitoring and Review

The science subject leader monitors the delivery of science teaching and the quality of learning across the school. This is done through observations and learning walks. The subject leader also conducts book scrutinises, monitors science learning environments and monitors medium, weekly and daily planning. Feedback for this is given to the individual and is then published onto Perspectives.

Monitoring and review

This policy is monitored by the Governing Board, and will be reviewed annually.

Signed: KBillingsley

Date: 09.10.23