



Science at The Ellis CE Primary School

Intent

At The Ellis Primary School our vision for Science and Understanding of the world is that every child can be a scientist. We aim to promote opportunities in Science to gaining knowledge, develop understanding and inspire enquiring minds. Science learning at The Ellis C of E Primary School aims to support children in being inquisitive, independent and to equip them with reasoning skills and vocabulary to be able to make connections, reason and problem solve effectively. We want children to love science and become lifelong Scientists with the skills they need for life beyond school.

Aims

- 🍌 Preparing our children for life in an increasingly scientific and technological world.
- 🍌 Fostering concern about, and active care for, our environment.
- 🍌 Helping our children acquire a growing understanding of scientific ideas.
- 🍌 Helping develop and extend our children's scientific concept of their world.
- 🍌 Developing our children's understanding of the international and collaborative nature of science.



Attitudes

- 🧐 Encouraging the development of resilient and positive attitudes to science.
- 🧐 Building on our children's natural curiosity and developing a scientific approach to problems.
- 🧐 Encouraging open-mindedness, self-assessment, perseverance and responsibility.
- 🧐 Building our children's self-confidence to enable them to work independently.
- 🧐 Developing our children's social skills to work independently and cooperatively with others.
- 🧐 Providing our children with an enjoyable experience of science, so that they will develop a deep and lasting interest and may be motivated to study science further.

Skills

- 🧐 Giving our children an understanding of scientific processes.
- 🧐 Helping our children to acquire practical scientific skills.
- 🧐 Developing the skills of investigation - including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.

- 🌟 Developing the use of scientific language, recording and techniques.
- 🌟 Developing the use of computing in investigating and recording.
- 🌟 Enabling our children to become effective communicators of scientific ideas, facts and data.
- 🌟 Enabling our children to work scientifically, conducting fair tests.
- 🌟 Allow children to use scientific skills across the curriculum.

Implementation

Our teaching aims

- 🌟 Teaching science in ways that are imaginative, purposeful, well managed and enjoyable.
- 🌟 Giving clear and accurate teacher explanations and offering skilful questioning.
- 🌟 Making clear links between science and other subjects. In particular, PE, maths and computing.
- 🌟 Ensuring children are given enough time to study the four main areas of the science curriculum. These are: Scientific enquiry, Life and living processes, materials and their properties and physical processes.
- 🌟 Offering ample opportunity for practical investigation and enquiry.
- 🌟 Teaching science outdoors as well as in the classroom utilising the Tranquillity Pond, Rainbow Garden and Forest School.



How science is structured

Children at The Ellis C of E Primary School learn Science through the Hamilton Trust. The blocks are changed each half term to ensure children are exposed to many different scientific topics throughout their time at school.

Links to other areas of the curriculum that enhance their understanding of science are identified and incorporated into planning and linked where possible to a theme, although sometimes the units are stand-alone if they do not fit. Each unit is taught as a block of work each half term. The curriculum overviews are available on the shared file, or can be found with the relevant year group teachers. Science books and medium term plans are monitored by the science lead and support given where required.

Links to PE, maths and computing are encouraged. Our children experience science outside of the classroom as much as possible.

Foundation Stage

In the EYFS, children begin to develop their early Scientific knowledge by accessing resources available to them in continuous provision as well as enhanced activities in the 'Investigation Area'. Children have the opportunity to engage with a range of resources that encourage them to explore, problem solve, observe, predict, think, make decisions and talk about the world around them. This is referred to as 'Understanding the World' in the EYFS Curriculum.



Working Scientifically

Teachers are encouraged to actively teach science skills, and reinforce learning with selected enquiry stimulations. We encourage children to ask and answer their own questions. Children complete at least one investigation per half term. The medium term plans include some of the Working Scientifically objectives in most lessons. Investigations are focused on developing the children's scientific skills. This allows our children to be exposed to scientific vocabulary and develop their enquiry skills outside of science lessons.

Knowledge rich curriculum

A knowledge based curriculum is at the forefront of teaching. Children are encouraged to retain facts and information which have been acquired from previous studies through constant revision and over-learning.

Children are continually revising knowledge during the units of study through the strategic use of Introductions and plenaries by teaching staff. Teachers have a variety of methods including quizzes, prompts and knowledge organisers to ensure facts and information is being remembered.

Language Acquisition

Children are be exposed and taught scientific vocabulary starting in the EYFS. This wealth of vocabulary is referred to and built on year by year. Progression of language is monitored and included in the learning environments through displays or in enquiry areas.

Contextual Information

Children at the Ellis have the advantage of access to a rich outdoor environment which is ideal for exploration and conservation. Forest school, Rainbow garden and Tadpole cove offer a wealth of opportunities to study the natural world, make observations and witness phenomena.

SEND and Disadvantaged pupils

The progress and achievement of children with SEND or disadvantaged are carefully monitored by the class teacher and Science Lead. On occasion, they

understanding against the learning target of a lesson. Learning objectives will be highlighted to indicate if a child has met it at the end of a unit or as a summative assessment at the end of the year.

- 🌟 EYFS knowledge and understanding of the world may be evidenced using photographs of the children working scientifically. Any oral evidence can be recorded by EYFS teachers during their observations.
- 🌟 Reports to parents are written once a year, describing each child's attitude and attainment in Science.

Pupil Voice

The children at The Ellis are involved in the process of evaluation. Their opinions are gathered at least annually by interviewing the school councillors. Their attitudes to the subject are sought and their feedback is reflected upon and incorporated into subsequent plan of actions for the subject.

Work Scrutiny

Science books are collated annually in order to monitor progress and map coverage and continuity of the National Curriculum objectives. Gaps which are identified are shared with staff and are carried forward and are included in subsequent plans of action.

Observations

The Science Lead observes the teaching and learning in order to ensure the quality of lessons, planning, assessment and resources.

CPD

The Science Lead attends network meetings regarding Science. Any new developments and initiatives in this area are fed by herself back to the staff. Previous training has included looking at resources found on the

STEM website, ideas for implementing a Knowledge based curriculum and more recently new development in the teaching of Working Scientifically.

Action planning

The Science Lead and the Senior Leadership Team determine actions for Science which link to the School's improvement plan. Evidence from pupil voice, work scrutiny and staff feedback are all used to enhance the teaching and learning of Science at The Ellis. The Science Governor oversees the role of the Science Lead and offers support in the development of the subject.

