Little Sutton Church of England Primary School
Science Statement

Intent

Why is science important in our school? In the modern world, we are surrounded daily by aspects of science and technology. At Little Sutton Church of England Primary School, we aim to equip our children with the crucial skills to enable them to make sense of their exciting and rapidly developing environment, through the disciplines of physics, chemistry and biology. As Louis Pasteur said, “Science is the torch that illuminates the world!” At Little Sutton Church of England Primary School, we believe that in providing engaging and thought-provoking science lessons, we can ignite a curiosity and excitement in our pupils about the world around them and inspire and encourage them to pursue additional lines of enquiry beyond the classroom and into their future lives.

Implementation

In Science, at Little Sutton C. of E. Primary School we follow the ‘Kapow’ scheme of work, which is based on the Knowledge and Understanding Programme of study from the 2014 National Curriculum. There are three main strands which run through the scheme of work: ‘scientific knowledge and understanding’, ‘working scientifically’ and ‘science in action.’ Children then develop their knowledge and understanding within seven key areas: ‘animals including humans’, ‘living things and their habitats’, ‘plants’, ‘materials,’ ‘energy,’ ‘forces earth and space’ and ‘making connections.’ The Science in action strand is interwoven throughout the scheme and makes the concepts and skills relevant to pupils, as well as inspiring for future application. Topics are taught across the school in Early Years and KS1, lower key stage 2 and upper key stage 2. Pupils revisit themes throughout their Primary years to help embed skills and concepts.

Throughout the children’s learning journey in science, value is placed on practical investigation and learning through first-hand experience. Pupils are nurtured to acquire and embed the appropriate working scientifically skills, to carry out a range of scientific enquiries including: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing and research through secondary sources. The acquisition of these skills is carefully planned to ensure that the children’s ability to ask questions, observe, measure, test, gather data, record and report their findings develops in a progressive manner. New skills build on previously mastered learning.

These skills are woven into topics, which aim to deepen, broaden and challenge the children’s existing knowledge and understanding of the natural world and physical processes. Scientific vocabulary is introduced, modelled and consolidated throughout each topic ensuring that it is used accurately.

Science is taught as a discrete subject. However, the critical thinking skills acquired through science also prove useful in the development of other areas of the curriculum – from solving problems in maths and design technology or presenting an evidence-based argument in English and History to discussing environmental issues in Geography.
To enrich the pupil’s learning, visits further afield; science themed-days and workshops led by visitors are organised. Links with the local High Schools, aid the transition to KS3 and promote a positive attitude towards science through participation in activities undertaken on Year 6 transition days.

Impact

The engaging use of resources and teaching strategies at Little Sutton Church of England Primary School results in pupils being actively involved in science lessons. Our approach through 'Kapow' encourages children to ask questions; equips them with the necessary skills to pursue their own lines of enquiry and lays down the foundations for them to have a greater understanding of the world. Children also gain an insight into the positive impact of science within their lives and potential careers in this field, through their research on various scientists.

Science in the Early Years

At Little Sutton Church of England Primary School, children begin their learning journey in science in the Early Years Foundation Stage (EYFS.) The children are guided to make sense of their world and their community through personal experience, centred around play and a multi-sensory approach, through the "Understanding the World" area of the curriculum. Children are encouraged to explore, observe, compare and talk about: materials with different properties; investigate and discover changes in materials; learn about natural phenomena and identify similarities and differences. They are helped to understand the key features of the life cycles of a plant and animal and begin to develop an awareness of the need to take care of their environment. Through their exploration of the world around them they also explore simple forces. Children are supported to talk about their experiences using a science rich vocabulary.

Science in Key Stage One

In Key Stage 1, children are taught science through a discrete weekly lesson, where emphasis is again placed on practical investigation but also uses secondary sources .Each half term the children undertake a topic based on finding out more about the natural world - identifying plants and their requirements needed for growth, classifying animals in different ways, exploring the properties of everyday materials including man-made ones, observing and recognising seasonal changes, comparing habitats and the living things which live there. In these formative years the children are also introduced to the concepts of: the basic needs of animals, the requirements for a healthy lifestyle, animals having off-spring and the manipulation of materials.

Science in Key Stage Two

The knowledge, skills and understanding gained in key stage 1 is built upon and developed in Key Stage 2. The children begin to develop ideas about function, relationship and interaction. Children are taught science in discrete weekly lessons which focus on a topic each half term. Working scientifically skills are woven into these topics.

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.

All children are valued at Little Sutton Church of England Primary School and as such we ensure our science lessons are accessible and engaging for all by providing support and challenge as appropriate and an environment which reflects an inclusive society. To ensure inclusion, teachers use a range of strategies in line with the school's inclusion policy. 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.

Assessment

Assessment for learning is a continuous process throughout the planning, teaching and learning cycle of Little Sutton Church of England Primary School. Assessment is supported by use of the following strategies:

- Children review their learning objectives at the end of every lesson and reflect upon the level of their knowledge and understanding.
- In association with the teacher's formative assessments gained by questioning, observing and the monitoring of books this also helps to inform planning to either consolidate current learning or move it forward.
- In EYFS, children will be formally assessed against the early learning goals at the end of their year in Reception.
- In KS1 children are assessed at the end of every science topic unit using Insight.
- In KS2 assessment for learning involves the child, their peers and the teacher. Feedback to pupils is provided both verbally and through interactive marking to engage children with their learning and to provide opportunities for self-assessment, consolidation and depth.
- Peer assessment of presentations also provides the children with information about their performance.
- Children are assessed at the end of every topic unit against the knowledge and understanding objectives whilst their working scientifically skills are assessed throughout the unit. Use of 'knowledge skills catchers' and end of unit quizzes is made.

British Values and Christian Distinctiveness

Science has a key part to play at Little Sutton Church of England Primary, in preparing every child for their role as an active citizen and promoting an understanding of British Values. Mutual respect for each other underpins all our lessons and is demonstrated between staff and children and children and their peers. It is instilled during class inputs and discussions, nurtured in group work and individual demonstrations are celebrated.
Awareness of democracy is evidenced in the way discussions are conducted in science. Value is given to every child's voice and children from the youngest of age are taught to take turns. Debates about scientific issues are often resolved through a democratic voting system. Safety is at the heart of practical activities in science and as such children are given rules to abide by to keep themselves and others safe. They are made aware of the consequences if these rules are not adhered to and encouraged to take personal responsibility for their own actions.

In Science, children are encouraged to ask questions and share ideas freely. Differences of opinion regarding scientific topics are mutually tolerated and respected. Individual questions can lead to the formation of a hypothesis, where children are then given the freedom to pursue their own investigations.
From the very beginning of their science journey, children look at similarities and differences between people as seen in books, small world toys and videos. Pupils are taught to value, respect and celebrate the rich and diverse global community in which they live but are also made aware that their spiritual beliefs may differ from scientific opinions. E.g. the Creation and the Big Bang theory and that this needs to be tolerated.
Science helps to promote global citizenship through the study of key scientists and the impact they have had on the world. Children at Little Sutton Church of England Primary School are encouraged to adopt an advocacy approach to science and to raise their voice to seek positive changes. From recycling, to healthy eating, restoring the school's ecosystem to mental well-being. Science helps to raise awareness of how the children can make a difference in shaping their world.

The Curriculum Leaders for Science are:

Mrs. Zoe Carciero and Miss Jane Edwards