

Science Policy

Mission Statement

To follow in Jesus' footsteps, caring for each other when we work, play and pray.

Intent

The aims and objectives of the policy are to stimulate and promote children's curiosity and understanding of natural phenomena in our world. The school's Catholic ethos strives to create a learning environment where every child is encouraged and enabled to develop to their full and unique potential as human beings, made in the image and likeness of God. Children are taught tolerance and a commitment to supporting each other within lessons, particularly when working together during scientific enquiry tasks. We are committed to promoting resilience amongst our pupils and developing their independent learning skills. Our aim is also to ensure children from all backgrounds have access to a stimulating learning environment.

At St. Joseph's Catholic Primary School we recognise that all children have rights as outlined in the UN Convention. As duty bearers, we have the responsibility to respect these rights and are committed to supporting our children through their education and to ensure that they are rights-holders.

We aim to provide our pupils with: their 'right to find out things and share what you think with others by talking, drawing, writing or in any other way unless it harms or offends other people' as stated in Article 13.

Through Science we promote an awareness of healthy life styles and well-being within lessons as stated in Article 24.

The right to 'a good quality education. You should be encouraged to go to school to the highest level you can' as stated in Article 28.

We also provide opportunity for children to develop their talents. We also provide the environment for the discussion of Scientific principles and how they link with the faith of the children as stated in Article 29

The National Curriculum for Science aims to ensure that all pupils:

- Ask and answer scientific questions.
- Plan and carry out scientific investigations using appropriate equipment.
- 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.
- Develop a secure understanding of each block of knowledge and concepts.
- Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.
- Use technical terminology accurately and precisely.
- Evaluate evidence and present their conclusions clearly and accurately.
- Apply scientific concepts to other areas of knowledge.

Implementation

Teaching and Learning Style

Teachers use a variety of teaching and learning styles when delivering science lessons.

These teaching and learning styles will include;

- Whole class teaching
- Group based teaching
- Research activities
- Investigation activities
- Demonstration and observation

These strategies will help to develop children's knowledge skills and understanding. Children will also be encouraged to be 'active' participants by learning to ask and answer appropriately, take part in discussion and engage in a wide variety of problem solving activities.

Wherever possible, pupils will take part in authentic activities, for example, visiting a nature reserve (life processes) or an 'Animal Man' visit (animals including humans), "Think Tank Museum" (various), or utilising the school grounds and local area, in order that the learning is applied to 'real life' situations.

We endeavour to give children, with different levels of ability, the opportunity to access the science curriculum by matching tasks to the ability of the child and providing a variety of differentiated work.

Science Curriculum Planning

The school uses long term planning with objectives taken from the National Curriculum Programmes of Study. Short term planning is completed by the teacher and each lesson is planned for using our school science unit planner template sheet. Short term planning is based on the Rising Stars 'Switched on Science' scheme which cover the National Curriculum objectives.

Foundation Stage

Science is taught in the Foundation Stage as an integral part of the topic work covered during the year. Staff relate the scientific aspects of the children's work to the objectives set out in Early Learning Goals and Development Matters material which underpin the curriculum planning for children aged three to five.

Science and its Cross-Curricular Links

Science teaching offers children the opportunity to examine spiritual, moral, social and cultural aspects of life based on the Catholic Ethos. These will include the amazing processes that affect living things, the evolution of living things, how life was created and promote a sense of awe and wonder regarding the nature of our world. Also, science raises moral and social questions regarding, for example, views on smoking and implication for health, using the world's natural resources, the difference in peoples and their ways of life in our world.

Staff are encouraged to plan Science in a cross-curricular format where appropriate and also to utilise Scientific skills across the curriculum. Science contributes significantly to Literacy by actively promoting the skills of reading, writing, spoken language and listening. Pupils use oral skills to recount their observation and for discussion and writing skills for recording.

Science contributes to Mathematics through children applying number skills to their investigations which will include a wide range of use of measures and estimating and predicting skills, as well as data handling skills for recording and analysing results.

ICT and computing skills will be used in science lessons where appropriate with pupils using DVDs and the Internet to extract relevant information. There is now a wealth of interactive programs available on the Internet.

PHSE also links with science as it takes into account environmental factors within the community, i.e. pollution, recycling, open spaces, caring for wild life healthy eating, drugs, alcohol issues, etc. Involvement in such matters through the vehicle of science promotes the concept of positive citizenship.

Science links with the humanities subjects when studying the school grounds and the local area and can provide historical links when learning about the history of science and the work of scientists.

Science Resources

The school's science resources are continually being developed, ensuring that all science units have a range of resources to stimulate the children's learning. Class teachers also have access to online resources from the Rising Stars 'Switched on' Science Scheme- these include video links for CPD, interactive games for children and Power Point Presentations with various resources to cover each topic taught. In addition, staff have developed their own bank of resources which staff can access through the school's shared computer system.

Equal Opportunities in Science

All pupils regardless of their academic ability, physical ability, ethnicity, race and gender will have access to the science curriculum. Pupils with language difficulties or physical difficulties will be given additional classroom support in order to achieve their tasks or have tasks adapted for them. Any pupils with special educational needs will have their targets set out in their individual Pupil Profiles adhered to.

Impact

Assessment and Recording

Pupils work is assessed by informal judgements made during lessons (formative) assessments.

These will include:

- Assessing pupils' understanding through question and answer and discussion.
- Assessing pupils' understanding when marking completed tasks and recorded work.

- Assessing pupils' understanding at the end of each unit of work in relation to the National Curriculum objectives and milestones.

These assessments will be used to inform future planning, progress of pupils to parents and to the next class teacher.

Class teachers will retain samples of assessment sheets as part of evidence gathered and complete the assessment grid against the learning objectives covered. The completion of the assessment grid is done regularly to inform the planning of future lessons. Objectives that have not been achieved are revisited to ensure children complete them. The assessment grid and evidence gathered are given to the Science Leader on a termly basis.

Monitoring and Review of Science

The monitoring and reviewing of science will be the responsibility of the Senior Leadership Team and the Science Leader. This could be in the form of observing teaching, learning walks, reviewing planning, pupil interviews and monitoring of pupils' work.

The work of the science leader will involve ensuring that school is kept abreast of developments within this subject and that these are reflected within school development plans.

This policy is monitored by the Local Governing Body and will be reviewed every two years, or before if necessary.