

"Learning with our head, heart and hands so that we can experience life in all its fullness"

Science

Intent, Implementation and Impact

"Science is magic that works." - Kurt Vonnegut.



Intent

Science teaching at Matching Green CofE Primary aims 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.

At Matching Green CofE Primary, scientific enquiry skills are embedded in each topic the children study and these topics are revisited and developed throughout their time at school. Topics, such as Plants, are taught in Key Stage One and studied again in further detail throughout Key Stage Two. This model allows children to build upon their prior knowledge and increases their enthusiasm for the topics whilst embedding this procedural knowledge into the long-term memory.

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 scientific based questions. This will largely be carried out and completed through our whole school ethos of learning with our heads, hearts and hands.

Specialist vocabulary for topics is taught and built up, and effective questioning to communicate ideas is encouraged. Concepts taught should be reinforced by focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

Implementation

The achievement of key scientific knowledge is an integral part of our science lessons. The progression of skills for working scientifically are developed through the year groups and scientific enquiry skills are of key importance within lessons.

At Matching Green, teachers create a positive attitude to science learning within their classrooms 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 by the class teacher. Our strategy is to enable all children to be catered for through adapted planning suited to their abilities.
- We plan for problem solving and real-life opportunities that enable children to find out for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom. Planning involves teachers creating practical, engaging lessons with

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opportunities for precise questioning in class to test conceptual knowledge and skills and assess children regularly to identify those children with gaps in learning.

- Our curriculum is progressive. We build upon the learning and skill development of the previous years, which is tested through our 'pre-learning quizzes' or posters where teachers can identify misconceptions that need addressing. Alongside this, teachers are asked to complete a KWL grid at the beginning of each unit. This will outline what they know, what they want to know and what they have learnt. This is a clear and precise way to introduce new units in their topic books.
- 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 and workshops with experts.
- Through enrichment days, such as 'British Science Week', we promote the profile of Science and allow time for the children to freely explore scientific topics. We plan to cover three Science-based enrichment mornings/ days in each School year.

Impact

The successful approach to the teaching of science at Matching Green results in a fun, engaging, high quality science education, that provides children with the foundations for understanding the world that they can take with them once they complete their primary education.

So much of science lends itself to outdoor learning, and so we provide children with opportunities to experience this. Children learn the possibilities for careers in science as a result of our community links and enrichment activities such as 'Aspirations Week'. Pupil voice is used to further develop the Science curriculum, through questioning of pupils' views and attitudes towards Science, to assess the children's enjoyment of science, and to motivate learners.