Curriculum Intent Statement: Science

Science - Intent, Implementation & Impact

What is the **Intent** of our science curriculum?

At St.Botolph's CE Primary School, it is our intent that children grow up enjoying science and understand the connections between science and the real world. We aim to give children a Science Curriculum which enables them to explore and discover scientific phenomena in the world around them confidently and independently. Sound scientific knowledge and consistently high Quality First Teaching is key to delivering a quality science curriculum.

In order to achieve this, we offer our children engaging, practical and purposeful experiences, in biology, physics and chemistry,that encourage curiosity with opportunities to ask and answer questions, take risks, experiment, reflect, and learn from their mistakes. We aim to provide our children with a wide range of opportunities to build on and develop their scientific knowledge and vocabulary and to have the time to practise skills so they can retain key information. They also have time to revisit areas to secure knowledge.

We want them to become confident scientists who can reason, investigate, justify and explain. They are given the necessary equipment, support, skills and encouragement in order to enable them to enjoy a greater depth in learning. We also encourage them to develop inquisitive minds and self-belief so they want to push themselves to learn more.

How is our science curriculum being **Implemented**?

We have worked together as a staff team to develop a program of science for our school but we are always keen to learn more in order to ensure that our curriculum is the best it can be for our children.

Planning & Organisation

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. In classrooms, you will see children who are focused on their learning where discussion and collaboration is encouraged alongside independence and resilience. Our engagement with the local environment ensures that, where possible, children learn through varied and first hand experiences of the world around them. We are lucky to have a dedicated science teaching space that helps to facilitate child-led learning and enable pupils to access a practical and engaging science curriculum.

Science at Foundation Stage is covered in the **'Understanding the World'** area of the EYFS Curriculum. It is introduced indirectly through activities that encourage every child to explore, problem solve, observe, predict, think, make decisions and talk about the world around them.

Key Stage 1 and Key Stage 2:

Long-term planning	National Curriculum - Science Chris Quigley Essentials Curriculum (Depth of Learning Tracking System)
Medium-term planning	Golden Nuggets of key scientific information are presented as part of knowledge organisers for each area of science studied in each key stage. Key stage teams work together to ensure all skills and knowledge are covered when developing their plans based on these areas. To ensure coverage, we use long-term planning to make links with the topic (country) we are studying. This ensures prior learning is being built upon. If no link exists, science is planned as a standalone subject weekly.
Short-term planning	Planning is created in teams, the lessons are planned and ordered to ensure a full coverage of subject knowledge, whilst allowing children opportunities to revisit and develop their skills and knowledge.

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 opportunities to use their scientific skills and research to discover the answers. Teachers use precise questioning in class to test conceptual knowledge and skills, and to guide them with their scientific enquiry.

Through curriculum mapping, we create opportunities to build upon the learning and skill development of the previous years. We believe that this allows children to become more secure in their scientific knowledge and understanding and increasingly proficient in scientific enquiry providing them with a growing ability to come to conclusions based on real evidence. Teachers will focus on key scientific vocabulary and terminology to ensure scientific language is used at all times.

Where meaningful links can be made, science lessons are embedded into our creative curriculum topics to allow for cross curricular connections to be explored. For other scientific areas, discrete teaching takes place on a weekly basis. In Key Stage 1, the current school structure means that science is taught in pure year groups. In Key Stage 2, we currently teach science in mixed classes with tasks differentiated for separate year groups.

How do we know what **Impact** our science curriculum is having on pupil's scientific knowledge?

The Head, Deputy, the Science Subject Leaders and all teachers regularly assess the impact of our science curriculum on our pupils in terms of their scientific knowledge, engagement, progress and attainment in different ways as stated including:

- Monitoring, evaluation and assessment of pupils' work, planning, observation of lessons.
- Pupil voice is used to develop the Science curriculum, through questioning of pupil's views and attitudes to Science to support the children's enjoyment of science and to motivate learners.
- Google quizzes at the end of each unit - key stage teams have developed quizzes to assess the children's understanding of the key Golden Nuggets of information taught throughout each unit. These Golden Nuggets are highlighted on individual knowledge organisers and underpin planning. Google quizzes can be retaken at any time to assess the levels of key information being retained.
- Knowledge and skills are also assessed through the use of Depth of Learning tracking.
- Governor Support - Our Science governor meets regularly with the subject leaders to discuss Science. Monitoring visits are made and data is shared and discussed. Challenging questions are asked of subject leaders and reports are written.

The impact of our science curriculum is that children understand the relevance of what they are learning in relation to real world concepts. We have fostered an environment where science is fun and it is OK to be 'wrong' because investigating and experimenting is all part of the process. Teachers build good relationships with children during science sessions so they know when a child is progressing well and when they need help. We encourage an environment where questions are welcomed and it is okay to check and to take a risk. Effort is rewarded and any misconceptions are seen as a good way to review learning.

We support children to strive to be the best scientists they can be, ensuring a greater proportion of children are on track to meet and exceed their potential. Children 'have a go' and choose the equipment they need to help them to learn along with the strategies they think are best suited to each problem.

Who else supports the pupils so they can excel and enjoy science?

Working together - Support from Stakeholders

Pupil Voice - Teachers have the opportunity to speak to individual pupils on a one-to one basis during the year. They discuss areas of strength and challenge, and next steps in their learning.

Parental support - We work with parents to keep them informed of the work we are covering in school so links can be made at home.

Governor Support - Our science governor meets regularly with the subject leader to discuss science. Monitoring visits are made and data is shared and discussed. Challenging questions are asked of subject leaders and reports are written.