St Margaret's CEVAP School

Science Policy

Policy Updated: July 2024

Future Review: July 2026

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Definition

We want our children to become scientists – curious individuals who can ask questions, working together to discover the world around them and how it works.

Science is a way of working that allows children, through practical first-hand experiences and secondary sources, to develop their knowledge and understanding of the world in which they live. These experiences should enable children to observe, question, investigate, make sense of and communicate and evaluate their findings.

Aims

To encourage children to:

- develop a questioning and reflective mind by providing a range of exciting and enjoyable activities;
- develop a systematic and logical way of working;
- apply their skills and knowledge to investigative work;
- come to a deepening understanding of scientific concepts; and
- work safely and carefully.

Intent

In Science we aim to give all children a strong understanding of the world around them. They are able to discover how the world works and our place, impact, roles and responsibilities within our environment. Our children are encouraged to ask questions and apply their growing scientific knowledge to investigate and learn more. The children are able to develop a systematic and logical way of working and are able to reflect on investigations and apply their growing knowledge. Science allows children to be inquisitive in a safe environment. It will help develop knowledge-rich, confident, articulate and investigative learners.

Implementation

All children have access to the Early Years Foundation Stage Curriculum and Science National Curriculum. At St Margaret's we use a long-term Science curriculum plan to ensure that all units are covered and that previous learning is built on.

'Working Scientifically' skills are embedded into each unit of work through the inclusion of enquiries and experiments. Children develop independence and competence with these skills through each unit, each academic year, and each phase of the school.

Plans also include the key knowledge for each topic that all children should know. Scientific vocabulary is to be taught with each unit of work to enable children to articulate scientific concepts clearly and precisely. The teaching of Science at St Margaret's may be as a whole class, in small groups or individual work.

Our Science learning is often linked to other curriculum learning, making it relevant and deepening their understanding.

Working Scientifically

Working Scientifically must always be taught through, and clearly related to, the programme of study. Pupils at St Margaret's learn to use a variety of approaches to answer relevant scientific questions by collecting, analysing and presenting their findings.
Children will use different types of enquiry throughout each year:

- Observe over time
- Classifying and grouping
- Pattern seeking
- Comparative and fair test
- Research and secondary sources

Through this approach we aim to develop the following skills:
observing, raising questions, predicting, hypothesising, planning, controlling factors (fair testing), measuring, collecting and interpreting data, constructing tables and graphs, explaining, researching information, and communicating and evaluating findings.

Attitudes

Through Science we endeavour to foster the following qualities:
Excitement, curiosity, perseverance, open-mindedness, self-discipline, sensitivity to others, independence, adaptability, co-operation, and care for living things.

Equal opportunities

All children at St Margaret's are given equal opportunities in all areas of Science. We monitor the attainment and engagement of all groups of children to ensure there are no patterns of attainment causing concern.

Progression

We recognise that our curriculum planning must allow for children to gain a progressively deeper level of knowledge, understanding and skill competency as they move through the school. Our Science plans are progressive and enable teachers to adjust plans to meet the particular needs of individuals or groups of children.

Our science progression map helps teachers to plan for progression and is used to support medium term planning. It ensures that children are revisiting topics and building on previous knowledge. It also outlines which vocabulary will be taught and built on throughout the school.

Information Communication Technology

We see ICT as an important tool in Science. Children research, communicate, collect and interrogate data in a variety of ways. This is detailed in teachers' medium-term planning.

Records and Assessment

Assessment of children's development is made through ongoing teacher assessment and informs future planning. A record is kept of children's achievements in Science, including 'Working Scientifically', through teachers' own notes and our school record system (Learning Ladders). Progress and achievement in science is reported to parents through end of year reports and during autumn and spring parent meetings.

Safety

It is important that children are taught the rules of safety when undertaking experiments and investigations. Materials and equipment need to be handled sensibly and we try to ensure that children do this. It is the teacher's responsibility to make sure that all adults are aware of safety implications connected with any science activity they are undertaking.
The ASE publication, 'Be Safe!' has been adopted by the governing body as the school's safety policy in science. A copy is available in the staff room and on the server.

Monitoring

The Science curriculum is monitored by the science co-ordinator through observation of teaching, monitoring of medium-term plans, learning walks, staff meetings, children's work, pupil voice and analysis of data.

Resources

Every classroom has access to resources that are relevant to their year group, however shared resources are situated in the Sunshine Room and are monitored, maintained and restocked by the subject co-ordinator.

Pupils are taught how to locate and replace resources properly. Teachers make decisions, based on the age and stage of pupils, in relation to whether the teacher, the pupils under the guidance of an adult, or the pupils independently, should collect and replace resources.

The Learning Environment

Classrooms should have displays of current science units, including key vocabulary and learning content. Resources for the current unit should be appropriately accessible. Other sources of information should also be available.

Curriculum enrichment

We ensure that children have access to a wide range of educational experiences, making use of the school grounds, Christchurch Park and trips further afield. We may invite visitors, speakers and companies leading workshops to inspire learning when available and appropriate. Homework also may be used to encourage family involvement in science learning and discovery.

Impact

We aim for science at St Margaret's to be fun, engaging and high quality; providing opportunities for all children to reach their potential. We provide children with the knowledge and skills for a life of learning and curiosity; inspiring them to ask questions and equipping them to find answers.