The Federation of the Church Schools of Shalfleet and Freshwater & Yarmouth

Together for a Brighter Future

SCIENCE

A STATEMENT OF POLICY

Approved by	**TG/SH**
Portfolio	**Standards**
Approved on	**Summer 24**
Review date	**Summer 27**
Review Cycle	**3 Year**

SCIENCE POLICY

AIMS

Our Science Policy follows The National Curriculum for Science Guidelines and 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.

Building opportunities for primary pupils to do Science activities within the STEM curriculum enriches the curriculum, builds knowledge and understanding and develops skills. Hands-on and minds-on develop key competencies such as collaboration, creativity, critical thinking and problem solving, good listening and communication skills. There are opportunities to promote values that are needed in the world of further education and eventually work – respect, resilience, risk-taking and resourcefulness. As pupils explore and investigate and begin to see the STEM-related connections to their world – their interests will be sparked and they will develop confidence, passion, knowledge, understanding and the skills to succeed in life.

PURPOSE OF STUDY

A high-quality Science education provides foundations for understanding the world. Science has changed our lives and is vital to the world's future prosperity. Through building key foundation knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how key knowledge and concepts can be used to explain what is occurring, predict how things will behave, and analyse causes. This understanding should be consolidated through their appreciation of applications of Science in society and the economy.

In teaching Science we are developing in our children:

- a positive attitude towards Science and an awareness of its fascination;
- an understanding of Science through a process of enquiry and investigation;
- confidence and competence in scientific knowledge, concepts and skills;
- an ability to reason, predict, think logically and to work systematically and accurately;
- an ability to communicate scientifically;
- the initiative to work both independently and in co-operation with others;
- the ability and meaning to use and apply Science across the curriculum and real life.

PLANNING

Content

Science is a core subject in the National Curriculum. The fundamental skills, knowledge and concepts of the subject are categorised into four attainment targets.

1. Scientific enquiry, which is taught through contexts taken from;
2. Life processes and Living things
3. Materials and their properties
4. Physical processes

School curriculum

The programmes of study for Science are set out year by year for Key Stages 1 and 2. We are however, only required to teach the relevant programme of study by the end of the key stage. Within each key stage, schools have the flexibility to introduce content earlier or later than set out in the programme of study and may introduce key stage content during an earlier key stage if appropriate.

Teachers will base their planning on the programmes of study for their relevant year groups.

Scientific knowledge and conceptual understanding
The programmes of study describe a sequence of knowledge and concepts. While it is important that pupils make progress, it is also vitally important that they develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage.
Pupils should be able to describe associated processes and key characteristics in common language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of Science, including collecting, presenting and analysing data.

Attainment targets
By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Foundation Stage
Reception classes are taught the required Science elements of the foundation stage document through cross curricular links and/or based on the interest of the pupils.

Key Stage 1
The main 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.
Pupils should read and spell scientific vocabulary at a level consistent with their reading and spelling knowledge at Key Stage 1.

Lower Key Stage 2 – Years 3 and 4
The main 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, noticing patterns, grouping and classifying things, carrying out simple 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 they have found out.
Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing reading and spelling knowledge.

Upper Key Stage 2 – Years 5-6
The main 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 begin 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 and classifying things, carrying out 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. Pupils should read, spell and pronounce scientific vocabulary correctly.

Monitoring
Monitoring of Science teaching is carried out through a program of observations, learning walks, discussion with pupils, work scrutiny and data analysis by the Science Leaders, and SLT staff. The findings are fed back to all staff and next steps put in place.

Equal Opportunities
At The Federation of the Church Schools of Shalfleet and Yarmouth we work to ensure that all children have the opportunity to gain scientific knowledge and understanding regardless of gender, race, class, physical or intellectual ability. We will ensure that expectations do not limit pupils' achievements and that assessments do not involve any cultural, social, linguistic or gender bias.

Health and Safety

- The teacher should be clear as to the purpose of the work and ensure that any testing that needs to be carried out complies with the Health and Safety procedures and has been practised prior to the lesson.
- Safety hazards should be pointed out to the children at the beginning of any work.