

All Saints' C of E (C) Primary School

Science Policy



'Believe to Achieve'

Mission Statement

'To provide quality education for our children in a happy, secure Christian environment, encouraging pupils to achieve their potential academically, spiritually and socially.'

General Principles and Philosophy

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.

National Curriculum 2014

At All Saints' C of E (C) Primary School we believe that science activities provide children with the opportunity to explore and understand their world. By encouraging creative thinking and teaching methods of enquiry and investigation we hope to stimulate children's curiosity in discovering why and how things happen. Moreover, they can start to appreciate how science affects their lives now and the impact it will have in the future by asking, and seeking the answers to, scientific questions through collecting, analysing and presenting data.'

By providing children with meaningful scientific experiences, in which they are actively engaged, we enable children to experience excitement and to develop curiosity, ingenuity and problem solving skills whilst also empowering them to develop collaborative and communication skills. In this way, science in school reflects the real world where scientists extend the boundaries of scientific knowledge and skills through research and collaboration. "Working scientifically" is embedded in all scientific activities in order to promote the key features of scientific enquiry such as: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Well planned science activities facilitate children's development of all elements of the Secrets of Success: try new things, work hard, concentrate, push yourself, imagine, improve, understand others and don't give up (Chris Quigley, 2010). The social and economic implications of science are taught within the wider school curriculum.



The National Curriculum

At All Saints' C of E (C) Primary School we aim to fulfil the National Curriculum requirements for Science at Key Stage 1 and Key Stage 2 by following the Programmes of Study presented in the National Curriculum for Science 2014.

Key Stage 1

In Key Stage 1 children experience and observe phenomena, looking closely at the natural and constructed world around them. They are encouraged to be curious and ask questions about what they observe. They 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 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 is also some use of appropriate secondary sources, such as books, photographs and videos. 'Working scientifically' is taught through practical science activities from the programme of study.

Lower Key Stage 2 - Years 3 and 4

In Lower Key Stage 2 children broaden their scientific view of the world around them by exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments. In addition, they begin to develop their ideas about functions, relationships and interactions. They ask their own questions 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 scientific language to talk and write about what they have discovered. 'Working scientifically' is taught through practical science activities from the programme of study.

Upper Key Stage 2 - Years 5 and 6

In Upper Key Stage 2 children 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. Furthermore, 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. Children 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. 'Working scientifically' is taught through practical science activities from the programme of study.



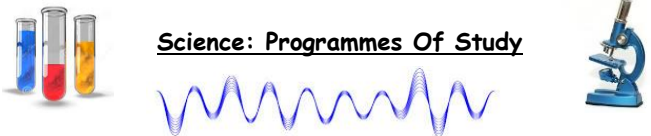
Aims

The aims of the Science Curriculum at All Saints' C of E (C) Primary School are:

- To develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- To develop an understanding of the nature, processes and methods of science through different types of science enquiries that help children to 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.
- To emphasise the connections between science and other curriculum areas (for example, mathematics and technology).
- To stimulate a positive attitude towards science, an interest in scientific principles and enjoyment in scientific activities.
- To help children to acquire and use scientific language accurately and precisely whilst building an extended specialist vocabulary.
- To enable children to be confident and safe when using a range of scientific tools and equipment, and to be prepared to formulate their own scientific questions and experiments.
- To encourage children to think logically when applying scientific principles whilst also encouraging creativity when solving scientific problems.

Objectives

The objectives for science are clearly defined within the Programmes of Study which can be located within The National Curriculum for Science 2014.

 Science: Programmes Of Study		
All Years	Working Scientifically	
Year 1	Plants Seasonal Changes	Animals Including Humans Everyday Materials
Year 2	Living Things And Their Habitats Plants	Animals Including Humans Uses Of Everyday Materials
Year 3	Plants Rocks Forces And Magnets	Animals Including Humans Light
Year 4	Living Things And Their Habitats States Of Matter Electricity	Animals Including Humans Sound
Year 5	Living Things And Their Habitats Properties And Changes Of Materials Forces	Animals Including Humans Earth And Space
Year 6	Living Things And Their Habitats Evolution And Inheritance Electricity	Animals Including Humans Light



Assessment, Monitoring and Evaluation

Staff assess the quality and depth of children's knowledge, understanding and skills through the use of Rising Stars assessment tool, observation, marking of written work and verbal discussion. The children are also given the opportunity to self-evaluate their learning, knowledge, understanding and skill level. They also peer-assess each other's work.

The subject leader undertakes book audits, the results of which are recorded, passed onto Senior Management and individual staff members. Discussions also take place regarding coverage of the curriculum and resourcing issues. A Scientific Investigation Day also takes place on an annual basis which provides the opportunity for the subject leader to assess the progression of skills throughout the school and talk to children about their enjoyment, learning, skills and knowledge.

Equal Opportunities

All children (irrespective of gender, disability, religious belief/faith tradition, sexual orientation, age or any other of the characteristics protected in the Single Equalities Act 2010) are entitled to participate in and benefit from a broad range of appropriate scientific activities.
(Refer to All Saints' C of E (C) Primary School's Equality Statement)

Special Educational Needs and Very Able and Talented Children

All children at All Saints' C of E (C) Primary School will be provided with high quality teaching that is differentiated to meet the diverse needs of all learners.

(Refer to All Saints' C of E (C) Primary School's SEN Policy and All Saints' C of E (C) Primary School's Policy for Very Able and Talented Children)

RLBH 2015

