

Science Policy

September 2016

This policy outlines the teaching, organisation and management of science taught at Holy Trinity CE Primary School. The school's policy for science is based on the 2014 National Curriculum for key stages 1 and 2 and the EYFS statutory framework for the foundation stage. The implementation of this policy is the responsibility of all teaching staff.

The 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 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.

The National Curriculum in England 2014

Aims

At Holy Trinity we aim 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.

Curriculum

The programmes of study for science are set out year-by-year for key stages 1 and 2 in the national curriculum. Key stage 2 teachers teach the programme of study set out in the national curriculum for their year group. Key stage 1 teachers work on a 2 year cycle to ensure that all children in year 1, year 1/2 and year 2 access both the year 1 and year 2 programmes of study by the end of key stage 1. The national curriculum gives a full breakdown of the statutory content to be taught within each unit. Non-statutory guidance is also provided which staff members are encouraged to use.

'Working scientifically' specifies the understanding of the nature, processes and methods of science. There is a working scientifically programme of study for key stage 1, lower key stage 2 and upper key stage 2. Opportunities for working scientifically should be provided across both years in each key stage so that the expectations in the programme of study can be met by the end of the key stage. Working scientifically includes: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils are required to work scientifically within all areas of the science curriculum; it should

not be taught as a separate strand. The national curriculum provides notes and guidance on how pupils might 'work scientifically' within each unit.

Science in the Foundation stage is taught through the strand 'Understanding the World'. This area of study involves guiding children 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. The EYFS statutory framework specifies the early learning goals for 'Understanding the World' which children should achieve by the end of the foundation stage. The foundation stage use Development Matters which provides non-statutory guidance.

Planning and organisation

Science is taught discretely in key stages 1 and 2, however teachers are encouraged to make links to other areas of the curriculum. At KS1 pupils should spend the equivalent of 1 hour a week on science and at KS2 this rises to the equivalent of 2 hours a week.

Science in the foundation stage is taught through topics which ensure full coverage of the statutory requirements.

Long term planning: The curriculum map outlines the units to be taught in each year group.

Medium term planning: Teachers complete a medium term plan for each unit of work. The medium term plan should identify learning objectives, main learning activities including differentiation, scientific vocabulary to be used and opportunities to 'work scientifically'.

Short term planning: Short term planning is solely for the benefit of the class teacher and is used to build on medium-term planning.

Assessment, recording and reporting

Science units in key stages 1 and 2 commonly begin with an assessment of what children already know using strategies including KWL grids, mind maps and formal assessments. Teachers will make ongoing assessments of children's learning using tracking sheets. They will then record whether children are on track to achieving the end of year expectations using a scale of 1-5. A final judgement using the same scale will be given to each child at the end of the year. The foundation stage make ongoing assessments of the children and assess the children against the early learning goals at the end of the foundation stage.

Children in key stages 1 and 2 use science books to record their learning. The foundation stage use learning journeys to keep a record of observations made of the children's learning and work produced by the children.

Progress and attainment is reported to parents through a parents' evening in the autumn and spring terms and an end of year report.

Equal opportunities

At Holy Trinity teachers ensure that they adopt an inclusive approach to their science planning and teaching; ensuring that pupils of all abilities and backgrounds have an equal opportunity to make good progress and enjoy science. Within Science, tasks are differentiated to ensure access to the National Curriculum. Pupils with above average ability are to benefit from a curriculum which offers challenge and opportunities for investigation in order to extend their learning.

Health and safety

Pupils will be taught to use scientific equipment safely when using it during practical activities. Class teachers will check equipment before use and report any damage to the science co-ordinator. A simple risk assessment will be carried out for all practical activities. Teachers should also refer to the 'Be Safe' document which is located with the Science resources.

Resources

All science resources are stored in the cupboards in 5F. The science subject leader is responsible for ordering resources and should be informed of any changes regarding science resources i.e. missing or broken resources and/or when new or replacement resources are required. Unsupervised children should not be allowed to collect or return any resources.

Review date: September 2019