



# Guyhirn Church of England Primary School & Pre-school

*Member of the Diocese of Ely Multi Academy Trust*

This policy was ratified in:	February 2016
Reviewed:	March 2019, 2021, 2023 2025
To be reviewed:	March 2027

## Science Policy

### Our Vision

**Agape – To live, to learn, to love together**

Through our Christian values we aim to inspire all of our school community to show equality and tolerance to all in a safe, challenging environment.

Developing resilient, aspirational and compassionate individuals who are enthused by all faiths and lifestyles showing faith and belief in one another.

*“Live in agreement with one another. Do not be proud but ready to mix with everyone. Do not think yourself better than others.” - Romans 12:16*

*“An intelligent heart acquires knowledge, and the ear of the wise seeks it out.” - Proverbs 18:15*

*“Love the Lord your God, and love your neighbour as yourselves.” - Matthew 22:37*

### Our Values

We are a small, family centered Church of England Primary School that is committed to promoting our Christian values of Thankfulness, Compassion, Creativity, Peace, Hope, Endurance, Forgiveness, Tolerance, Kindness, Respect, Trust and Friendship each linked with the core value of Love.

We are determined to create an inclusive culture of learning where everyone will be challenged in their thinking, to succeed to the best of their abilities and strive to become lifelong learners.

We will empower our children to become respected citizens to enable them to make valuable contributions locally, globally and to contribute to our world's sustainable future.

## **Introduction**

This document is a statement of the aims, principles and strategies for the teaching and learning at Guyhirn CoE Primary School. It was developed in consideration of the demands of the 2014 Curriculum.

## **Rationale**

Science is a systematic investigation of the physical, chemical and biological aspects of the world which relies on first hand experiences and on other sources of information. The scientific process and pupils' problem-solving activities will be used to deepen their understanding of the concepts involved. The main aspects of science to be studied will be determined by the programmes of study of the National Curriculum 2014.

Through science pupils at Guyhirn CoE Primary School will continue to deepen their respect, care and appreciation for the natural world and all its phenomena.

## **Broad aims**

- to develop pupils' enjoyment and interest in science and an appreciation of its contribution to all aspects of everyday life
- to build on pupils' curiosity and sense of awe of the natural world
- to use a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of science
- to introduce pupils to the language and vocabulary of science
- to develop pupils' basic practical skills and their ability to make accurate and appropriate measurements
- to develop pupils' use of computing in their science studies.
- to extend the learning environment for our pupils via our environmental areas and the locality
- to promote a 'healthy lifestyle' in our pupils.

## **Aims**

- to develop pupils' enjoyment and interest in science and an appreciation of its contribution to all aspects of everyday life.
- to develop a knowledge and appreciation of the contribution made by famous scientists to our knowledge of the world including scientists from different cultures
- to encourage pupils to relate their scientific studies to applications and effects within the real world
- to develop a knowledge of the science contained within the programmes of study of the National Curriculum.
- to build on pupils' curiosity and sense of awe of the natural world

- to develop in pupils a general sense of enquiry which encourages them to question and make suggestions
- to encourage pupils to predict the likely outcome of their investigations and practical activities
- to use a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of science
- to provide pupils with a range of specific investigations and practical work which gives them a worth-while experience to develop their understanding of science
- to develop progressively pupils' ability to plan, carry out and evaluate simple scientific investigations and to appreciate the meaning of a 'fair test'.
- to develop the ability to record results in an appropriate manner including the use of diagrams, graphs, tables and charts
- to introduce pupils to the language and vocabulary of science
- to give pupils regular opportunities to use the scientific terms necessary to communicate ideas about science
- to develop pupils' basic practical skills and their ability to make accurate and appropriate measurements
- within practical activities give pupils opportunities to use a range of simple scientific measuring instruments such as thermometers and force meters and develop their skill in being able to read them.
- to develop pupils' use of ICT in their science studies
- to give pupils opportunities to use ICT (video, digital camera, data logger) to record their work and to store results for future retrieval throughout their science studies
- to give pupils the chance to obtain information using the internet.

### **Principles of teaching and learning**

Science will be planned to give pupils a suitable range of differentiated activities appropriate to their age and abilities. Tasks will be set which challenge all pupils, including the more able. For pupils with SEN the task will be adjusted or pupils may be given extra support. The grouping of pupils for practical activities will take account of their strengths and weaknesses and ensure that all take an active part in the task and gain in confidence.

### **Breadth, Balance and Variety.**

Pupils will be involved in a variety of structured activities and in more open-ended investigative work to broaden their knowledge understanding as well as applying their skills:

- activities to develop good observational skills
- practical activities using measuring instruments which develop pupils' ability to read scales accurately
- structured activities to develop understanding of a scientific concept

- open ended investigations.
- on some occasions pupils will carry out the whole investigative process themselves or in small groups.

Wherever possible science work will be related to the real world and everyday examples will be used.

### **Cross-curricular skills and links**

Science is important in our everyday lives and we will relate it to all areas of the curriculum. We will also ensure that pupils realise the positive contribution of both men and women to science and the contribution from those of other cultures. We will not only emphasise the positive effects of science on the world but also include problems, which some human activities can produce.

### **Continuity and Progression**

Foundation Stage pupils investigate science as part of Understanding of the World. Children are encouraged to investigate through practical experience; teachers guide the children and plan opportunities that allow the children to experience and learn whilst experimenting for themselves. By careful planning, pupils' scientific skills and knowledge gained at Key Stage 1 will be consolidated and developed during Key Stage 2.

Pupils in Key Stage 1 will be introduced to science through focused observations and explorations of the world around them. These will be further developed through supportive investigations into more independent work at Key Stage 2. The knowledge and content prescribed in the National Curriculum will be introduced throughout both key stages in a progressive and coherent way.

### **Equality of Opportunity**

All children have equal access to the science curriculum and its associated practical activities. The SLT, Class Teachers and TAs are responsible for ensuring that all children, irrespective of gender, learning ability, physical disability, ethnicity and social circumstances, have access to the whole curriculum and make the greatest possible progress. Where appropriate, work will be adapted to meet pupils' needs and, if appropriate, extra support given. More able pupils will be given suitably challenging activities. Gender and cultural differences will be reflected positively in the teaching materials used.

All children have equal access to the Science Curriculum, its teaching and learning, throughout any one year. This is being monitored by analysing pupil performance throughout the school to ensure that there is no disparity between groups.

## **Health and safety**

Pupils will be taught to use scientific equipment safely when using it during practical activities. Class Teachers and Teaching Assistants will check equipment regularly and report any damage, taking defective equipment out of action.

## **Assessment for Learning, recording and reporting**

Throughout the school teachers will assess whether children are working at/above or below the expected level for their age based on their understanding and application of the content of the National Curriculum 2014. Progress and attainment is reported to parents through parents' evenings and end of year reports.

## **Marking for Improvement (see policy)**

Work completed in science lessons can be of a practical or oral nature as well as recorded in written forms. Written work is marked regularly and clearly, as an aid to progression and to celebrate achievement. When appropriate, pupils may be asked to self-assess or peer assess their own or other's work.

Marking for improvement comments in a child's book must be relevant to the learning objective to help children to better focus on future targets.

## **Role of the subject Leader**

The subject coordinators will:

- Take the lead in policy development
- Take the lead in implementing the curriculum topics to ensure progression and continuity across the school
- Support colleagues in the development of detailed plans and the implementation of the units of work
- Support colleagues in assessment and record keeping activities
- Monitor progress in geography and advise the Head Teacher on action needed
- Take responsibility for the purchase and organisation of central resources
- Keep up to date with developments in science education and disseminate information to colleagues as appropriate

## **Resourcing**

Specialist pieces of equipment and those posing a potential safety risk will be held centrally and staff access when required.