St Joseph's Catholic Primary School
Inspiring everyone to REACH through
Faith, Hope, Love

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. From EYFS onwards, our children are encouraged to explore, observe and ask questions about the world around them. From the foundation stage of "Understanding the world", children are taught to be knowledgeable about the world around them and of our impact upon it. They are supported to make decisions about their health, 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**. This begins in the Early Years through play-based, exploratory learning and develops throughout the school into more structured scientific enquiry, with Working Scientifically skills at its heart. Science at St Joseph's 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 engaging buzz of investigations rooted in both child-led and teacher-guided discovery.

We ensure teacher subject knowledge and pedagogy is the best it can be through ongoing professional development, including the use of WalkThru training strategies to strengthen teaching practice. These approaches support teachers in modelling thinking, questioning effectively, scaffolding learning and addressing misconceptions in a clear and structured way. We provide engaging, hands-on, open-ended activities which build progressively on prior knowledge, including early experiences provided in EYFS. Our learning is centred in real and relevant contexts, with our **REACH** values at the heart. We ensure our lessons are accessible for all children, including SEND, by using adaptive teaching strategies, purposeful scaffolding and appropriate challenge, informed by high-quality teaching practices promoted through WalkThrus.

We are lucky to be situated in a beautiful part of Gloucestershire with access to inspiring outdoor areas. From EYFS outdoor provision, to wider school opportunities, we make full use of our environment, school garden and natural surroundings to enrich our Science curriculum. This enables children to develop observational skills, curiosity and a deeper connection with the natural world.

Intent	Implementation	Impact
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 right from EYFS to Year 6. In conjunction with the aims of the National Curriculum, our Science teaching offers opportunities for our children to: • 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; • 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.	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 **high expectations** in Science. Our whole school approach to the teaching and learning of science involves the following: • Ensuring carefully planned lessons for each area of sciences which allows for progression and depth as well as adaptations to ensure Science is achievable for all, including SEND; • 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 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 to link with data handling topics in Maths. • Teachers demonstrating how to use scientific equipment and the various Working	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: • Pupil voice to further develop the Science Curriculum. • Pupil conferencing for assessment. • Regular updating of Key Learning Points on Insight tracking. • 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 and books. • Regular monitoring of progress and accessibility for pupils with SEND. • 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.

• 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 experiments, build arguments and explain concepts confidently. At St Joseph's Catholic School, our REACH values underpin everything we do. In Science, children show our REACH values by: **R (resilience):** Children are resilient when experiments don't work. They can reflect on why this could be and suggest improvements. **E (empathy):** 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. **A (aspirations):** Children have the aspiration to discover more. They are curious, ask questions and construct their own theories to test. **C (confidence):** Children have the confidence to ask questions, explore theories and make mistakes. They are confident applying their understanding to written tasks too. **H- (high expectations):** 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.	Scientifically skills in order to embed scientific understanding. • Integrating cultural capital to ensure our children are "educated citizens, introducing them to the best that has been thought and said, and helping them to engender an appreciation of human creativity and achievement" (Ofsted 2019 paragraph 237). • 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.	