St. Peter's C of E Primary School

Science Policy

Vision Statement

'Faith, Family, Future'

Jesus built his church upon the strength of St Peter – who was his rock. At St Peter's, we provide a solid foundation on which our community thrives through our rich, aspirational curriculum. As a family, we nurture and unlock individual potential through mutual love and respect; enabling all to flourish now and in the future.
'Each of you should use whatever gift you have received to serve others'
1 Peter 4 v10

Introduction

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 should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational 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 science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Aims and objectives

The National Curriculum aims for Science are to:

- To prepare our children for life in an increasingly scientific and technological world.
- To foster concern about, and actively care for, our environment.
- To help develop and extend our children's scientific concept of their world.
- To develop our children's understanding of the international and collaborative nature of science.
- To develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.

- To develop understanding of the nature, processes and methods of science through different types of scientific enquiries that help our children answer scientific questions about the world around them.
- To equip children with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Curriculum for Science Education

At St Peter's CEP School, we follow the Kapow Scheme of work for Science. Teachers use this scheme to plan specific activities and learning opportunities, which develop both the knowledge and skills that children need to progress. Conceptual understanding and Working Scientifically skills are incorporated and explicitly taught within each unit of work. The scheme, and teachers' use of it, ensures that there is clear progression, continuity and coverage throughout the school. Careful long-term planning ensures breadth and depth within the two- year planning cycle.

In order to ensure inclusion and engagement across all ability levels, tasks are often open-ended, facilitating a range of outcomes and results; tasks are pitched to build on children's existing knowledge and understanding and, when necessary, pupils are paired or grouped sensitively. Children revisit previous learning as they move through the school. Low stakes quizzes on Kahoot are created at the end of units which can be used for future retrieval practice. Memory maps of learning are created using working walls, key learning and vocabulary and these move through the school alongside the children. Supportive scaffolds are put in place for all children, this may be in the form of word banks including Widgit symbols or substitution tables.

Teaching and Learning

In EYFS and key stage 1, pupils experience and observe phenomena, looking closely at the natural world around them. They are encouraged to be curious and ask questions about what they notice. They use 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.

In lower key stage 2, pupils 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. They begin to develop 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. They draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

In upper key stage 2 pupils 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 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. 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.

Health and Safety

Health and safety issues may arise in science education on a number of occasions for example, when pupils:

- Handle equipment
- Handle materials
- Consume food.

Teachers will conform to guidelines in the school's health and safety policy in these circumstances.

Assessment, Recording and Reporting

Assessment in science education will:

- Involve identifying suitable opportunities in the Kapow scheme of work.
- Seek to identify development in the different areas of learning in the subject and not only in the acquisition of factual knowledge.
- Recognise the range of skills and knowledge which the subject seeks to develop.
- Employ well defined criteria for marking and assessment which identify progress and achievement as well as effort, following the school's marking policy.
- Include pupil self-assessment.
- Enable effective tracking of pupil progress to identify areas for development in pupil's knowledge and understanding, as well as whole school areas for development.
- Enable effective reporting to parents.

Role of the Science subject leader

The subject leader will:

- Ensure that all pupils receive their legal entitlement of science education.
- Produce and regularly review a subject policy to ensure that it remains up to date.
- Ensure all teachers know what should be taught in science education, what resources are available, and what standards of attainment are expected at the end of each Key Stage.
- Monitor and review the implementation of policy and units of work.
- Monitor the quality and effectiveness of teaching and learning in Science and pupils' progress and standards.
- Ensure there are rigorous assessment systems in place to enable teachers and pupils to gauge progress and attainment in Science.
- Monitor, analyse and question Science assessments carried out by staff.
- Liaise with the HT and Governors to feedback on the monitoring and impact of Science across the school.
- Support colleagues by sharing new ideas and pedagogy, to help develop their subject confidence and expertise through CPD opportunities and support sessions.
- Seek opportunities to share effective practice locally and regionally and engage in professional development for themselves and other staff members.

- Oversee the Science budget and monitor Science resources to ensure they are kept and stored respectfully and replaced where necessary.
- Ensure there is a school protocol, that covers safeguarding procedures and a suitability process, for when visitors are invited into Science lessons.

Resources

Science education will be funded to enable a range of resources to be purchased. Funding will also allow, where possible, visitors and groups to visit the school and provide INSET for staff. All resources will be listed, stored, be easily accessible and kept in good condition.

Date of validation…… Signed…….

Chair of Governors

Date of review…… Signed…….

Chair of Governors

Reviewed October 2024