



Lympstone C of E Primary School Science Policy

‘Let all that you do be done in love’

1 Corinthians 16:14

Vision Statement

“Let all that you do be done in love.” (1 Corinthians 16:14)

‘In doing this we aim to enable each child to flourish by celebrating their individual strengths so that their greatness is not overlooked. This creates a sense of dignity, respect and love for themselves, which they can then recognise and celebrate in others within the community and the world.

Science Policy Statement

This policy is intended to provide clear guidance for the delivery of the Science curriculum through-out the school and over the three stages: Foundation, Key Stage One and Key Stage Two. It aims to reflect the needs of the children within the school as expressed in the aims of the school and as set out in the National Curriculum. It is intended that this policy will provide a corporate statement of purpose, ensure that each and every child’s entitlement to Science experiences is realised and provide a clear basis from which to plan programmes of work.

Aims (Progression of skills)

The broad aims of Science are set out within National Curriculum (2014). The purpose of Science education in our school is to promote knowledge and enquiry about the world around them. By this, we mean that pupils are able to hold balanced and well-informed conversations about science both now and in the future.

The aims of Science are to enable pupils to:

- Know about and develop a conceptual understand of science through learning about biology, chemistry and physics.
- Develop an understanding of nature, processes and methods of science through scientific questioning and enquiries.
- Know and understand the use and implications of science, today and in the future.

Curriculum (how)

The curriculum for Science is designed to ensure scientific enquiry lies at the heart. A multi-disciplinary approach to curriculum design provides a balance between theory and practical enquiry and investigation. Our curriculum uses focuses on the developing knowledge and testing theories and ideas through practical investigation.

Scientific Knowledge and Conceptual Understanding: This focuses on developing the pupils' ability to use subject specific language to explain their scientific understanding. In addition to this, pupils will use and apply their mathematical understanding to analyse and interpret data through a range of scientific topics.

Nature, Processes and Methods of Science: This involves participating in a variety of types of scientific enquiry including: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils should seek answers to questions through collecting, analysing and presenting data.

Spoken Language: This develops the quality and variety of language that pupils hear and speak which are key factors in developing their scientific vocabulary and articulating scientific concepts clearly and precisely.

These three disciplines provide lenses through which each enquiry question is approached.

In accordance with the structure of the Nation Curriculum we have agreed that:

- In our Early Years classroom, we follow the Stepping Stones towards Early Learning Goals, which begins to develop children's awareness of Scientific understanding and investigation.
- At KS 1 pupils will develop their scientific enquiry skills through asking questions, performing simple investigations, recording data, making observation and beginning to record findings.
- At KS 2 pupils will continue to develop their scientific lines of enquiry through more abstract ideas as well as recognising how scientific ideas change and develop over time.

Science is taught weekly in each class to ensure that curriculum entitlement is met. To supplement this, we have additional events such as National Science Week.

Each classroom must have a Science display including key vocabulary for the topic of study as well as open and closed questions to consolidate learning and test new ideas.

Teaching Science

Science uses an enquiry-based approach to learning. Lessons include times to predict, investigate and analyse. A range of teaching strategies are used to ensure learning is challenging and relevant including the use enquiry based learning and whole class subject knowledge sessions.

Where possible we want our pupils to have opportunities to use ICT to further develop their understanding and enhance their learning. Children will have the opportunity to design and carry out investigations, analysing their findings to support their scientific line of enquiry.

Assessment

Pupils are assessed in terms of how they are making progress in relation to scientific knowledge and conceptual understanding; the nature, processes and methods of science as well as the spoken language within this. In broad terms the following principles have been applied to each aspect in terms of what it means to become more scientifically literate:

- Extending knowledge and understanding from the concrete and familiar to the abstract and complex
- Moving from simple ideas and beliefs/concepts to making connections between them and placing these within a bigger picture or meta-narrative
- Demonstrating increasing layers of understanding about the world around them through engagement with a broadening and increasingly complex range of information
- Showing an increasing ability to critically question and form coherent, logical justifications of scientific processes whilst first predicting and then analysing results.
- Expressing a broadening understanding of how science may change in the future.
- Respecting the views of others

Pupils are assessed using age-related expectations. This is done in a variety of ways e.g. through written activities, role play, art work, discussion... Progress is tracked termly through book scrutiny and teacher assessment. At the end of year 6 children will complete an assessment focussed on all areas covered throughout the Key Stage Two curriculum.

Assessment is regarded as an integral part of teaching and learning and is a continuous process. It is the responsibility of the class teacher to assess all pupils in their class. We assess the children in order to ensure that they make good progress in this subject and to plan future work.

In addition, pupils are encouraged to use self-assessment to evaluate their own knowledge and understanding. A comment about their progress is made in the annual report to parents.

Monitoring & Evaluation

The co-ordinator and Headteacher monitor Science provision and standards through observation, looking at work, talking to children and reviewing the curriculum with staff.

The co-ordinator is responsible for contributing to the school's self-evaluation process. In addition, the governing body monitor the role of Science and therefore contribution to the Christian ethos of the school.

Role of the Science Leader

- To ensure that the RE policy is implemented and to keep up to date with reviews.
- To have oversight of the RE curriculum and keep up to date with local and national changes.
- To monitor, review and update resources.
- To monitor pupil progress and achievement.
- To maintain and build priorities set by the school.
- To develop links with the community.
- To coach, mentor and support teachers in developing their strengths in teaching RE, including planning, arranging and delivering CPD as appropriate.
- To liaise with parents to ensure all children receive their entitlement.

Entitlement and Inclusion - EAL, PP, SC, SEND, More Able

All children are entitled to access a broad and balanced curriculum at an appropriate level. Teachers should include a range of teaching styles and groupings to allow all children to make progress. Every child should be given opportunity to develop their skills independently and in groups, enhancing their own confidence and self-esteem.

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