



Little Sutton Church of England Primary School **Science Statement**



Intent

At Little Sutton Church of England Primary School, we aim to provide our children with the knowledge and skills they need to become superb scientists. We offer a science curriculum that evokes excitement, curiosity and understanding about the world around them through the specific disciplines of biology, chemistry and physics whilst supporting the Fundamental British Values. Ensuring the progression of skills and cumulative learning, the curriculum also builds on the children's metacognitive learning strategies through effective pedagogical and vocabulary rich teaching. Subject specific vocabulary is taught and built upon as topics are revisited to ensure conceptual understanding in order to be used accurately and precisely.

We know that children learn through enquiry-based learning, thus science Little Sutton has been structured to ensure that our pupils have first-hand science experiences from the beginning of their learning journey. This allows for independent exploration and investigation that then leads to progression of communication. Our progressive, creative curriculum will enable our children to thrive as educated citizens of the future and through a growth mind-set approach and know that their learning has no limits. Our children understand that 'for with God, nothing is impossible'.

Implementation

At Little Sutton Church of England School, we aim for our children to have a love of science. We want them to acquire and secure knowledge and transferable skills that are progressively embedded from the very beginning of their learning journey which continues throughout their primary school journey and beyond. Planning for science is based on the National Curriculum. At the start of each new topic, class teachers provide 'What Do I Know Now?' and 'What Do I Want to Know?' discussions linked to real life contexts to engage the children's minds and evoke critical thinking when questioned on their existing knowledge and what they want to find out. Each learning sequence is carefully planned to ensure that the key scientific vocabulary and key features of scientific enquiry have been taught: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing; and researching using secondary sources.

Science is taught discretely, however, meaningful links across the curriculum are made to ensure creative cross-curricular learning. We want our children to make strong connections between scientific concepts and use these to support their learning and understanding across other subject areas, especially mathematics and technology. Each term, we organise whole school science projects, linking with other cross curricular activities and outside community plans.

Standards in science are monitored in a variety of ways: scrutiny of children's science books, professional dialogue, pupil voice questionnaires, staff voice questionnaires, lesson observations and learning walks.

Impact

The successful approach at Little Sutton Church of England School results in a fun, engaging, high-quality science education, that provides children with the foundations for understanding the world. Our engagement with the local environment ensures that children learn through varied and first hand experiences of the world around them. Frequent, continuous and progressive learning outside the classroom is embedded throughout the science curriculum. Through various workshops, trips and interactions with experts, children have the understanding that science has changed our lives and that it is vital to the world's future prosperity. They learn from and work with professionals, ensuring access to positive role models within the field of science from the immediate and wider local community. From this exposure, all children feel they are scientists and capable of achieving. Children at Little Sutton Church of England School overwhelmingly enjoy science and this results in motivated learners with sound scientific understanding.

Science in the Early Years

Science sits within the Early Years Foundation Stage Framework under the area of Understanding of the World. Our outdoor learning environment in the Early Years at Little Sutton Church of England School is key to enhancing child led learning. We provide opportunities for children to question, wonder, explore, discover, experiment and observe through direct experiences. The children are introduced to scientific vocabulary to help them further their understanding and are asked open-ended questions, so that they can make predictions and give them opportunities to question. Our Early Years provision ensures that children have access to a range of materials that work in different ways for various purposes. Children can use resources and the environment around them to notice similarities and differences, changes over time such as a growing plant in our vegetable patch and discuss their point of view with their peers. By the end of reception, the children should be able to:

- explore the natural world around them, making observations and drawing pictures of animals and plants;
- know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class;
- understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Science in Key Stage One

Working scientifically is what encourages children's curiosity and develops the knowledge of the objectives taught throughout the key. Pupils will use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- asking simple questions and recognising that they can be answered in different ways;
- observing closely, using simple equipment;
- performing simple tests;
- identifying and classifying;
- using their observations and ideas to suggest answers to questions;
- gathering and recording data to help in answering questions.

Science in Key Stage Two

During Years Three and Four, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- asking relevant questions and using different types of scientific enquiries to answer them;
- setting up simple practical enquiries, comparative and fair tests;
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers;
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions;
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables;
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions;
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions;
- identifying differences, similarities or changes related to simple scientific ideas and processes;
- using straightforward scientific evidence to answer questions or to support their findings.

During Years Five and Six, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary;
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate;
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs;
- using test results to make predictions to set up further comparative and fair tests;
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations;
- identifying scientific evidence that has been used to support or refute ideas or arguments.

Equal Opportunities and Inclusion

Through the school's REACH acronym, we are committed to providing a teaching environment which ensures all children are provided with the same learning opportunities regardless of social class, gender, culture, race, special educational need or disability. Teachers use a range of strategies to ensure inclusion and also to maintain a positive ethos where children demonstrate positive attitudes towards others. Support for specific individuals is well considered and planned for, with consideration given to how greater depth and further challenge can be provided and demonstrated by children who require further challenge. All pupils are entitled to access the science curriculum at a level appropriate to their needs.

To ensure inclusion, teachers use a range of strategies in line with the school's inclusion planning key. Independent tasks, as well as teaching, are also well-adapted to ensure full accessibility and reasonable adjustments are made when needed, as well as to provide appropriate challenge to different group of learners. The school makes full use of additional adults who are deployed effectively to ensure that identified children are able to make progress

in each curriculum area, according to their full potential. Through the use of 'What Do I Know Now?', teaching takes account of children's own interests to ensure topic relevance to all individual learners.

Assessment

We use a range of both formative and summative assessment strategies:

- Self-assessment – Each week, pupils will build upon the Knowledge Organiser mind map using key vocabulary
- Peer assessment – the children work together to evaluate each other's learning.
- Summative termly assessments to identify gaps, demonstrate the children's understanding and inform teaching.
- Pupil questioning and discussion – our children will know, remember and apply their learning long-term.

British Values and Christian Distinctiveness

As a Church of England School, mutual respect is at the heart of our values. Children learn that their behaviours have an effect on their own rights and those of others. All members of the school community treat each other with respect and follow our three school rules: 'Be kind, be safe, be respectful'. As a friendly and welcoming primary school in Little Sutton, our children learn about British values like respect, tolerance, democracy, liberty and law. We appreciate and celebrate diversity through the teaching of stories, values and celebrations from a variety of faiths and cultures.

The Curriculum Leader for Science is:

Miss Amy Williams