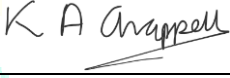




# SHAP ENDOWED CHURCH OF ENGLAND PRIMARY SCHOOL

## Science Policy

<b>Approved by</b>	
<b>Name:</b>	Katie Chappell and Education Standards Subcommittee
<b>Position:</b>	Head teacher
<b>Signed:</b>	
<b>Date:</b>	Summer 2024
<b>Proposed review date:</b>	Summer 2025

## Review Sheet

The information in the table below details earlier versions of this document with a brief description of each review and how to distinguish amendments made since the previous version date (if any).

Version Number	Version Description	Date of Revision
1	Original	May 2023
2	References made to <i>SEND in my Subject</i> References made to <i>Assessment in my Subject</i> Links made to partnership with UCC Links made to partnership with Enthuse Partnership	Summer 2024



# Science Policy

“With children and the church at the heart of our school, we are living in harmony (Romans 12:16) within our community, nurturing one and other to create an environment from which all can soar.”



## Introduction

Within the National Curriculum, Science is a core subject. This policy outlines the purpose, nature and management of the Science that is taught at Shap CE Primary School. It reflects the school's Science values and vision, developed by pupils and staff. This policy should be read in conjunction with the National Curriculum 2014 documentation, Shap School 'Skills and Knowledge Progression' documents which set out in detail what pupils will be taught in different year groups and through our two-year Science curriculum cycle. These documents are available on the school website.

## Aims and Objectives

In our school, Science is focused on developing children's ideas and ways of working that allow them to make sense of the world around us, through investigation, as well as using and applying process skills. We believe our Science education is broad and balanced and is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability. We intend to make teaching and learning in Science fun and exciting which in turn should allow all children to soar!

Our aims in teaching Science include the following:

- Developing scientific knowledge and conceptual understanding through the specific disciplines of Biology, Chemistry and Physics.
- Preparing our children for life in an increasingly scientific and technological world.
- Fostering concern about, and active care for our local community, environment and world around us.
- Helping develop and extend our children's scientific concept of their world.

## Attitudes

- Encouraging the development of positive attitudes towards Science both in school and at home.
- Building on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging open-mindedness, self-assessment, perseverance and responsibility.
- Building our children's self-confidence to enable them to work independently.
- Developing our children's social skills to work co-operatively with others.
- Providing our children with fun and enjoyable experiences of Science, so that they will develop a lasting interest and become self-motivated to study Science further and ask questions.

## Teaching and Learning Style

Our Science teaching focuses on enabling and allowing children to think as scientists. An emphasis is placed on experimenting and investigating, using resources to promote a visual and sensory stimulus to engage and interest children. The teaching should equip pupils to ask insightful questions, think critically, weigh evidence, scrutinise arguments, and develop perspective and judgement. Where possible, we encourage visitors and workshops from the local community and beyond, to come into school and talk about their experiences. We use a range of strategies to stimulate children's interest in Science. These include:

- Multi-sensory learning, as this promotes, interest through the immersive learning and environments.
- Effective use of resources such as; videos, ICT resources, experimental equipment gives opportunities for experiential learning.

We understand and recognise that children vary in abilities in Science and we always look to provide suitable learning opportunities for all children, by matching the challenge of the task, to the ability of the child. We achieve this by **(Please also see the document SEND in my Subject, this is available on the school website);**

- Setting common tasks which are open ended and can have a variety of responses;
- Setting tasks varying in difficulty;

- Grouping children so that there are mixed abilities of children to offer peer support and mentoring;
- Providing resources of different complexity depending on the ability of the child;
- Using classroom assistants to support children individually or in small groups.

## **Teaching Strategies**

### **Key Stage 1 Working scientifically (taken from the National Curriculum, programme of study):**

- asking simple questions and recognising that they can be answered in different ways
- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering questions

### **Lower Key Stage 2 Working scientifically (taken from the National Curriculum, programme of study):**

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

### **Upper Key Stage 2 Working scientifically (taken from the National Curriculum, programme of study):**

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments.

## **Early Years Foundation Stage**

Children in the EYFS (Nursery and Reception) will be taught Science through the specific areas:

- Understanding the World: The Natural World
- Personal, Social and Emotional Development: Managing Self
- Communication and language: Listening, Attention and Understanding

Understanding the world involves guiding children to make sense of their physical world and their community, allowing them opportunities to explore, observe and find out about people, places and the environment.

Throughout the year, children will work towards achieving the Early Learning Goals. It is taught through a combination of general daily activities, self-exploration and planned/teacher led/guided activities.

The EYFS framework is used to plan activities that:

- build on children's prior experiences and backgrounds
- draws in children's curiosity and encourages children to pursue their own questions and develop their own ideas
- engages children in in-depth exploration of a topic over time in a carefully prepared environment
- encourages children to reflect on, represent and document their experiences and share and discuss their ideas with others

- embedded in children's daily work and play and is integrated with other domains
- provides access to Science experiences for all children

The Foundation Stage Profile aims to give the children knowledge and skills so they can begin the National Curriculum.

## **Planning**

Throughout Key Stage 1 and 2, Science is taught through discrete weekly lessons, with Key Stage 1 also having scientific activities set up in their provision. In EYFS, the Science learning is incorporated into all areas of continuous provision and the scientific concepts are supported through the use of stories. If possible, Science is linked to the class topics, to create links and make learning more meaningful, although this isn't always the case. At Shap CE Primary School, we use the National Curriculum, Hamilton Trust, the Kent Scheme of Work for Primary Science and the EYFS Framework to plan Science units which cover a 2-year cycle. Children are taught working scientifically skills and scientific knowledge alongside each other. Teachers follow the whole school Science overview to ensure coverage, as well as the knowledge matrices the Science subject leader creates on each given topic. When possible, and throughout the year the outdoors and local community will be used to support the teaching and learning in Science.

The class teacher is responsible for weekly timetabling and lesson planning to ensure that the relevant Science units are covered throughout the year. Teachers will use a balance of:

- Teacher-prepared materials
- Website such as Hamilton Trust, BBC,
- Published resources
- A balance of scientific enquiries (observations over time, sorting and classifying, pattern seeking, research and fair testing)
- Visitors, e.g. parents, experts etc.
- Educational visits

## **Investigations**

Exploring and investigating is an integral part of the Science curriculum. Children have the opportunity to carry out a range of investigations. By the end of KS2, our aim is for the children to be more independent in planning and carrying out their own investigations, dependent on ability. Children will be taught the skills of:

- Raising questions
- Planning investigations
- Predicting
- Formulating hypotheses
- Problem solving
- Evaluating
- Estimating
- Measuring accurately
- Communicating scientific ideas in a range of ways
- Collecting data
- Fair testing
- Drawing conclusions

## **Equal Opportunities**

All children are offered a curriculum appropriate to their abilities which builds upon prior knowledge. It is up to the teacher to provide activities, extension work or added support so that all children may enjoy the learning process. [See the document SEND in my Subject for more information on this.](#)

## **Assessment and Record keeping of Science**

Science is a core curriculum subject and on-going assessment of this subject is an integral part of good practice. The main reason for assessment is to enable the teacher to match work to the abilities and needs of the pupils as they progress. In order to assess pupils' scientific understanding and skills, it is necessary to interact with pupils; listening to and observing them while they are working. It is important to recognise that there are some pupils

who can only display their abilities in practical ways or through their comments whilst they are working. There might not be any evidence of this in their written work. POP tasks are used to assess children throughout Science and at the end of a unit, teacher will use mind maps (which are created by pupils and used as evidence to show what individuals have learnt during each Science topic), quizzes using Plicker, the production of non-chronological reports to allow children to demonstrate the knowledge they have. **More assessment opportunities are outlined in the Assessment in Science document which is available on our school website: [Shap CE Primary School - Science](#)**

## **Organisation of Resources**

All Science resources are stored in a central store. It is the responsibility of the class teacher to order new and replacement stock, or identify the need for new resources and stock to the Science Subject Lead, if they have discovered we are missing resources that are needed or if resources are broken or not fit for use. The Science Subject Lead will carry out, an audit of equipment every two-years. **The Science Subject Lead will work with Becky Grace (Head of Physics at UCC and Governor at Shap CE Primary School) to look at borrowing more specialist equipment from UCC, especially to help support Science in UKS2. The Science Subject Lead will look into grants which can be used to extend the range of resources we have in school.**

## **Developing & Monitoring**

The plan for developing the Science curriculum and managing changes is outlined in the School and Subject Action Plan. It includes proposals for future development of the curriculum, use of resources, staff training needs, and the role of the subject leader in classroom support. Monitoring of the standards of children's work and the quality of teaching in Science is the responsibility of the Science subject leader and the link governor.

This is done by:

- Termly learning walks
- Termly book scrutinise
- Termly pupil interviews/questionnaires
- Termly meetings with the link governor

The work of the Science subject leader also involves supporting colleagues in the teaching of Science, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The Science subject leader liaises with the head-teacher and the link governor. They evaluate the strengths and weaknesses in the subject and indicate areas for further improvement.

**The Science Subject lead will also work with the ENTHUSE Partnership to look at ways we can develop Science across the school.**

## **Health and Safety**

All teachers will be familiar with the BE SAFE publication, which can be found in the Science cupboard. Whilst Primary Science does not require pupils to handle dangerous chemicals some Science lessons may involve investigations and demonstrations which are potentially hazardous under certain circumstances or if mishandled. Teachers will always refer to BE SAFE document and ensure that, where appropriate:

- they take necessary precautions
- inform children of potential dangers (e.g. water on the floor) and how to work safely.

Teachers will be aware of any allergies the children may have – eggs, pollen, animals. Pupils will be taught to use scientific equipment safely. Health and safety is a key part of Science lessons and because of this, teachers will discuss health and safety with children during all lessons. Any accidents will be recorded as detailed in the School's Health and Safety Policy.

**Policy prepared by Vicki Capstick (Science Subject Leader) in consultation with Head Teacher, staff and governors.**

**Witten - May 2023**

**Updated – Summer 2024**

**Date for next review -Summer 2025**