


Science at Bickerton Holy Trinity Church of England Primary School

Intent	What we want to achieve	
	<p>'Life in all its Fullness' (<i>John 10:10</i>)</p>  <p>Lifelong Learners Immersive Valuing Diversity Enquiring Minds</p>	<p>Our intent is to provide a high-quality science curriculum embedded with meaningful, immersive and memorable learning experiences. We intend to increase pupil's scientific knowledge, develop pupil's working scientifically skills and enable pupils to build on and link prior learning with new learning whilst promoting a love of science. At Bickerton we aim to enthuse the children's curiosity about natural phenomena and events around them. We encourage children to explore confidently and have enquiring minds in order to develop and deepen their understanding of the world in which they live, explaining what is occurring, predicting how things will behave and analysing causes. They learn to question and discuss science-based issues that may affect their own lives, the directions of society and the future of the world, encouraging and supporting the development of science capital. We want our children to appreciate how science has changed the lives of human beings and know that it is vital to the world's future prosperity. By implementing an inclusive, progressive and inspiring curriculum with real-life links, we ensure children have a meaningful conceptual understanding of the essential aspects of the knowledge, methods, processes and uses of science. We encourage children to raise their own questions for exploration and develop transferable skills such as observation, communication, teamwork and respecting the opinion of others. By working scientifically, through investigations involving planning, testing, recording and analysing results, children come to appreciate the nature of the learning process and its practical application to everyday experiences. We aim for our children to have high aspirations for themselves and teach them about diversity in science including important scientists whose discoveries have impacted on the way we live. The staff at Bickerton ensure that all children are exposed to high quality teaching and learning experiences, this includes allowing them to explore our unique outdoor environment and geographical location which enhances the children's knowledge and understanding of science. Communication is key and we value the importance of developing spoken language during science lessons. The children are immersed in subject specific language to enable development and confidence in using scientific vocabulary to articulate concepts clearly. Teachers build the children's foundations securely with discussion to iron out misconceptions. We aim to develop children's sense of global and local citizenship through understanding the value and importance of making responsible, informed and more sustainable lifestyle choices that minimise our impact on the environment.</p> <p>By the time they move to secondary school, we expect our children to have a good knowledge of physics, chemistry and biology and to be confident in their ability to work scientifically, to think of and investigate scientific questions, and to possess the scientific enquiry skills which they will then be able to build upon as they progress through the next stage of their education.</p>
Implementation	How we teach Science	
	<p>At Bickerton we ensure high standards of teaching and learning in science, we implement a curriculum that is progressive throughout the school that develops both pupils' substantive and disciplinary knowledge. Science is taught discretely on a weekly basis in year groups. We use Hamilton Trust to support planning in KS1 and KS2. Which is organised into topics and year groups and designed around the statutory requirements for Primary Science and gives full coverage of the National Curriculum. As a school, we also use the PLAN primary assessment resources which includes knowledge and working scientifically matrices and progression documents that highlight links between topics taught in different year groups and the development of working scientifically skills.</p> <p>At the start of each topic teachers take time to find out what our children already understand and want to find out through a pre-block assessment. Through teacher modelling and questioning we want our children at Bickerton to wonder and be amazed by the world around them. Key scientific language is modelled and taught</p>	

throughout lessons enabling our children to be familiar with and use vocabulary accurately. We are committed to providing exciting, hands on and practical experiences for all children at Bickerton. In turn this will help promote independent learning, curiosity and a love for **enquiry** and knowledge. Teachers are also encouraged to plan trips and visitors to enhance our children’s learning experience when possible. Once a year, the whole school works off a timetable and **immerses** in a ‘Science day’. A theme runs across the school, with children investigating a Science/STEM question. This enables children to **immerse** themselves in science and its vocabulary. They will learn about scientists, make real life links and work through the steps of a scientific investigation. We seize opportunities to further enhance the curriculum and grow enthusiasm in science. Recent examples include: the annual, whole school science week, parents visiting school to talk about their careers in science, a visit to Bickley Hall farm and a school visit by ‘Chemistry with Cabbage’. Year 5 and 6 take part in science transition days to our local secondary school, when the children get a taste of the exciting opportunities in science on the next stage of their learning journey. They also take part in the annual science fair at our local high school which gives them the opportunity to take part in our after-school science club which focuses on hands-on, practical work and exploring science as part of everyday life.

In order for children to know more and remember more in each area of science studied, meta-cognition is considered and opportunities for revision of prior knowledge and scientific understanding are built into every lesson. Through revision and consolidation, we help children draw on prior knowledge and make links and connections when introducing new learning. Key vocabulary is built into each unit of work. This vocabulary is included in display materials and additional resources to ensure that children are allowed opportunities to repeat and revise this knowledge.

Through **immersive** science teaching, we intend to inspire our pupils to develop a **lifelong** love of science, develop **enquiring minds** and explore how science has shaped the **diverse** world in which they live.

How we monitor standards and the impact of our Science Curriculum

Science progress in Bickerton, is measured through the child’s ability to obtain sustainable knowledge, remember more and explain more. Our successful, consistent approach results in fun, engaging, high-quality Science education, that provides children with the foundations and knowledge for understanding the world. This is evident in pupils’ work, photos, and displays.

In Early Years, children are assessed through observations. In KS1 and KS2, children are assessed against the National Curriculum core objectives stated on the medium term plans for each half term. Teacher assessments are informed through carefully adapted planning and teaching, targeted questioning, observations, challenges and next steps. Knowledge and skills are assessed through teacher assessments evidenced through pictures, observations pupils’ work including; books and quizzes. They help identify next steps where appropriate. Half termly assessments are collated on Insight.

Monitoring and evaluation of the impact on children’s learning includes regular monitoring of books by the subject coordinator, year groups mini moderations, learning and environment walks as well as discussions with staff and pupils.

Providing equal opportunities for all the children is at the heart of teaching practice at Bickerton Holy Trinity Primary School. Activities are adapted to ensure all the children, including PP, SEND and low attainers needs are met.

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