Lytham C of E Primary School

Science Policy

To inspire everyone in our school family to be the best they can be within our caring Christian community.

Our strap line is, 'Together We Grow With God'.

Introduction

This policy reflects the revised expectations for the National Curriculum (May, 2015). It outlines the expectations in relation to the teaching and learning of Science and focuses on the progression of key areas of learning, subject-specific vocabulary and practical enquiry skills. This policy reflects the views of all the teaching and support staff and was drawn up as a result of staff discussion. It has the full agreement of the Governing Body, who approved it at their meeting, and has now been shared with the wider school community on the school website. The implementation of the policy is the responsibility of all the teaching staff and will be monitored by the head teacher, curriculum leader and subject leader on a regular basis. The policy should be read in conjunction with the National Curriculum, the Science Key Learning document and the Unit Coverage and Progression of Enquiry Skills, Knowledge and Vocabulary documents. These school documents have been written by the subject leader and approved by the Lancashire Primary Science Consultant. They are based upon a combination of the PLAN Assessment and Oak Academy resources. They set out the key areas of learning and subject-specific vocabulary in each year group. They also ensure considered coverage of the Enquiry Skills (as specified by SEERIH, The University of Manchester) and half-termly opportunities to assess pupils practically (TAPs).

Introduction to Science

The National Curriculum for Science (May, 2015) aims to ensure that all pupils:

- Develop scientific knowledge and conceptual understanding through a balance of practical activities and knowledge-based lessons.
- Develop understanding of the nature, processes and methods of science different types of enquiries, helping them to answer scientific questions about the world around them.
- Are prepared for life in an increasingly scientific and technological world, today and in the future.
- Are equipped with scientific knowledge required to understand the uses and implication of science, today and for the future.
- Are encouraged to be open-minded, to self-assess, to persevere and develop investigative skills including: observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining ad evaluating.
- Have access to enrichment opportunities, including educational visits and visitors, Science clubs, and partaking in the national celebration of British Science Week – all contributing to the development of their Science Capital and with the aim of offering aspirational experiences.
- Develop the use of computing in investigating and recording.
- Make links between science and other subjects.

Subject Aims

Under a considered Science Curriculum, built upon a clear progression of knowledge, understanding and scientific enquiry, we aim to ensure that all pupils:

- Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- Are given regular opportunities to carry out practical investigations involving the six types of scientific enquiry, enabling them to develop a sound understanding of what they are investigating and why.

  Scientific Enquiry Skills (SEERIH, The University of Manchester)

1. Comparative/fair testing
2. Research
3. Observation over time
4. Pattern seeking
5. Identifying, grouping and classifying
6. Problem solving

- Are taught the scientific vocabulary required to valuably and eloquently express their thoughts and ideas; enabling them to give reasoned and thoughtful explanations and respectfully challenge the ideas put forward by others.
- Are taught to apply their scientific enquiry findings in order to answer questions about and make sense of the world around them.
- Are equipped with the scientific knowledge required to understand the uses and implications of science - in their daily lives and within a wider world context - today and for the future.
- Develop a Science Capital through regular opportunities to experience the Science and scientists that play a significant and often un-considered role in their daily lives.
- Have their curiosity ignited and their thinking challenged through regular opportunities to 'think outside the box' – applying their scientific knowledge, understanding and vocabulary in order to justify 'What if…?' and 'Why…?'
- Use and apply the skills and knowledge that they have developed in discrete Science lessons to further their understanding in other areas of the curriculum.

Our aims for Science are underpinned by our Christian Values: Service, Faith, Determination, Love, Honesty, Friendship, Thankfulness, Respect and Forgiveness.

Curriculum Organisation

The subject leader for Science has overall responsibility for the development of Science within the curriculum and will work in line with the head teacher, senior leadership team and curriculum leader to ensure they follow the responsibilities outlined in the Subject Leader Policy. The organisation of the Science Curriculum is planned by the subject leader. Its content is in line with the National Curriculum (May, 2015), and is primarily guided by the PLAN

Assessment planning and assessment resources. Some areas of the curriculum are enhanced by Oak National Academy units of work (2024 resources).

Science at Lytham CE

At Lytham Church of England Primary School, we believe that teaching and learning in Science should excite and stimulate pupils' natural curiosity to enable them to make sense of the world in which they live. We want them to consider, explore and delight in the awe and wonder of scientific discovery.

From Nursery through to Year 6, we encourage our pupils to be curious by giving them the opportunities, experiences and vocabulary to ask and find answers to questions. Through explicit teaching and modelling, pupils are supported in coming up with their own ways to answer scientific questions. If at first they do not succeed, we will teach them the resilience to try again; applying the things they know, and experimenting with the things they do not yet know, to find another way. The subject is taught discretely though, where appropriate, the teaching and learning of Science is valuably linked to other subjects in order to enhance the learning that takes place. This has the added value of challenging pupils to apply their scientific knowledge and understanding in a range of contexts.

In the subject of Science, clear progression has been mapped-out by the Early Learning Goals (EYFS) and the National Curriculum (KS1 and KS2).

In EYFS, coverage and progression in Science is linked to the following areas:

-Understanding the World (Natural World)

-Personal, Social and Emotional Development (Managing Self)

-Communication and Language (Listening, Attention and Understanding; Speaking)

In the National Curriculum, coverage and progression is broken down into clearly-defined Programmes of Study.

By the end of each phase, we expect pupils to have met the objectives set out by the Early Learning Goals (EYFS) or the National Curriculum (KS1 and KS2). We achieve this by ensuring that all scientific knowledge, understanding, vocabulary and enquiry is taught at an age-appropriate level. The subject leader works closely with teaching staff to ensure that children are given a range of teaching and learning opportunities to ensure that progress is being made and that school and national expectations are being met.

At Lytham CE Primary School, we have clearly defined Progression of Enquiry Skills, Knowledge and Vocabulary document, which demonstrates coverage and progression across the school. Through the continual development of our bespoke Science Curriculum, we ensure that coverage is tailored to our pupils' individual learning needs and interests, taking advantage of the many teaching and learning opportunities that our rich local environment has to offer.

The subject leader keeps abreast of effective approaches to teaching and learning in Science through regular CPD, including termly subject leader network meetings, and personal research. In consultation with the Senior Leadership Team, well-informed decisions are made and cascaded to staff through regular Inset.

Adaptive Teaching

Science teaching at Lytham Church of England Primary School involves adapting and extending the curriculum to match all pupils' needs. Learning is continually recapped and revisited to support the development of schemas. Teachers use their professional judgement to adapt planning as required to revisit particular concepts, or to move on more quickly, as need necessitates. The use of Working Walls in Science ensures that children are actively engaged in their Science lessons. Key vocabulary is explicitly taught, regularly used and constantly displayed in order to support subject-specific language development. When necessary, key vocabulary is pre-taught on a 1:1 basis or in small groups. Classroom adults are deployed effectively to support and enhance learning, creating and inviting opportunities for children to safely explore, question and problem solve with increasing independence. Teachers plan curricular and extra-curricular opportunities to suit their pupils' needs and abilities, interests and current events. They will consider the use of available resources, visitors and valuable educational visits when planning Science schemes of work.

Assessment in Science

Pupils' attainment in Science is assessed continually, through teacher assessment and in-the-moment marking and feedback. Since September 2024, regular mid-unit practical assessments have been planned for Key Stages 1 & 2 using the TAPS Focused Assessment Plans (Primary Science Teaching Trust).

Teachers make use of PLAN Assessment to pre-empt possible misconceptions, design very specific intended learning outcomes and inform next-steps. PLAN Assessment is an effective, accredited tool for moderation, helping to ensure that teacher assessment is accurate.
Regular teacher assessment tracks progress against age-related expectations. Teachers use these assessments to inform next-steps in their Science planning.
Statutory data for pupils' achievement is reported at the end of EYFS (EYFS Profile) and KS2.

Resources

Lytham CE acknowledges the need to continually maintain, update and develop its resources in order to ensure a high and safe standard of Science teaching across the school. Resources are kept centrally in the Science cupboard. Individual teachers are responsible for the collection and return of resources. Any breakages or lost resources should be reported to the subject leader. A range of Science books are available for children to choose from in the school library. Science unit-related books are displayed in classrooms for the duration of a Science unit. These are updated with each change of unit to support and enhance learning.

Monitoring and Review

The subject leader undertakes termly book-looks alongside Pupil Voice interviews (inside each classroom, so that pupils may refer to the Science Working Wall), as well as Science lesson drop-ins. The subject leader uses these moderation findings to inform next-steps for the subject, to identify areas for support and guidance and to provide the necessary support and guidance to staff.
The subject leader delivers at least three staff meetings a year to cascade updates from subject-specific CPD.
The 'Essential Ingredients' list sets out the subject leaders' expectations for the delivery of Science to ensure consistency across school. Regular moderation provides the opportunity for the subject leader to ensure that these expectations are being met. In any cases where this is not the case, the subject leader will work closely with members of staff to support coverage, planning, delivery or assessment (as appropriate). This may involve coaching, modelling and/or team-teaching.

The subject leader ensures they take a proactive approach to CPD. In this way, expectations and approaches are informed by quality-assured resources and up-to-date, subject-specific advice from a range of Science specialists.

This policy will be reviewed annually.

Signed: Mrs Vanessa Patterson

Date: August 2025

Review date: July 2026