



**GREAT FINBOROUGH
CHURCH PRIMARY**

Science Policy

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Great Finborough Church Primary Science Policy

Purpose of study

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils are taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils are encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They are encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Aims

Our science curriculum 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, processes and methods of science** through different types of science enquiries 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.

Coverage and Skills

Pupils are taught the knowledge and understanding detailed in National Curriculum 2014 and this is incorporated where appropriate into themes or topics designed to allow cross curricular links and motivational contexts for learning.

Coverage is mapped into year groups and where mixed classes are taught these maps include rolling programmes or 'cycles' to ensure all children receive their subject entitlement. In addition to this statutory coverage, pupils are taught additional aspects of scientific knowledge which is deemed relevant to the topic and appropriate to the interests and needs of particular cohorts.

While teaching the coverage outlined in the programmes of study, a strong emphasis is placed on the development of scientific skills through practical activities, experimentation and discussion. To ensure all skills are covered, teachers plan with reference to the 'Chris Quigley Essentials' skills list.

Pupils are encouraged to develop their ability to explain their knowledge skills and understanding using everyday language and also with increasing levels of scientific and technical vocabulary.

Early Years Foundation Stage

The specific area 'Understanding of the World' taught in the EYFS encourages the early development of scientific curiosity and understanding and skills such as experimentation and observation. Children are guided to question and find answers and to use their growing knowledge to attempt to explain what they see.

Key Stage One

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 are encouraged to be curious and ask questions about what they notice. They are 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 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 is done through the use of first-hand practical experiences, but there are also some use of appropriate secondary sources, such as books, photographs and videos.

Lower Key Stage Two

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 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 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, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

Upper Key Stage Two

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 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 encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They also begin to recognise that scientific ideas change and develop over time. They 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 and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils 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.

Assessment

The progression of skills and acquirement of knowledge is assessed continuously by teachers through their observations and questioning of pupils and through the children's recorded work.

At the end of each half term or unit of science, pupils are assessed against the 'milestones' outlined in the 'Essentials' document. Pupils are deemed to be working at a basic, advancing or deep level within each milestone depending on their level of competence, understanding and ability to apply and generalise their knowledge across a range or relevant contexts and to explain their learning.

Inclusion

Through careful planning, differentiation of learning activities, resources and recording opportunities we ensure that all pupils are able to access the science curriculum in school at an appropriate level.

Monitoring

Standards, progress, resourcing and staff training are monitored by the subject leader, overseen by the Headteacher. This is achieved by the analysis of the whole school tracking system, discussions with staff and pupils and scrutiny of pupils work.

Review

This policy will be reviewed when appropriate.

Susan Baldry

Science Leader.