St Bernadette's Catholic Primary School

Science Policy

"Doing our best for God"

Date: September 2024

Review date: September 2026

Introduction

At St. Bernadette's, we aim to offer opportunities and experiences that will enable individuals to grow to their full potential. We therefore aim to provide a science education that gives children an foundation in learning scientific skills and understanding in preparation for secondary school.

Science is a core subject within the National Curriculum 2014. This policy is a statement of aims, principles and strategies for the teaching and learning of Science at St. Bernadette's Catholic Primary School.

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, process and methods of science** through different types of science enquires 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.

Planning

At St. Bernadette's, the science curriculum is taught in line with the National Curriculum Programme of Study for KS1 and KS2 with a focus on core knowledge and key scientific skills. Teachers use the long-term plan, KLIPS and the PLAN Progression document to inform their planning and to ensure the inclusion of skills for working scientifically.

Key Stage 1 (taken from the National Curriculum 2014)

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.

'Working scientifically' is described separately in the programme of study, but must **always** be taught through and clearly related to the teaching of substantive science content in the programme of study.

Additionally, pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

Lower Key Stage 2 (taken from the National Curriculum 2014)

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 and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what hey have found out.

'Working scientifically' is described separately in the programme of study, but must **always** be taught through and clearly related to the teaching of substantive science content in the programme of study.

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

Upper Key Stage 2 (taken from the National Curriculum 2014)

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 being 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 ad 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.

'Working scientifically' is described separately in the programme of study, but must **always** be taught through and clearly related to the teaching of substantive science content in the programme of study.

Additionally, pupils should read, spell and pronounce scientific vocabulary correctly.

EYFS

We teach science in the reception class as an integral part of the Understanding the World work covered during the year. As the reception class is part of the Early Years Foundation Stage of the National Curriculum, we relate the science side of the children's work to the objectives set out in the Early Learning Goals (ELGs) which underpin the curriculum planning for children aged three to five.

Inclusion & Equal Opportunities

At St. Bernadette's, we strive to offer all children an equal opportunity in learning. All children, irrespective of ability, race, gender or disability, are given full access to our science curriculum and make the greatest possible progress.

In order to provide work that is appropriate to the learning experiences of individual children, it is necessary for the teacher to consider the needs and accessibility of all lessons and activities to ensure that all children included. Teacher's may differentiate tasks for individuals according to their abilities

Assessment

All work is marked by the teacher that delivers the Science programme for a specific class. Feedback should be effective and address any misconceptions identified from the lesson. Work is marked against the learning objective.

Scientific knowledge and working is assessed by the teacher throughout each individual unit, with a summative assessment at the end of each unit using HeadStart Primary Science.

Recording and Evidencing Work

To record children's science work across both key stages, teachers are encouraged to use a variety of recording methods:

- Individual books (recording ideas, work and/or diagrams).
- Group work
- Photographs
- Audio / visual recordings

- Creative displays
- Floor books (teacher's digression)

Cross-curricular links

Where possible, teachers should aim to encompass a wide range of cross-curricular activities, making links to other subjects such as geography, maths, computing and design technology, as well as taking advantage of outdoor learning opportunities.

Resources

St. Bernadette's provides a range of practical, hands-on resources to promote enthusiasm for scientific enquiry, build interest and support learning. Staff are encouraged to incorporate the school's resources into their lesson or within an area on continuous provisions (EYFS / KS1).

Enrichment

Where appropriate to a unit in science, staff should consider the possibility of using the outdoor area and facilities made available to them by the school. Staff may opt to invite guest speakers or arrange for an experience day for their class.

Annually, the school participates in Science Week as well as additional science associated events.

Role of the Subject Leader

The subject leader is responsible for developing the standard of teaching and learning in Science through:

- Preparing and reviewing policy documents, curriculum plans and schemes of work for the subject
- Encourage staff to provide effective learning opportunities for all pupils, to develop valid activities appropriate for all pupils at different stages of development and which enables pupils to progress
- Help colleagues develop their subject expertise and organise and monitor their professional development
- Collect, evaluate and inform staff of all resource
- Ensure standard formats for planning and assessing are being used

- Provide annual subject action plans including costings and priorities which help inform the school development plan
- Organise and advise on the contribution of Science to other curriculum areas including cross-curricular
- Help with the monitoring and evaluation of the effectiveness of the subject within the school
- Monitor and update the Science webpage

Health and Safety

Precautions will be taken to ensure the safety of all children and adults during practical aspects of Science, which inclusive of allergies where investigations may include the use of food products. Particular care will be taken in practical investigations which uses a range of materials and equipment, especially those made of glass or involving electrical equipment. All staff are required to inspect resources prior to their use. Where necessary, staff should conduct a brief health and safety discussion with children and any use of sharp objects must be supervised at all times (excluding child-safe scissors).

Where resources have become damaged, the subject leader should be informed and the resource dispose of appropriately.

Signed: G Hopkinson

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