



Science – Intent, Implementation, Impact

Intent

At Sutton-on-the-Forest CE Primary School, it is our intention to provide a high quality science education that provides children with the foundations they need to recognise the importance of Science in every aspect of daily life. We give the teaching and learning of Science high prominence.

Our curriculum will enable children to become enquiry based learners collaborating through researching, investigating and evaluating experiences. It will encourage respect for living organisms and for the physical environment. The concept of 'working scientifically', is woven into every topic, and specifies the understanding of the nature, processes and methods of Science. Indeed, as far as possible, 'working scientifically' should form the basis of every lesson.

Teachers will ensure that all children are exposed to high quality teaching and learning experiences. These will hook the children's interest, enabling them to develop a sense of excitement and curiosity about natural phenomena. They will be encouraged to ask questions about the world around them and work scientifically to further their conceptual understanding and scientific knowledge.

Children will be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes. It will provide opportunities for the critical evaluation of evidence and rational explanation of scientific phenomena as well as opportunity to apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data. Children will be immersed in key scientific vocabulary, which supports the acquisition of scientific knowledge and understanding.

All children will be provided with a broad and balanced science curriculum which reflects the equality and diversity policies and practice in school.

Implementation

At Sutton we provide full coverage of the National Curriculum, following the programmes of study for each year group carefully, providing the right balance between working scientifically and learning scientific facts. In ensuring high standards of teaching and learning in Science, we implement a curriculum that is progressive throughout the whole school. Science teaching at Sutton on the Forest CE Primary School involves adapting and extending the curriculum to match all pupils' needs. Where possible, Science is linked to class topics, but we also recognise that it is not always possible to do that. Science is taught as discrete units and lessons where needed to ensure coverage. Due to our mixed age classes, Science units are taught on a two-year rolling programme to ensure progression between Key Stages and guarantees topics are covered. We use a range of resources to support lesson planning (Hamilton Trust, Explorify, PLAN, PSTT) that ensures the curriculum 'comes alive' for pupils

We ensure that all children are provided with rich learning experiences that aim to:

- Prepare our children for life in an increasingly scientific and technological world today and in the future,
- Help our children acquire a growing understanding of the nature, processes and methods of scientific ideas,
- Help develop and extend our children's scientific concept of their world,
- Build on our children's natural curiosity and developing a scientific approach to problems,
- Encouraging open-mindedness, self-assessment, perseverance and developing the skills of investigation – including: observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating,
- Develop the use of scientific language, recording and techniques,

- Develop the use of computing in investigating and recording,
- Make links between Science and other subjects.

Science is taught consistently, once a week for up to two hours, but can also be discreetly taught in many different contexts throughout other areas of the curriculum. For example, through English, i.e. writing a letter to a local politician regarding the closure of a park/biography of a famous scientist's life, etc.

Each science unit begins with teachers checking on what children already know and then inviting children to think of their own questions. Children will be able to build on prior knowledge and link ideas together, enabling them to question and become enquiry based learners. Children are also asked to review their learning at the end of each topic. These tasks provide children with an opportunity to share their learning more widely with other children and parents through a variety of means e.g. displays, learning presentations, talks, report writing etc.

Science and Special Educational Needs and/or Disability (SEND)

All children will have Quality First Teaching. Any children with identified SEND may have work additional to and different from their peers in order to access the curriculum.

Impact

The successful approach to the teaching of science will result 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.

Assessment is teacher based and formed using formal strategies (e.g. periodic year group assessment tasks, quizzes) and informal strategies (Use of concept maps, verbal/written outcomes, reflection tasks/presentations).

Formative assessment is used as the main tool for assessing the impact of Science as it allows for misconceptions and gaps to be addressed more immediately rather than building on insecure scientific foundations. Formative assessment can include quizzes, knowledge posters, end of unit assessments and speaking to the children about what they have learnt.

Children at Sutton School will:

- demonstrate a love of science work and an interest in further study and work in this field
- retain knowledge that is pertinent to Science with a real life context.
- be able to question ideas and reflect on knowledge.
- be able to articulate their understanding of scientific concepts and be able to reason scientifically using rich language linked to science.
- demonstrate a high love of mathematical skills through their work, organising, recording and interpreting results.
- work collaboratively and practically to investigate and experiment.
- achieve age related expectations in Science at the end of their cohort year.