

Science - Intent, Implementation and Impact

Intent	Implementation	Impact
<p>Science has changed our lives and it is vital to the world's future prosperity. Consequently, at St George and St Martin Catholic Academy, we hope to inspire our children by giving them the opportunities to pursue their natural curiosity; promoting the experience of exploring and investigating scientific phenomena, in a range of contexts, to ensure a continually evolving knowledge and understanding of the natural and human constructed world around them.</p> <p>The children are inspired to investigate how and why we are here, ask thought provoking questions, make close observations and use their senses to find out why things happen in certain ways.</p> <p>It is our intention that the children consolidate and retain the Science knowledge they have learnt as they experience a varied and progressive Science Curriculum that provides the opportunities to develop scientific knowledge and conceptual understanding through the specific disciplines of Biology, Chemistry and Physics.</p>	<p>Science teaching at St George and St Martin Catholic Academy is concerned with increasing children's knowledge and understanding of our world as well as developing skills associated with Science as a process of enquiry. It will develop the natural curiosity of the child, encourage respect for living organisms and the physical environment and provide opportunities for critical evaluation of evidence.</p> <p>The National Curriculum provides the structure and skill development for the Science Curriculum being taught throughout the school, which reflects a broad and balanced programme of study.</p> <p>In Early Years, Science is taught through the children learning about the world around them in their exploration and investigation of the natural world, learning through play. Enhancements are provided to encourage curiosity, enabling the children to approach unknown and unexplained phenomenon with awe and wonder.</p> <p>Children have weekly Science lessons throughout Key Stage 1 and 2, using various programmes of study and resources. Planning involves teachers creating engaging lessons, adapting and extending the curriculum to match all children's needs and to aid understanding of conceptual knowledge. We build upon the learning and skill development of the previous years. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning. Scientific skills are embedded into lessons to ensure these skills are being developed and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in detailed units of work.</p>	<p>Within Science, we strive to create a supportive and collaborative ethos for learning. Our children will be encouraged to ask questions, experiment, reflect, make and learn from mistakes, in a safe environment. Through this we aim to prepare our children for life in an increasingly scientific and technological world.</p> <p>Formative assessment is used as the main tool for assessing the impact of Science at SGSM, as it allows for misconceptions and gaps to be addressed more immediately.</p> <p>Assessment is teacher based and formed using a range of informal strategies:</p> <ul style="list-style-type: none"> • Children's contributions to class discussions • Quiz style questions • Verbal and written outcomes from learning • Initial and final concept maps • Observations and careful questioning of children's working scientifically.

All children are encouraged to develop and use a range of skills including observations, planning and investigations, as well as being encouraged to question the world around them and become independent learners in exploring possible answers for their science-based questions. Specialist scientific vocabulary for topics is taught and expanded; and effective questioning to communicate ideas is encouraged.

We provide our children with wider opportunities in Science and make links to other subjects throughout the curriculum. Additional opportunities are provided, such as a whole school Science Week and educational visits linked to the Science Curriculum.

Judgements for working scientifically and for conceptual understanding and knowledge will be made as:

- Pre Milestone (PRE)
- Working Towards (WTS)
- Expected (EXP), or
- Greater Depth (GDS), using the whole school assessment and tracking system (PA Plus - Herts Learning)

Through a termly "Deep Dive", the Science leader will use pupil voice/interviews to moderate teacher-based (formative) assessments. This monitoring will include book/work scrutinies to ensure coverage and delivery of the curriculum.

All children will have:

- A wider variety of skills linked to both scientific knowledge and understanding, and scientific enquiry/investigative skills.
- A richer vocabulary which will enable children to articulate their understanding of taught concepts.
- High aspirations, which will see them through to further study, work and a successful adult life.