St Joseph the Worker Catholic Primary School

Science Policy

2025

Science at St Joseph the Worker

We are scientists!

Leanne Wynne 2025

Every child is a born scientist. Nurture their curiosity, and they will change the world." – *Adapted from Carl Sagan*

At St Joseph the Worker, we believe that science inspires curiosity and wonder about the world around us. It encourages children to ask questions, explore phenomena, and seek understanding through knowledge and discovery. By linking hands-on experiences with scientific ideas, science captures learners' interest and engages them at many levels.

We recognise that developing scientific knowledge helps children gain a deeper understanding of themselves and the world they live in. Through science, they learn to appreciate important facts and concepts while experiencing the excitement of investigation and discovery.

Science at St Joseph the Worker is centred on nurturing children's curiosity, developing their thinking, and equipping them with the skills to explore, question, and make sense of the world through practical enquiry and scientific investigation.

<u>Curriculum Intent</u>

At St Joseph the Worker, our intent is to nurture every child's natural curiosity and enthusiasm for exploring the world around them. We believe that science is a vital part of understanding life and the environment, helping children to make sense of their experiences and to develop a life-long love of discovery and learning.

Our science curriculum aims to:

- Inspire curiosity, creativity and critical thinking through practical, hands-on investigation.

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- Build secure knowledge and understanding of key scientific concepts and processes.

- Develop children's ability to ask questions, make predictions, plan and carry out fair tests, and draw meaningful conclusions.

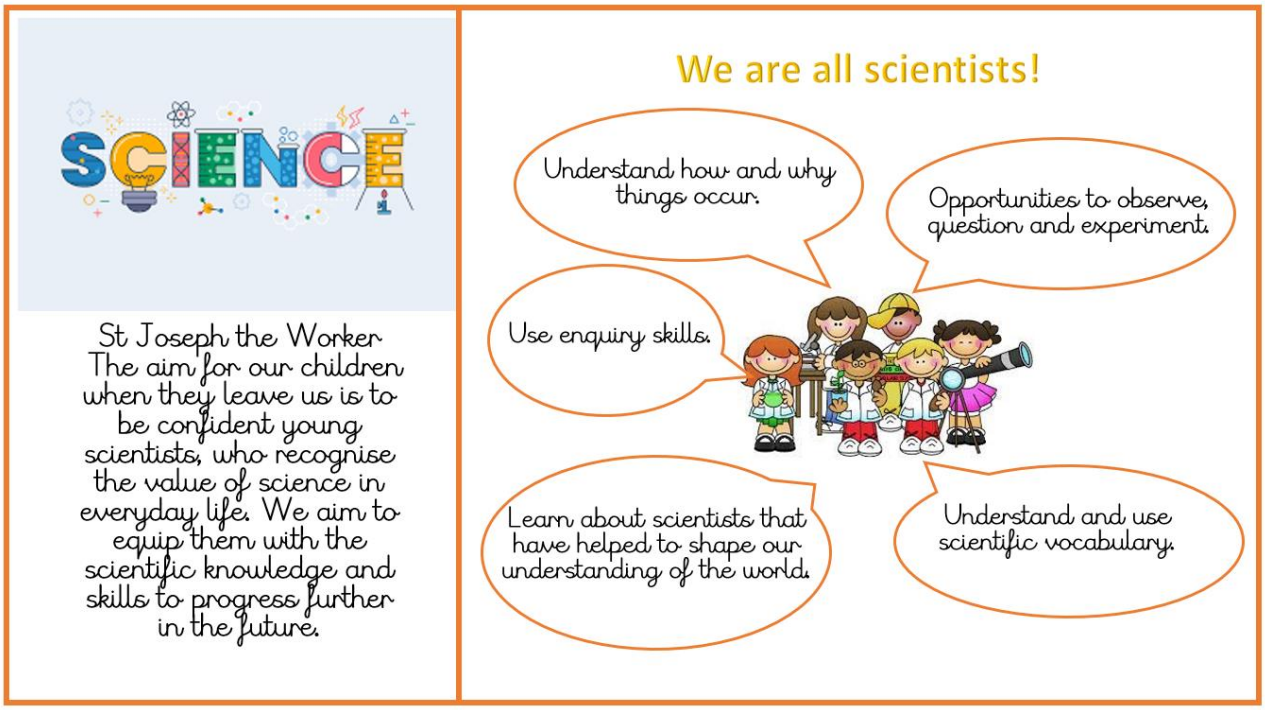
- Encourage children to apply their scientific knowledge to real-world contexts, helping them see the relevance of science in everyday life.

- Foster respect and responsibility for living things, the environment, and the impact of science on our world.

- Equip all learners with the scientific vocabulary, enquiry skills, and confidence to communicate their ideas effectively.

Through engaging lessons, outdoor learning, and opportunities to explore and experiment, we aim to develop curious, reflective, and resilient learners who see themselves as young scientists.

St Joseph the Worker science vision, created by the pupils:



Curriculum Implementation

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In science, **substantive knowledge** is the factual and conceptual understanding children learn — the ideas, laws, and theories that explain how the world works. This includes knowledge such as how plants grow, what materials are made of, or how forces cause movement. **Disciplinary knowledge** is about how scientists work — the skills and methods they use to investigate, test ideas, and draw conclusions. It teaches children to think and work like scientists: asking questions, observing carefully, collecting evidence, and evaluating results. Together, these two types of knowledge help children build a deep and connected understanding of science.

At St Joseph the Worker, our science curriculum is carefully designed to ensure that all pupils develop a deep understanding of the world around them through a balance of knowledge and enquiry-based learning. Our teaching follows the EYFS Early Learning Goals and National Curriculum programmes of study for Science, ensuring full coverage and clear progression across Key Stages 1 and 2.

To enrich and extend pupils' scientific learning beyond the classroom, we provide a range of opportunities that inspire curiosity and a love of discovery. These include participation in Science Clubs, themed weeks such as World Space Week and British Science Week, and visits or workshops led by external experts. We are proud to collaborate with the Ogden Trust Partnership, which supports our commitment to raising the profile of science through shared resources, professional development, and pupil engagement activities. Through these enrichment experiences, pupils see science as a dynamic, creative, and relevant subject,

Science is taught through well-planned, engaging lessons that build on children's prior knowledge and understanding. Each unit of work identifies the substantive knowledge (key scientific facts, concepts, and vocabulary) and disciplinary knowledge (working scientifically skills) that pupils will learn and apply. Across all year groups, children are encouraged to ask questions, explore ideas, and develop their ability to plan and carry out investigations, make observations, take accurate measurements, and interpret data.

Early Years Foundation Stage (EYFS)

In the Early Years at St Joseph the Worker, science is introduced through the Understanding the World area of learning within the Early Years Foundation Stage (EYFS) Framework. Children begin to develop the foundational skills of scientific enquiry through hands-on exploration, play, and observation.

Through carefully planned continuous provision, adult-led activities, and outdoor learning opportunities, children are encouraged to:

- explore, observe, and talk about the natural world, materials, and living things;
- notice patterns, similarities, and differences in their environment;
- make simple predictions and test their ideas through play-based enquiry;

- use simple scientific language to describe what they see and experience;
- show curiosity and wonder about how and why things happen.

This early exploration lays the groundwork for future scientific learning, developing curiosity, questioning, and the early skills needed for investigative work in Key Stage 1.

National Curriculum

Our curriculum incorporates the National Curriculum strands of biology, chemistry, and physics, ensuring that pupils:

- develop understanding of plants, animals (including humans), materials, seasonal changes, and living things and their habitats in Key Stage 1;
- build upon this in Lower Key Stage 2 by exploring topics such as rocks, forces and magnets, light, sound, states of matter, and simple electrical circuits;
- extend their understanding further in Upper Key Stage 2 through studying evolution, inheritance, forces, Earth and space, and more complex scientific processes.

Working Scientifically skills are embedded within each topic, so pupils learn how to think and work like scientists. These skills are progressive, allowing pupils to:

- ask relevant questions and use different types of scientific enquiry to answer them;
- set up comparative and fair tests;
- make systematic and careful observations;
- gather, record, and present data using appropriate scientific language and representations.

Teachers use practical, hands-on experiences, outdoor learning, and cross-curricular links (especially with mathematics, design and technology, and computing) to make science meaningful and engaging. We ensure that all pupils have access to high-quality science experiences that promote curiosity, collaboration, and critical thinking.

Subject Specific Inclusion

Our approach to inclusion in science:

Inclusive Planning and Differentiation

Lessons are planned to meet a range of needs and abilities. Activities are adapted so that all pupils can participate in scientific enquiry, whether through guided support, practical exploration, or varied ways of recording their learning.

Active, Practical Learning

Science in our school is hands-on and enquiry-based. Pupils are encouraged to observe closely, ask questions, and carry out investigations to test their ideas. Using real-life contexts and outdoor learning helps make science meaningful and memorable.

Varied Teaching and Learning Styles

To support all learners, we use a blend of approaches that cater to different learning preferences:

Visual: diagrams, photographs, videos, and demonstrations.

Kinesthetic: experiments, model-building, and outdoor discovery.

Auditory: discussion, questioning, and oral explanations to reinforce understanding.

Language and Vocabulary Development

Scientific vocabulary is taught explicitly and reinforced through talk, display, and practical work. Key terms are introduced in context, supported by visual aids, and revisited regularly. Pre-teaching and word banks help SEN learners gain confidence in using scientific language.

Scaffolding and Support

Additional tools and strategies are used to help pupils organise and express their learning, such as:

Visual instructions and labelled diagrams.

Simplified written materials and glossaries.

Structured recording templates or sentence starters.

Adult or peer support during practical work.

Encouraging Curiosity and Confidence

We foster a classroom environment where every question is valued and mistakes are viewed as learning opportunities. Pupils are encouraged to take risks, make predictions, and share ideas confidently as young scientists.

This year's Science Overview:

St Joseph the Worker
Science Overview 2025-2026

Phase	Year	Autumn		Spring		Summer	
EYFS	N	Hello Friend: Seasonal Changes Body Parts and Growing Up	Naughty bus- Materials Seasonal Changes	We're Going on a Bear Hunt: Habitats Prehistoric Evolution	Measuring Me: Earth and Space Plants Human Body Mini-beasts	Yucky Worms: Earth worms habitat, features, food, predators Minibeasts growth and change Plants	Handas surprise: Animals Habitats
	R	Barbara Throws a Wobbler: Colour Habitats Growing up and Changing	Owl Babies: Seasonal Changes Autumn Light and Dark Exploring Shadows Nocturnal animals	Blue Penguin: Seasonal changes Melting and Freezing Habitats	The Bog Baby: Habitats Rivers and Wetlands Caring for Wild Animals in our Local Area (habitats) Floating and Sinking	Hungry Hen: Habitats Animals including Humans (life cycles) Plants	Aria- The Lion Who Couldn't Sleep: Life Cycles Food Chains (inc. predators) Plants Habitats
KS1	1	Seasonal Changes (ongoing throughout the year)	Animals Inc Humans: Basic structure/ senses	Everyday Materials		Animals: Basic Structure	Plants
	2	Living Things and their Habitats: Animal Survival and Growth		Uses of Everyday Materials		Animals inc. Humans: Health and Nutrition	Plants: Growing Plants
KS2	3	Rocks	Light and Astronomy Light: shadows and reflective surfaces	Forces and Magnets	Plants: Functions of plant parts and Growth	Animals inc. Humans: skeletons and Movement	Animals inc. Humans: health and Nutrition
	4	Animals inc Humans: Teeth and Digestion	Living Things and their Habitats: Biodiversity, Classification and care of the environment	Material Properties and Changes: States of Matter		Electricity	Sound
	5	Light and Astronomy: Earth and Space	Forces	Material Properties: testing material properties reversable and irreversible changes		Forces	Living Things and their Habitats: Life Cycles, reproduction in animals and Plants
	6	Electricity	Evolution and Inheritance	Animals inc. Humans: Circulatory System, Exercise and Health	Light and Astronomy: Light	Living Things and Their Habitats: Classification	

Impact

At St Joseph the Worker, our science curriculum inspires curiosity, critical thinking, and a lifelong love of discovery. Through engaging, hands-on experiences and inquiry-based learning, pupils develop a deep understanding of key scientific concepts and processes. They learn to ask questions, investigate systematically, and use evidence to draw conclusions about the world around them.

Our approach ensures pupils not only acquire scientific knowledge but also develop the skills outlined in the Working Scientifically statements. These include observing closely, asking relevant questions, planning and carrying out investigations, gathering and recording data, interpreting results, and communicating findings using appropriate scientific language. To monitor progress and ensure high standards, we use a range of assessment methods:

Formative assessment – conducted continuously through teacher observations, questioning, pupil discussions, and feedback during lessons. Teachers identify misconceptions, assess understanding in real time, and adapt teaching accordingly.

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Summative assessment – completed at the end of each unit through topic-based quizzes, written reflections, practical investigations, and review tasks that demonstrate understanding of both knowledge and scientific enquiry skills.

Teacher assessment of 'Working Scientifically' statements – pupils are assessed against the key expectations set out in the National Curriculum for each key stage. Teachers gather evidence from science books, pupil voice, class discussions, and practical activities to judge whether pupils are working towards, at, or exceeding age-related expectations.

Self and peer assessment – pupils are encouraged to reflect on their learning, use success criteria to evaluate their work, and suggest improvements in both their knowledge and practical skills.

Recording and tracking progress – evidence from observations, written work, and investigations is used to update assessment records. This information informs planning, supports transition, and helps identify pupils who may need additional challenge or support.

By the end of Key Stage 2, pupils are confident, independent learners who can apply their scientific knowledge and skills to real-life contexts. They understand how science impacts their lives and the wider world, and they view themselves as capable scientists. Assessment outcomes and pupil voice demonstrate high levels of enjoyment, curiosity, and achievement. Our approach ensures that all pupils — regardless of background or ability — achieve their full potential and are well-prepared for the next stage of their scientific education.

Science Lead: Leanne Wynne

Science Link Governor: James Bunn

Date: 8.10.2025