



**Intent, Implementation and Impact Statement for Science**

At St Joseph's Catholic Primary School, we believe that effective science teaching and learning is vital to ensure that our children become scientifically literate adults who are equipped to cope in a world increasingly shaped by science and technology. Our children are taught to be knowledgeable about the world around them, and of our impact upon it. Our children are taught to make decisions about their health, their immediate environment and the wider world whilst also applying our REACH values in a range of situations.

We believe effective Primary Science Education encourages **aspiration** and curiosity; allowing children the chance to ask questions and explore with **confidence**. It develops enquiring minds, deep thinking skills and offers our children a chance to make choices, be **resilient** when investigations go in a different direction, form opinions and work collaboratively and **empathetically**. Our Science learning provides moments of wonder and excitement, with classrooms coming alive with the exciting buzz of investigations!

We ensure teacher subject knowledge and pedagogy is the best it can be in order to teach well, deal with misconceptions and take learning further. We provide engaging, hands-on, open ended activities which builds on previous experiences and knowledge. Our learning is centred in real and relevant contexts with our REACH values at the heart. We ensure our lessons are accessible and engaging for all by providing support or challenge as appropriate.

We are lucky to be situated in a beautiful part of Gloucestershire with access to amazing outdoor areas. We make full use of our outdoor environment, school garden, and wider natural environment to enrich our Science provision.

<b><u>Intent</u></b>	<b><u>Implementation</u></b>	<b><u>Impact</u></b>
<p>At St Joseph's Catholic Primary School, we recognise the importance of Science in every aspect of daily life. As one of the core subjects taught in our school, we give the teaching and learning of Science the prominence it requires.</p> <p>In conjunction with the aims of the National Curriculum, our Science teaching offers opportunities for our children to:</p> <ul style="list-style-type: none"> <li>• Develop scientific knowledge and conceptual understanding through the specific disciplines of Biology, Chemistry and Physics- with clear progression of skills from EYFS (Knowledge and Understanding of the World goals) to Secondary Ready;</li> </ul>	<p>At St Joseph's Catholic Primary School, teachers create a positive attitude to science learning within their classrooms, and reinforce an expectation that all children are capable of achieving <b>high expectations</b> in Science. Our whole school approach to the teaching and learning of science involves the following:</p> <ul style="list-style-type: none"> <li>• Ensuring carefully planned lessons for each area of sciences which allows for progression and depth as well as differentiation to ensure Science is achievable for all;</li> <li>• Involving problem solving opportunities for children to find out for themselves. Children are encouraged to ask their own questions and are given opportunities to use their scientific skills</li> </ul>	<p>At St Joseph's Catholic Primary School, our Science Curriculum is high quality, well thought out, with opportunities to embed our REACH values and is planned to demonstrate progression. If our children are keeping up with the curriculum, they are deemed to be making good or better progress. In addition, we measure the impact of our curriculum through the following methods:</p> <ul style="list-style-type: none"> <li>• Pupil voice to further develop the Science Curriculum.</li> <li>• Pupil conferencing for assessment.</li> <li>• Regular updating of Key Learning Points on Insight tracking.</li> </ul>

- Develop a progressive understanding of the nature, processes and methods of Science through different types of Scientific Enquiry to help the children to answer scientific questions about the world around them;
- Understand and explore the range of scientific vocabulary and build the **confidence** to use these words in science lessons initially, but then progress to use in wider conversations in daily life;
- Enjoy being a scientist in daily school life and eventually possibly **aspire** to be a scientist in the future;
- Be equipped with the scientific knowledge required to understand the uses and implications of Science now and for the future;
- Develop the essential scientific enquiry skills to deepen scientific knowledge from EYFS Knowledge and Understanding of the World goals to Secondary Ready;
- Use a range of methods to **confidently** communicate scientific information and present it in a systematic, scientific manner. This will include diagrams, graphs and charts.
- Develop respect for the materials and equipment with a strong regard to own and others safety.
- Explore and appreciate the cultural differences of prominent scientists during Awe and Wonder weeks;
- Develop an enthusiasm, **aspiration** and enjoyment of scientific learning and discovery.

Throughout the programmes of study from EYFS to Secondary Ready, the children will acquire and develop key knowledge as well as the application of scientific skills. We ensure that the Working Scientifically skills are built on and developed throughout our children's time at school so that they can apply their knowledge, conduct experiments, grow their **confidence** and **resilience** when designing

and research to discover the answers. This curiosity and **aspiration** is celebrated within the classroom.

- Planning that is enabling teachers to create engaging lessons with **high expectations**, often involving high quality resources to aid understanding of conceptual knowledge.
- Questioning by Teachers in class to test conceptual knowledge and skills, and assess children regularly to identify those children with gaps in learning so that all children keep up.
- Building on previous learning and skill development of the previous years by referring to work in our children's Skills books. As the children's knowledge and understanding increases, they become increasingly **confident** in their ability to come to conclusions, create scientific experiments and interpret results.
- Embedding Working Scientifically skills into lessons to ensure these skills are being developed throughout our children's journey through school. Practical experiments are presented in a variety of different ways including collaborative Practical Posters.
- Teachers demonstrating how to use scientific equipment and the various Working Scientifically skills in order to embed scientific understanding.
- Weaving our school garden, playing field, and wider area of Selsley Common, Coaley viewpoint, Woodchester Park and Penn woods into our science lessons to help our children with the **aspiration** to explore the wider world around us.

- Regular staff meetings to ensure pedagogy is the best it can be.
- Regular reflection on standards in the policies and documents
- Regular monitoring of assessment, books, and Practical Posters each full term.
- Scrutiny of the children's individual learning journey in Science at key transition points: EYFS -> KS1, KS1 -> KS2, Summer term Year 6 -> Secondary Ready.
- Data from assessments will be correlated against National Standards to ensure standards at St Joseph's remain higher than National average.
- Evidence of monitoring and assessment will be kept in a Subject Leader file and regularly shared with Key Stakeholders.
- Evidence of wider cross-curricular evidence will be celebrated on class blogs/website/newsletter.

<p>experiments, build arguments and explain concepts confidently.</p> <p>At St Joseph's Catholic School, our REACH values underpin everything we do. In Science, children show our REACH values by:</p> <p><b>R (resilience):</b> Children are resilient when experiments don't work. They can reflect on why this could be and suggest improvements.</p> <p><b>E (empathy):</b> Children show empathy in group work. They can listen to each other's ideas and can share. The children will show empathy in Awe and Wonder weeks when learning about prominent scientists with Cultural differences.</p> <p><b>A (aspirations):</b> Children have the aspiration to discover more. They are curious, ask questions and construct their own theories to test.</p> <p><b>C (confidence):</b> Children have the confidence to ask questions, explore theories and make mistakes. They are confident applying their understanding to written tasks too.</p> <p><b>H- (high expectations):</b> Children have high expectations of themselves with safety and presentation of their findings. This is set from EYFS and is consistent all the way through to Secondary Ready.</p>		
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