St Cuthbert's Primary School Science Policy

Vision:

In our family school, we strive to be the best for today, for tomorrow, for ourselves, for each other, the wider world and for God.

As a Christian family we nurture an understanding that we are all of equal value and infinite worth.

In the safety of our unique family we will flourish and grow towards being Global Citizens and Courageous Advocates.

('You are now citizens together with God's people and members of the family of God'. Ephesians 2:19)

Mission statement:

Learning to love, loving to learn in the family of Christ.

('Encourage one another and build each other up'- 1 Thessalonians 5:11)

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. 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. – National Curriculum 2015

Science Intent Statement

At St Cuthbert's C of E Primary School, we recognise the importance of Science in every aspect of daily life. In the safety of our unique family we endeavour to ensure that the Science curriculum we provide will give children the confidence and motivation to flourish and grow in their science knowledge and understanding of the wider world.

As a core subject, Science gets the prominence it requires. In the Early Years our youngest minds are guided, to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment. Across Key stage 1 and Key Stage 2, Science is taught discreetly every week where students develop curiosity and excitement about the natural world, understanding how science can be used today and in the future.

It is our intention to continue to build a curriculum which meets the needs of all our students. Sound in the knowledge that we all are of equal value and infinite worth; our Science curriculum will develop student's scientific knowledge; sparking a questioning mind about ways in which Science influences everyday life.

Our investigative Science work is committed to nurturing curious young minds, allowing students to take risks, ask thoughtful questions and develop ways in which they become courageous advocates for an ever changing scientific world. Ultimately, this will assist our students in believing that they can be the best for today, tomorrow, themselves and for others.

Implementation

At St Cuthbert's C of E Primary School and in conjunction with the aims of the National Curriculum, our Science teaching offers opportunities for children to:

- 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;
- Be equipped with the scientific knowledge required to understand the uses and implications of Science, today and for the future.
- Develop the essential scientific enquiry skills to deepen their scientific knowledge.
- Use a range of methods to communicate their scientific information and present it in a systematic, scientific manner, including I.C.T., diagrams, graphs and charts.
- Develop a respect for the materials and equipment they handle with regard to their own, and other children's safety.
- Develop an enthusiasm and enjoyment of scientific learning and discovery.

Impact

At St Cuthbert's our students are Scientists; experiencing 'wow moments', using their capabilities to approach unknown and unexplainable phenomenon with awe and wonder knowing that there are no limits to their ambitions and aspirations for the future.

Our Aims and objectives

Quality teaching in Science within the National Curriculum will allow children to develop the following attributes;

- The ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings.
- Confidence and competence in the full range of practical skills, taking the initiative in, for example, planning and carrying out scientific investigations.
- Excellent scientific knowledge and understanding which is demonstrated in written and verbal explanations, solving challenging problems and reporting scientific findings.
- High levels of originality, imagination or innovation in the application of skills.
- The ability to undertake practical work in a variety of contexts.
- A passion for science and its application in past, present and future technologies.

Teaching and Learning

Organisation

Science is taught discreetly each week by the class teacher through units of work planned using the National Curriculum. In Science, individual and group work alongside whole class teaching are used as and when appropriate.

Planning

Planning is used to set clear, achievable goals, through a sequence of lessons which scaffold and build learning each week. Teachers will plan their units of work using the National Curriculum and Developing Experts, Teachers will refer to the schools medium term plans to ensure core knowledge for each topic is taught. This ensures progression of skills, continuity and subject coverage throughout the school.

Teaching in EYFS is planned and delivered in accordance with the EYFS principles. The statutory Early Learning Goals provide the basis for planning throughout the EYFS laying secure foundations for future learning.

Working Scientifically

The emphasis in teaching science is that, "across all year groups scientific knowledge and skills should be taught through the application of working scientifically".

Therefore;

- Most study of science is through practical investigative work.
- Careful observation is fostered.
- Resources are made available and accessible within financial constraints.

When working scientifically, teachers will make an explicit link to how children are being scientists through a WS learning objective. These objectives will be displayed on the Science working wall and used as part of the LO title in books.
Teachers are also encouraged to use the working scientifically icons to support visual learners in understanding how they are working scientifically.

Cross Curricular Links

Science is delivered by the class teacher through units of work planned using the National Curriculum and Developing Experts. These topics encourage cross curricular links and the application of scientific thinking in other areas. It is widely encouraged that our outdoor space and forest school lesson are utilised to ensure that the work pupils complete in their science lessons is enriched by the experiences they encounter outdoors.

Inclusion

In accordance with our equal opportunities policy, all our pupils are given access to the National Curriculum. We endeavour to help all children to reach their full potential irrespective of gender, race, class, ability, age or belief.

Assessment, Recording and Reporting

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 as set out in the National Curriculum.

Assessment is essential in order to ensure effective teaching and learning. Teacher assessment for learning is continuous throughout the planning, teaching and learning cycle. However, children are more formally assessed in KS1 and KS2 using a variety of methods:

- Check in and Check out cards to be used to assess core knowledge in line with Medium Term Plans.
- Observing children at work, individually, in pairs, in a group, and in classes.
- Questioning, talking and listening to children
- Head Start Topic tests are available be used at the end of each unit of learning. Teachers can complete more formal assessments to use alongside their teacher assessments in order to make an informed judgement of pupils' attainment.

Teachers will report to the Science Lead on their classes attainment at the end of each half term.

End of Key Stage Assessments

At the end of KS1 and KS2, teachers will make a judgement to assess the children's abilities in Science. They will be assessed at either 'working at the age related expectation' or 'working towards the age related expectation' in Science.

Science at Foundation Stage is covered in the 'Understanding the World' area of the EYFS Curriculum. It is introduced indirectly through activities that encourage every child to explore, problem solve, observe, predict, think, make decisions and talk about the world around them. EYFS teachers will assess the pupil's ability according to the ELG set out in the 'Development Matters' Document.

The Role of the Subject Leader

- ❖ Continually monitor Science, including the effectiveness of the policy and schemes of work, with the Headteacher and individual teachers.
- ❖ Support staff in the implementation of the schemes of work used; including planning, use of resources, assessment and record keeping.
- ❖ Organise and maintain central resources for Science
- ❖ Develop own knowledge of subject by appropriate training.

Resources and their accommodation

It is the responsibility of each class teacher to identify resource needs in relation to their Schemes of Work with funding for major items considered centrally.

Topic related resources are kept in each classroom and can be sourced through the School's science resource catalogue.

Health & Safety

All staff understand the importance of Health and Safety and incorporate this into their planning. Children are encouraged to consider such matters as an important part of their work. They are shown how to develop an awareness of safety within their lessons.

St Cuthbert's subscribes to CLEAPS which offers a plethora of advice and information on how schools can work safely in Science lessons. Teachers must use this website and act on advice to ensure all practical science lessons are carried out safely.

When completing practical Science lessons, the children will be included in the process of risk assessment which will be displayed on the class working wall.

Updating Documentation

This policy document will be regularly reviewed to assess its value as a working document.