



# St Joseph's Science Curriculum

## Curriculum Overview

*Exploring, investigating and understanding the world through science*

## Science at St Josephs

At St Joseph's, Science helps children understand the natural and physical world through curiosity, observation and practical investigation. Learning begins in EYFS with first-hand exploration and develops into increasingly precise scientific knowledge and enquiry across Key Stages 1 and 2.

Our curriculum develops secure knowledge in biology, chemistry and physics alongside the skills pupils need to work scientifically. Children ask questions, observe closely, plan tests, measure accurately, record results, identify patterns and use evidence to explain what they find.

## Curriculum Intent

We aim to develop curious, knowledgeable and responsible scientists. By the end of Year 6, pupils should understand the key ideas studied, make connections across scientific topics and plan and evaluate enquiries using accurate vocabulary, measurements and evidence.

- Build scientific knowledge and enquiry skills progressively from EYFS to Year 6.
- Develop understanding of biology, chemistry and physics alongside precise scientific vocabulary.
- Give pupils regular opportunities to observe, investigate, measure, classify, record and explain.
- Help pupils use evidence responsibly and understand how science supports health, sustainability and care for creation.

## The Science Curriculum

The curriculum combines essential knowledge about the world with disciplinary knowledge about how scientists investigate questions. Five connected areas organise learning from EYFS to Year 6.

| Curriculum area                   | What children learn                                                                                                                                        |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Working scientifically</b>     | Asking questions, observing, planning comparative and fair tests, measuring, recording data, identifying patterns and using evidence to reach conclusions. |
| <b>Living things</b>              | Plants, animals including humans, habitats, life cycles, classification, health, food chains, adaptation, inheritance and evolution.                       |
| <b>Materials and change</b>       | Everyday materials and their properties, rocks and soils, states of matter, the water cycle, and reversible and irreversible changes.                      |
| <b>Forces, energy and space</b>   | Forces and magnets, light, sound, electricity, Earth and space, and how scientific ideas explain familiar phenomena.                                       |
| <b>Science and sustainability</b> | Using science to explore climate, habitats, resources, health and human impact, linked to Catholic Social Teaching and care for our                        |

common home.

## Curriculum Implementation

Science is organised through carefully sequenced units. Teachers identify the essential knowledge, vocabulary and enquiry skills pupils need, connect new learning to prior understanding and address misconceptions explicitly.

- Learning begins with purposeful questions and uses practical work, demonstrations, models, outdoor learning and digital resources.
- Children revisit knowledge and enquiry types, select equipment, measure carefully and record findings in diagrams, tables and graphs.
- Retrieval and precise vocabulary strengthen understanding; pupils explain results, evaluate evidence, suggest improvements and raise further questions.

## Progression Through School

| Phase                    | Main focus                  | Developing as a scientist                                                                                                                                                                             |
|--------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EYFS</b>              | Exploring the natural world | Children explore plants, animals, materials, seasons and natural processes. They observe closely, notice similarities and differences, ask questions and describe what they see.                      |
| <b>Key Stage 1</b>       | Observing and testing       | Pupils name and classify common plants, animals and materials, explore habitats and human needs, perform simple tests, use basic equipment and gather data to answer questions.                       |
| <b>Lower Key Stage 2</b> | Fair tests and explanations | Pupils study plants, nutrition, skeletons, rocks, forces, light, sound, electricity, states of matter and habitats. They set up fair tests, measure in standard units and report conclusions.         |
| <b>Upper Key Stage 2</b> | Evidence and evaluation     | Pupils study life cycles, the human body, materials, forces, Earth and space, light, circuits, classification and evolution. They control variables, take precise measurements and evaluate evidence. |

## Scientific Enquiry and Recording

Across the curriculum, children learn that scientific understanding grows through careful observation, testing and evidence. They ask questions, choose suitable enquiry methods, use equipment safely, record findings clearly and explain what the results show.

- EYFS children explore through play and first-hand experiences, describe the natural world and notice patterns, similarities, differences and change.
- Key Stage 1 pupils ask simple questions, observe closely, identify and classify, perform simple tests and gather and record data.

- Key Stage 2 pupils plan enquiries, identify and control variables, measure with increasing accuracy, present data in tables and graphs and evaluate conclusions using evidence.

## Science Questions

**EYFS: What can we see, hear and feel? What changes outside? What happens when materials are heated, cooled, pushed or pulled?**

**Years 1 and 2: What do plants and animals need? How do seasons change? Which material is best for a purpose? How can we keep our bodies healthy?**

**Years 3 and 4: How do plants transport water? What makes a fair test? How do forces, light, sound and circuits work? How do environments affect living things?**

**Years 5 and 6: How do the body's systems work? Why do materials change? How do forces and circuits vary? How do Earth and space move? How do living things adapt and evolve?**

## Curriculum Themes

Three themes connect Science learning across the school and help children think and work like scientists.

### Scientific enquiry

Children ask testable questions, select methods and equipment, measure and record accurately and use evidence to reach conclusions.

### Knowledge and concepts

Children build connected knowledge across biology, chemistry and physics and use scientific vocabulary to explain patterns, processes and cause.

### Science and stewardship

Children apply science to health, sustainability and environmental choices, recognising their responsibility to care for people and God's creation.

## Curriculum Impact

By the end of Key Stage 2, children will have developed secure scientific knowledge across the topics studied. They will make connections between ideas, use scientific vocabulary accurately and explain processes and patterns using evidence.

Pupils will also plan different types of enquiry, control variables where appropriate, take increasingly precise measurements, present data clearly, evaluate the reliability of results and communicate well-reasoned conclusions.