



Science Policy

Mission Statement

Following in the footsteps of Jesus; we live, love and learn.

Inclusion Statement

In this school, we are educating our children to:

- know who they are - a special and unique gift from God
- know why they are here - we all have a purpose and responsibility to look after God's world
- work hard and aim high for their future - find and use their God given talents to become everything that God intends them to be

We are a Catholic community, in a modern society, where everyone is equal. As a Catholic School, we strive to reflect the teachings of Christ and live out the Gospel Values in everything that we do. The most loving and merciful Jesus Christ is our role model, and He welcomed everyone. All children are welcome in our school; they and their families become part of our St. Joseph's family. We will love and nurture them, and do our best to help them to become everything that God intends them to be.

At St Joseph's Catholic Primary School our values reflect our commitment to a school where there are high expectations of everyone. Children are provided with high quality learning opportunities so that each child attains and achieves all that they are able to. Everyone in our school is important and included. We promote an ethos of care and trust where every member of our school community feels that they truly belong and are valued. We work hard to ensure there are no invisible children here, recognising everyone's uniqueness and success. We recognise learning in all its forms and are committed to nurturing lifelong learners. We are a safe school, committed to improving children's confidence and self-esteem. We know that safe and happy children achieve.

Adopted by Governors	
Date	17.05.2022
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(signed on hard copy)

POLICY INTENT

The intent of our curriculum is to nurture and develop our pupils' interest in the subject, whilst also supporting them to fulfil their potential and develop a deep knowledge and understanding of scientific skills and methods. We want our pupils to discover their passion for Science through hands-on experiences so that they will be equipped to ask and answer scientific questions about the world around them and develop a greater understanding of the concepts and knowledge of Science.

Working with parents, we intend that our pupils leave St Joseph's with a general sense of enquiry which encourages them to question and make suggestions throughout their life. We intend for our pupils to deepen their respect of the natural world through investigative science to enable them to develop a sense of awe of the world we live in. We aim to nourish an understanding of the working of God's world and our responsibilities in looking after it, not just locally, but worldwide. We endeavour to prepare our pupils for life in an increasingly scientific and technological world and ready them for the next stage of their educational journey where they will feel passionate about making positive changes for the greater good.

"Who has measured the waters in the hollow of his hand and marked off the heavens with a span, enclosed the dust of the earth in a measure and weighed the mountains in scales and the hills in a balance." [Isaiah 40:12](#)

AIMS

We follow the aims of the statutory Early Years Foundation Framework and the KS1 and KS2 National Curriculum. These aims form the basis upon which our distinctive curriculum is built.

The National Curriculum for Science aims 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.

IMPLEMENTATION OF THIS POLICY

SUBJECT LEADER ROLE

The subject leader for Science is **Mrs Catherine Allton**.

The subject leaders are responsible for the day to day management of resources, keeping up to date in curriculum innovation, sharing good practice with staff and ensuring that planning for the subject is progressive and in line with national expectations.

Subject leaders are the 'expert' in school and can offer support to other staff including signposting where necessary.

Together with the Headteacher and Governors, they are involved in the monitoring, review and evaluation of their subject both as a standalone and as part of the wider curriculum.

RESOURCES USED

'STEM' resources, Lancashire Science Key Learning resources and the ASE assessment and moderation samples are used to support staff with the planning and teaching of engaging and hands-on lessons and the moderation of children's work. This resource allows Science to be taught alongside and throughout other lessons such as Computing, Mathematics and English.

St Joseph's progressive Science plans are used to support staff in assessing children's work and understanding against the National Curriculum skills and expectations. The Subject Leader for Science ensures that the Science resource cupboard is stocked with a wide variety of scientific resources and equipment to meet the needs of the curriculum.

CURRICULUM PROGRESSION THROUGH THE STAGES

In Reception, Science lessons are very practical; children explore the natural world through kinaesthetic activities following our Curiosity approach, which encourages access to learning outside the classroom at every opportunity.

In KS1, children are provided with a deeper understanding of Science and scientific vocabulary is extended. Whole class lessons are taught both inside and outside of the classroom where practical skills are developed. Children are provided with opportunities to develop their investigative skills where they are able to ask and answer questions.

In LKS2, children consolidate scientific concepts they have previously learned. They develop their understanding of fair testing and use questioning to plan fair tests. They are given opportunities to carry out experiments and record their results in a number of ways.

In UKS2, children apply their scientific knowledge and understanding to all lessons. They formulate and hypothesise from results gained. Children are given the opportunities to record data and results with increasing complexity and then utilise their results to plan further comparative and fair tests.

'Working Scientifically' skills are taught progressively across EYFS to Years 6.

PLANNING AND SEQUENCING LEARNING

Science lessons are taught as separate subjects and are typically based on the topic focussed on each half term. At St Joseph's, the children cover the National Curriculum knowledge and skills expected of them across the key stages. 'Working Scientifically' skills are at the heart of Science planning. Teaching staff ensure that working scientifically skills are being naturally developed throughout lessons to enable children to develop these skills as well as new vocabulary and challenging concepts.

All Science lessons are planned using the National Curriculum skills relevant to each year group. Planning involves teachers creating engaging lessons, often involving high-quality resources, to aid understanding of conceptual knowledge. Lessons are sequenced to ensure progression of skills throughout the year and across key stages.

Teachers use specific scientific questioning in class to formatively assess conceptual knowledge and skills and identify children who require extra support to plug any gaps in learning. Teachers find opportunities to develop children's understanding and passion of their surroundings by accessing outdoor learning and workshops throughout the year.

EQUALITY

All pupils at St Joseph's will be protected against discrimination according to the protected characteristics of the Equality Act. We aim to serve our community as our pupils deserve the best learning experiences. All teaching staff express a positive attitude towards Science learning within and outside of the classroom and emphasise the expectation that all children are capable and can achieve their goals in this subject.

With this in mind, lessons are planned and taught to support children with SEND - where activities are differentiated and delivered to suit individual needs. Children who are not making expected progress in Science, are monitored more closely and advice may be sought from the Science subject leader. They may then be involved in small Science intervention groups to support them in closing the gap.

Gender equality, race and religion are positively promoted throughout Science lessons across the school differ; where different family groups are embraced and a diverse range of role models in Science enquiry and development are celebrated. The resources used reflect different groups.

ENRICHMENT AND MASTERY

At St Joseph's, we provide our pupils with opportunities to demonstrate mastery within Science in a variety of ways.

Science Ambassadors play an important role in the development of Science across the school. These children meet often to discuss Science lessons, Science in the outdoor area, Science experiments, Science days and opportunities to develop Science further. They play an important role in delivering engaging workshops during 'British Science Week' and are trained and supported to carry out pupil questioning to identify strengths and areas for improvement within Science.

Children are provided with opportunities to visit the local high school, Holy Cross, to carry out Science days where they visit the labs and chemistry rooms.

EXPERIENCES THROUGH THE CURRICULUM

Texts shared in class are often Science-linked, allowing children to develop and utilise scientific vocabulary within other lessons. Science extends to the outdoor learning environment where children are provided with opportunities to; observe the world around them; identify mini-beasts within the school grounds; grow and nurture seeds into plants within the garden areas and carry out a variety of fun and engaging experiments. Although Science is taught as a separate subject, it is also taught in a cross curricular manner with many other subjects.

For example;

Maths – recording data, classifying and sorting information, creating bar charts and tables, measuring.

English – Scientific vocabulary, Science-focussed Guided Reading sessions, Scientific writing – explanation texts on the circulatory system, healthy recipes and instructional writes.

Geography – learning about the world God has given us and about the human and physical features.

History – discussing how historical events have changed the world we live in today, discussing medicine over time, the impact of pandemics and the realisation of cures and remedies.

PE – learning about the need to exercise to maintain a healthy body.

DT – cooking a range of healthy recipes, building bridges to investigate strength.

Music – learning about sound and vibrations, discussing pitch and how it is affected.

RE – developing a love and passion for the world God has created – Laudato Si.

HOME SCHOOL LINKS

Topic-focussed homework is given to children at the beginning of each half-term where a Science focus is included. Children are given ideas and opportunities to complete a Science-based activity with their family before presenting it to the rest of the class.

MEASURING THE IMPACT OF OUR POLICY

RECORD KEEPING AND ASSESSMENT

Class teachers are responsible for the day to day assessment of Science. Assessment of Science is formative using the Target Tracker steps and statements and supported by the ASE website materials. Termly data on Science progress is analysed by the Science lead. Groups of children are monitored, e.g. gender, SEN and PP.

MONITORING, REVIEW AND EVALUATION

Learning walks, lesson observation, pupil interviews and book scrutinies are carried out often to review and evaluate Science and the progression of skills across the school.

STAFF DEVELOPMENT

Staff are regularly given opportunities for CPD in Science through our links with the Yarrow Schools Teaching Alliance. Teachers are supported by the Science lead where necessary and peer coaching provides a forum for discussion and development. Cluster training and network meetings are consistent for the Science lead to develop and support all teaching staff across the school.

GOVERNORS INVOLVEMENT

The link Governor for this subject is **Mr Daniel Wilson** leaders are asked to present their work to governors. This may be done in the form of a presentation to a committee or a professional dialogue with a link governor. Action plans are shared with Governors. There is a formal written report to governors annually. Link governors may come into school to watch lessons and take part in events or workshops. They may talk to pupils and look at written evidence.

CONCLUSION

We intend to provide children at St Joseph's with engaging and motivating Science lessons, both inside and outside of the classroom, which will enable them to nurture and develop their love for the subject and the world in which they live. We aim to give St. Joseph's children the best possible start to their school lives and beyond.

Reviewed by staff May 2022

This policy will be reviewed every two years.