

St. Oswald's Catholic Primary School Science Policy 2020/21

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Love Jesus, Love Learning, Love Each Other.

St. Oswald's Catholic Primary School

Science Policy– Intent, Implementation and Impact – 2020-21

Science Leader – Miss Lea

As a school we ensure that all children and staff are treated fairly and equally. All children have equal rights to access all areas of the curriculum, regardless of race, gender and disability. Within this subject area, the SMT and all staff endeavour to provide the appropriate provision for this to occur. This policy follows the guidelines and practices that are stated and outlined in St. Oswald's Equality Scheme.

INTENT

At St. Oswald's Catholic Primary School, we recognise the importance of Science in every aspect of our daily lives. We aim to give all children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them to think scientifically, to gain an understanding of scientific processes and also an understanding of the uses and implications of Science today and for the future. Teaching should encourage children to manage their own learning and develop learning and thinking strategies appropriate for their maturity

As one of the core subjects taught in Primary Schools, we give the teaching and learning of Science the prominence it requires.

At St Oswald's Catholic Primary School, in conjunction with the aims of the National Curriculum, our Science teaching offers opportunities for children to look at the world like a scientist:

- Develop scientific knowledge and conceptual understanding through specific disciplines of Biology, Chemistry and Physics;
- Develop understanding of the nature, processes and methods of Science through different types of science enquiries that help them to answer scientific questions about the world around them;
- Be equipped with the scientific knowledge required to understand the uses and implications of Science, today and in the future
- Develop essential scientific enquiry skills to deepen their scientific knowledge
- Scientific enquiry skills are embedded into each topic the children study and these topic are revisited and developed through their time at school
- Specialist scientific vocabulary for topics is taught and built up and effective questioning to communicate ideas is encouraged
- Use a range of methods to communicate their scientific information and present it in a systematic, scientific manner, including ICT, diagrams, graphs and charts
- Develop a respect for the materials and equipment they handle with regard to their own, and other children's safety

- Develop their natural curiosity, enthusiasm and enjoyment of scientific learning and discover.

The National Curriculum provides a structure and skill development for the science curriculum being taught throughout the school, which is not linked, where possible to the text based creative curriculum, which reflects a balanced and progressive programme of study. We provide children with wider opportunities in science and make relevant links to other subjects. Teacher's plan and challenge children based on the progressive curriculum maps, unique to our school and our needs. There is a regular monitoring of science.

IMPLEMENTATION

At St. Oswald's Catholic Primary School:

Children have weekly lessons in Science taught throughout Key Stage 1 and 2, using various programmes of study and resources. In Early Years, science is taught through the children learning about the world around them in their learning through play. From Early Years up to Key Stage 2 children will build up a body of key foundational knowledge and concepts and children are encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. Additional opportunities are provided in science, such as STEM days, educational visits linked to the science curriculum, afterschool clubs – 'Zoo Club' and 'The Inventors.'

We endeavour to ensure that the Science curriculum we provide will give all the children the inspiration, confidence and motivation to continue to further develop their skills into the next stage of their education and life experiences.

Teachers create a positive attitude to science learning and within the indoor and outdoor classroom and reinforce an expectation that all children are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science involves the following:

- Science will be taught in planned and arranged topic blocks, making relevant links, to the text being taught. This is a strategy to enable the achievement of a greater depth of knowledge and make links with other areas of the curriculum.
- Through our planning, we involve problem solving opportunities that allow children to find out for themselves. Children are encouraged to ask their own questions and be given the opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated with the classroom. Planning involves teachers creating engaging lessons, often involving high quality resources to aid understanding of conceptual knowledge. Teachers use precise questioning in class to test conceptual knowledge and skills, and assess children regularly to identify those children with gaps in learning, so that all children can achieve their full potential. Challenge questions enable children to apply their learning in a philosophical/open manner.
- We build upon the learning and skill development of the previous years. As the children's knowledge and understanding increases and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they

become increasingly confident in their growing ability to come to conclusions based on real evidence.

- Working Scientifically skills are embedded into lessons to ensure these skills are being developed throughout the children's school career and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years in-keeping with the topics.
- Teachers demonstrate how to use scientific equipment and the various Working Scientifically skills in order to embed scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning.
- We maintain a high level of subject knowledge of science by training and professional development opportunities.

IMPACT

The successful approach at St. Oswald's Catholic Primary School results in a fun, engaging, high-quality science education, that provided all children with the foundations for understanding the world. Our science curriculum is high quality, well thought out and is planned to demonstrate progression. So much of science lends itself to outdoor learning and so we provide children with opportunities to experience this first hand. Children learn the possibilities for careers in science. Children's voice is used to further develop their science curriculum through questioning of children's views and attitudes to science support the children's enjoyment of science and to motivate learners with sound scientific understanding. If children are keeping up with the curriculum they are deemed to be making good or better progress and this can be seen on Target Tracker, where class teachers input the band and statement the children are working on. We measure the impact of our curriculum through the following methods:

- Children enjoy and are enthusiastic about science in our school and are eager to talk about their science learning.
- There is a clear progression of children's work and teachers' expectations in our school.
- Children's work shows a range of topics and evidence of the curriculum coverage for all science topics.
- Children are becoming increasingly independent in science, selecting their own tools and materials, completing child lead investigations and choosing their own strategies for recording.
- Feedback, following our whole school Feedback and Marking policy, has a positive impact on the children, often with next step questions to push learning on.
- Use of Target Tracker statements (year group specific and national curriculum linked) to identify achievement and next steps for all children. This is completed termly and monitored by Science subject leader with feedback given to class teachers, SLT and Governors.

- Tracking of the bands that the children are achieving at the end of each term, monitored by Science subject leader with feedback given to class teachers, SLT and Governors.
- Pupil discussions, discussion with class teachers, workbook monitoring highlight the positives and the areas to develop.
- Standards in Science at the end of each key stage are good and issues arising are addressed effectively in school.
- Our SLT and governors are kept up to date with developments in the way science is run in school alongside attainment and progress reports.