



Science at St.Mary's

Our Mission Statement

At St. Mary's, we are a proud Catholic school, with Christ at the heart of everything we do. We believe that every child is a gift from God, created in his own image and likeness. Our Mission Statement affirms that our aim is that every child reaches their full potential.

Pupils' learning and development is at the centre of our school's curriculum; it is broad, balanced and challenging, ensuring pupils develop the skills necessary to succeed in life after primary school. Our welcoming and nurturing environment, based on the Gospel Values, also allows every individual to develop their spiritual, moral, social and cultural growth.

We recognise that our children are the leaders of tomorrow and that we must prepare them to play an active and responsible role in society.

Our Vision for Science -

At

St. Mary's we

Create a stimulating science curriculum where the children can

Investigate and

Explore the world around them by nurturing their natural curiosity and intellectual development

New discoveries are made and

Challenges will be experienced through a hands-on; inquiry-based curriculum. Children will

Enjoy finding out.

Intent

- To provide an opportunity to interest and equally challenge all abilities, where possible using quality resources as a stimulus.
- To stimulate enthusiasm and interest by providing a range of challenging investigations through a cross-curricular approach.
- To develop existing scientific knowledge and promote further enquiry.
- To promote accurate use and understanding of scientific vocabulary.
- To encourage individual and collaborative work.
- To provide evidence of learning and progression throughout the Science Curriculum.

- To promote, through our Scheme of Work, identifiable progression in the children's learning and to attain high standards by developing individual potential.
- To promote Understanding of the World in the Early Years Foundation Stage.

Implementation

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Topic Overview						
• The Natural World • Managing Self	• Everyday Materials • Living Things and their Habitats • Animals, including humans	• Seasonal Changes • Animals including Humans (focusing mainly on humans) • Plants	• Light • Nutrition • Skeleton and muscles • Food chains and food webs • Plants • Forces & Magnets	• States of Matter • Electricity • Light • Sound • Living Things and their Habitats • Rocks, Fossils and Soils	• Properties and Change of Materials • Animals, including Humans • Forces • Earth and Space	• Living things and their Habitats • Evolution and Inheritance • Light • Electricity
Skills Progression						
The Natural World Children will: • Explore the natural world around them • Know some similarities and differences within contrasting environments • Understand the seasons and changing states of matter Managing Self Children will: • try new activities and show independence, resilience and perseverance in the face of challenge • Explain the reasons for rules, know right from wrong • Manage their own basic hygiene and personal needs	Everyday Materials • distinguish between and compare objects, and their uses materials Living Things and their Habitats • identify how plants and animals are suited to their environment and how they depend on one another • describe simple food chains Animals including humans • identify common animals and what they eat • compare the structure of a variety of animals	Seasonal Changes • observe changes, including weather and day length Animals, including humans • identify, name, draw and label the basic parts of the human body • describe the basic needs of animals Plants • identify and name common plants • identify and describe the basic structure of common flowering plants • describe the needs of plants to grow	Light • recognise light is needed to see things, by reflection from surfaces Nutrition • identify what nutrition is and the nutritional needs of different organisms Skeletons and Muscles • identify understand how skeletons and muscles for support, protection and movement. Food chains and food webs • describe how organisms obtain energy within food chains and webs Plants • describe the functions of different parts of flowering plants • explore the requirements of plants Forces and Magnets • understand friction • compare materials by if they are attracted to a magnet	States of Matter • compare materials that are solids, liquids or gases • observe materials change state Electricity • construct simple series circuits, naming basic parts Light • find patterns in the way that the size of shadows change Sound • identify how sounds are made • recognise that vibrations from sounds travel through a medium to the ear Living things and their Habitats • use classification keys to group, identify and name living things in their environment Rocks, Fossils and Soils • compare different kinds of rocks • describe how fossils are formed	Properties and Change of Materials • compare properties of different materials • understand reversible and irreversible change Animals, including humans • describe life cycles Forces • understand gravity • identify the effects of air resistance, water resistance and friction Earth and Space • describe the movement of the Earth, and other planets, relative to the Sun in the solar system • describe the movement of the Moon relative to the Earth	Living things and their Habitats • describe how and why living things are classified into broad groups Evolution and Inheritance • recognise how fossils have evolved understanding of evolution • understand human characteristics through genetics Light • use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye Electricity • compare and give reasons for variations in how components function in a circuit • use recognised symbols within diagrams



The science curriculum at St Mary's is based upon the 2014 Primary National Curriculum in England, which provides a broad framework and outlines the knowledge and skills taught in each Key Stage and it is taught in discrete lessons for at least 1 hour in Key Stage One and 2 hours in Key Stage Two.

To ensure high standards of teaching and learning in science, our curriculum is progressive throughout the whole school. Teachers use documents that describe how learning and skills are built upon from one year to the next and this includes Working Scientifically. At St. Mary's, we believe learning within science is at its best when children are practically exploring concepts and their understanding. This is why we ensure that the investigative element of science is the intrinsic approach to our curriculum and in the discoveries that our pupils make. Units of learning are carefully sequenced to ensure careful coverage of curriculum expectation and ensure knowledge, understanding and skills are built upon as our children progress through the school.

Inclusion

St Mary's Catholic Primary School is an inclusive school, which supports and encourages all children to achieve. We are committed to high quality teaching and learning opportunities with Quality First Teaching at the core of curriculum planning. Pupils with special education needs (including gifted and talented children) receive support where appropriate, including differentiated work and small group support from TA's.



Impact

We understand the impact of our science curriculum and its implementation by assessing children's work formatively. We do this through:

- observations and marking within and at the end of each lesson. These assessments inform the class teacher's planning for future lessons
- At the end of a unit of work, the class teacher makes a judgement about the children's achievements through the use of quizzes, Kahoots and spaced-retrieval methods based on topic knowledge organisers
- At the start of the year, key objectives are identified that will be assessed in each unit and opportunities for assessment are planned for
- Progression of Learning Statements are used to inform and identify children's progress
- Wherever possible, children are the first to assess their learning
- Assessments may take the form of a practical activity, a concept map or a written assessment. The teacher uses these assessments to inform reports to parents and the next class teacher at the end of the year

