Science Intent, implementation and impact.

Intent: How we have planned our science curriculum

At St Nicholas and St Laurence CE School we recognise and value the importance of science and scientific enquiry. In science, we aim to develop a fun, practical and engaging high-quality curriculum that enables children to succeed and excel in science. We do this through adhering to the aims of the national curriculum and fostering a healthy curiosity and interest in the sciences. At the heart of our practical science curriculum is scientific investigation. We use the Plymouth scheme of work as our vehicle to support our science teaching. Wherever possible we intend to deliver lessons where children learn through varied investigations, leading to them being equipped for life to ask and answer scientific questions about the world around them. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Throughout the programmes of study, the children will acquire and develop the key knowledge and vocabulary that has been identified within each unit and across each year group, as well as the application of scientific skills. We ensure that the Working Scientifically skills are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, conducting experiments and investigation, building arguments and explaining concepts confidently, being familiar with scientific terminology and, most importantly, to continue to ask questions and be curious about the world.

Throughout our science curriculum, the substantive (the content) and the disciplinary (the how) knowledge taught is built into the sequence of each science topic. The content for each year group is created based on the national curriculum objectives and the big ideas of science. At St Nicholas and St Laurence CE Primary School, we want our children to be able to acquire key scientific concepts and make connections, enabling them to know more and remember more.

Implementation: How we teach our science curriculum

At St Nicholas and St Laurence, the learning 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. Our 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 is taught discretely in planned, sequenced topic blocks by the class teacher. Our strategy is to enable all children to be catered for through adapted planning suited to their abilities. Planning involves teachers creating practical, engaging lessons with opportunities for precise questioning in class to test knowledge and skills, and assess children regularly to identify those children with gaps in learning. Precise scientific vocabulary is taught in each topic and is used correctly by staff and children.
- Our curriculum is progressive. We build upon the learning and skill development of the previous years, and staff encourage the children to recap prior learning at the start of each new topic. This knowledge is used to identify any misconceptions that need addressing in order to ensure the lessons are mapped out accordingly to meet the needs of all learners.
- Working Scientifically skills are embedded into lessons to ensure these skills are being developed throughout the children's time here, 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 our STEM days, we promote the profile of science and allow time for the children to explore scientific topics.

Impact: How we assess the progress our pupils make in science

At St Nicholas and St Laurence, our approach to the teaching of science 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, including Forest School for every child. Children learn the possibilities for careers in science from our enrichment activities such as 'Big Me' and STEM days. Pupil voice is used to develop the Science curriculum, through regular questioning of pupils' views and attitudes towards science, to assess the children's understanding and enjoyment of science, and to motivate learners.