



Little Sutton C of E Primary School

Science Statement

Intent

At Little Sutton C of E Primary School, we aim to excite and stimulate children's natural curiosity to enable them to make sense of the world in which they live. We encourage questioning and exploration, valuing and building upon their existing ideas. Our intention is for all children to develop a scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. They will be equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

The science curriculum we follow fulfils all the requirements of the National Curriculum Science Programmes of Study and the Statutory Framework for the Early Years Foundation Stage. Through a carefully developed progression of knowledge and skills, our pupils will develop an understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. Subject specific vocabulary is taught and built upon as units of work are revisited as they move through the year groups. Children are encouraged to use scientific vocabulary, both written and verbal, to explain their ideas and make sense of their observations and findings.

Teachers encourage children to use a developing scientific vocabulary as they progress through each year group. Time is spent during lessons introducing and reinforcing age-appropriate scientific vocabulary. Children are given opportunities to consolidate their use of scientific vocabulary as they move through the year groups. Children are encouraged to use scientific vocabulary, both written and verbal, to explain their ideas and make sense of their observations and findings.

By providing a range of practical experiences, we develop pupils' investigative skills and allow children to take risks and learn from their mistakes; enabling them to become more confident, independent learners.

Implementation

Little Sutton C of E Primary School have adopted the Kapow scheme of work. This scheme is progressive in terms of skills and knowledge to be learnt as children move through the school. Kapow ensures full coverage of the National Curriculum, the learning objectives should be followed for each unit of work.

Each lesson should follow the four-phase lesson structure of:

- Recap and Recall
- Presentation/Whole class teaching
- 'Attention Grabber' Tasks and Experiences

- Reflection

Teachers plan opportunities for pupils to recall prior learning. This enables pupils to consolidate their previous learning, while also preparing them for future learning, in line with the sequence of lessons. This is particularly important for our EAL and SEND children, who may need more opportunities to retain and embed scientific vocabulary and concepts.

Early Years Foundation Stage

In the Foundation Stage, children are taught Science through the key areas of learning set out within the EYFS Statutory Framework.

Through a broad range of teacher-led, child-initiated and continuous learning opportunities, children will be taught to:

- Use their senses to investigate a range of objects and materials
- Find out about, identify and observe the different features of living things, objects and worldly events
- Look closely at similarities, differences, patterns and change
- Ask questions about why things happen and why things work
- Develop their communication and co-operation skills
- Talk about their findings, sometimes recording them
- Identify and find out about features of the place they live and in the natural world around them

Key Stage 1 and 2

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Forces and space: Seasonal changes	Living things: Habitats	Forces and space: Forces and magnets	Energy: Sound and vibrations	Forces: Earth and space	Living things: Evolution and inheritance
Animals: Sensitive bodies	Living things: Microhabitats	Animals: Movement and nutrition	Animals: Digestion and food	Animals: Human timeline	Animals: Circulation and health
Animals: Comparing animal	Animals: Life cycles and health	Energy: Light and shadows	Living things: Classifying and changing habitats	Living things: Lifecycles and reproduction	Living things: Classifying big and small
Materials: Everyday materials	Materials: Use of everyday materials	Materials: Rocks and soil	Materials: States of matter	Materials: Properties and change	Energy: Light and reflection
Plants: Introduction to plants	Plants: Plant growth	Plants: Plant reproduction	Energy: Electricity and circuits	Forces: Imbalanced forces	Energy: Circuits, batteries and switches
Making connections	Making connections	Making connections	Making connections	Materials: Mixtures and separation	Making connections
				Making connections	

The outdoor environment of the school is used where appropriate for fieldwork; school trips may be arranged to support individual science topics and visitors may be invited into school. Science teaching should be as practical and interactive as possible. To raise the profile of science throughout school, Little Sutton offers pupils the following experiences throughout each academic year:

- Science enrichment clubs
- Local and national science competitions
- Science visits
- Participation in local and national science events

Working Scientifically

In addition to the scientific knowledge and conceptual understanding taught through each topic, children will also be provided with opportunities to develop their scientific enquiry skills. These skills are identified within the 'Working Scientifically' element of the National Curriculum and are covered within the Kapow planning scheme, through a range of activities.

Children will be given opportunities to:

- Ask questions
- Hypothesise and predict
- Plan and carry out successful investigations
- Use apparatus effectively and accurately
- Observe and measure
- Record data in various ways
- Present results in a variety of ways, including the use of ICT
- Compare and evaluate results and identify patterns and trends
- Draw effective conclusions

We use 'Enquiry Symbols' to identify which area of 'Working Scientifically' is being taught. These are displayed in books alongside the lesson to ensure the focus is visible, and to allow full coverage of each area of enquiry as follows:

- Identifying, classifying and grouping
- Research using secondary sources
- Observing overtime
- Pattern seeking
- Comparative and fair testing



Impact

Our science impact is tracked through careful assessment and is integral to science teaching at Little Sutton. Children's ideas form the basis of teaching and learning. Elicitation of children's conceptions and, importantly, misconceptions is achieved by concept mapping, children's drawings, and diagrams or written work where appropriate. Open questioning and observation are also used.

Each science unit will also have a summative exit point assessment which is used alongside the teacher's knowledge of the children and their formative judgments.

Teachers will complete ongoing tracking through the use of *Insight* to enable assessment of children's progress within each unit of work. These are based on simple NC statements and tailored for each year group online with Kapow units of teaching – including scientific enquiry. At the termly data drop points each year, an attainment judgement will be entered on to *Insight*. Pupil attainment in science is discussed at pupil progress meetings in conjunction with the Senior Leadership Team and Science Lead.

The impact of our science curriculum is measured through the monitoring cycle in school. This includes:

- Lesson observations
- Book monitoring
- Learning walks
- Discussions with class teachers
- Discussions with pupils

Monitoring is used to measure whether:

- Children enjoy and are enthusiastic about science in our school
- There is a clear progression of children's work and teachers' expectations in our school
- Children's work shows evidence of the curriculum coverage for all science programmes of study
- Children are becoming increasingly independent in science, selecting their own tools and materials, completing pupil led investigations and choosing their own strategies for recording
- Feedback from teachers has an impact on our pupils, often with next step questions to push learning on
- All children are making progress, including EAL and SEND children

Monitoring is also used to identify gaps in the curriculum that may need to be addressed across the school, or within individual year groups. Monitoring is an ongoing cycle, which is used productively to provide the best possible Science curriculum for our children.

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 school's inclusion planning key. 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 can make progress in each curriculum area.

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 our school community treat each other with respect and follow our three school rules:

- Be kind
- Be safe
- Be respectful

Little Sutton pupils learn are taught to appreciate and celebrate diversity through the teaching of stories, values and celebrations from a variety of faiths and cultures.

Our curriculum underpins the five British Values:

- Democracy
- The Rule of Law
- Mutual Respect
- Tolerance for those of different faiths and beliefs
- Individual Liberty