Longford
C of E Primary School

Science Policy

Document Title	**Science Policy**
Lead Officer:	Headteacher
Approving Body:	Standards Governors
Review Date:	Every 3 years (and whenever change is required)
Edition and Date approved:	November 2022
Indicate whether the document is for public access or internal access only *(Strikethrough text, as appropriate)*	**Public Access – PDF copy to be posted on School website** ~~Internal Access Only~~ copy to be held on School PC *A back-up copy of all Policies is retained by the Clerk to the Longford Board of Governors*
Indicate which legislation or statutory guidance document requires this Policy	National Curriculum
Summary/Description:	
This document explains the teaching and learning approach followed by Longford CE VC Primary School with regards to Science, in line with national requirements and within the context of the school's Christian ethos.	

Longford Science Policy

This school is committed to creating the ethos in which children can grow towards making their dreams come true.

This policy should be read in conjunction with Whole School Learning, Inclusion, Monitoring and Evaluation and all other policies.

Rationale for Teaching Science

Science is a subject that we want all pupils to engage with and enjoy at Longford Primary School, developing a life-long passion for the subject. Our intent is to give them all a secure knowledge and understanding of scientific concepts while developing the processes and methods of scientific enquiry. This allows pupils to understand, challenge and question the wonderful world around them and provide explanations of how and why things happen. We aim for pupils to recognise the importance of science in daily life both during their time at school and beyond.

Longford Primary School provides an engaging, high-quality science curriculum for all of its pupils, giving them the foundations for understanding and questioning the world while maintaining a sense of awe and wonder. Pupils at Longford Primary School have a curiosity and notice things about them, making connections, seeking evidence and changing their thinking. They recognise the importance of science in the world and leave our school with a keen interest, strong understanding and a wide range of transferable skills and attitudes.

Attitudes

- An enthusiasm for science as a subject
- Engagement for all children
- Development of natural curiosity
- Ask questions about the world around us
- Open- mindedness, perseverance and responsibility
- Self confidence when working independently and with others

Skills

The development of working scientifically skills is given high importance. These transferrable skills are mapped for each year to ensure progression. The children develop an ability to ask questions, observe and measure, perform tests, identify and classify, gather and record data and report, present and communicate the data or findings. Teaching and Learning Science lessons are planned and taught by class teachers, following our science curriculum map. This has been developed using the National Curriculum, but also linking to the class topic for that term. Pupil's knowledge and understanding is assessed and built upon progressively as pupils move through the school. We recognise that children have differing abilities in science and so we ensure that we promote suitable learning opportunities for all children to be engaged and inspired. We provide science opportunities to experiment and investigate using many resources inside and outside of the school. We also provide class trips to broaden the experience of science beyond the classroom.

Planning

As a school, we base our planning around the 2014 National Curriculum. This is adapted by the individual class teacher to meet the needs of their class and plotted on our Curriculum Map. The science is taught on a 2 year cycle. Class teachers plan individual lessons, using the weekly lesson template with targeted learning intents and skills to develop. When planning, teachers ensure that children are building on prior learning so that they have the full potential to develop their skills and understanding. Teachers also evaluate their teaching to enable future planning.

Curriculum Links

As part of our creative curriculum, we aim to make many links between science and the overall class topic. Writing skills are developed through the writing of explanations, instructions and recounts. The children are encouraged to discuss issues in science and ask questions. Data handling links well with maths, where children present their findings in graphs and tables, helping them to identify trends and patterns in observations. They develop their skills of estimating and predicting through investigations. Computers are used to collect and gather data and as a way of reporting observations.

Aims

The national curriculum for science aims to ensure that all pupils:

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

Working Scientifically

'Working scientifically' is taught through and clearly related to substantive science content in lessons. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.
Pupils are taught how to read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge.

Early Years

Children will explore the natural world around them, making observations and drawing pictures of animals and plants. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Key Stage 1

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of

time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos.

Lower Key Stage 2

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information.

'Working scientifically' is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge.

Upper Key Stage 2

The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

Upper Key Stage 2 programme of study for animals including humans adheres to the Longford's Relationships Education, Relationships and Sex Education and Health Education Policy. Parents are informed on the sessions about puberty for girls and boys including menstruation. Parents can withdraw their child from these specific sessions but not the content of the Science curriculum.

Assessment and Recording

At Longford School assessment is an essential part of the teaching process. Assessment is used to inform planning and to facilitate differentiation. The assessment of children's work is on-going to ensure that understanding is being achieved and that progress is being made. Feedback is given to the children as soon as possible, and marking work will be guided by the school's Feedback and Marking Policy.

Monitoring

Monitoring takes place regularly by the subject leader through sampling children's work, and teacher planning, through a book scrutiny and lesson observations.

Roles and Responsibilities

The subject is led by the science subject lead who works with staff in a supportive and consultative role. Time is set aside to review standards and monitor curriculum provision and ensure training and resources are up to date.

Resources

We have a wide range of text books and interactive boards to access the internet as a class. Teachers use a range of online resources and schemes. Visits are planned to enhance learning and give hands on experience e.g. Winchester Science Museum.