



Deanshanger Primary School

Science Policy

Introduction

At Deanshanger Primary School we aim to provide rigorous, positive, exciting learning experiences for all children to explore, investigate and learn about science in the world around us. A balanced mix of first and second-hand experiences stimulates curiosity and instils an enthusiasm for investigation and discovery. The enjoyment and wonder of science is the foundation upon which we believe scientific study and understanding is based and this is explored through the specific disciplines of biology, chemistry and physics.

Children will be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes. We believe science supports children in appreciating and understanding the world in which they live, encouraging them to be aware of and value their environment. When working in the outdoor environment, emphasis is placed on the need to protect plants and animals which may be encountered, ensuring our studies do not cause disturbance or damage. Children learn how to act safely and protect themselves and those around them. The school insists on safe practice by all those involved in scientific studies.

Aims and objectives

Through the science curriculum and the school ethos, our pupils will:

- be provided with appropriate and stimulating scientific experiences which encourage pupils to make sense of the world around them;
- develop a curious attitude to scientific enquiry and an awareness of the influence of science in everyday life;
- be prepared for life in an increasingly scientific and technological world;
- take part in activities that meet the requirements of the EYFS and National Curriculum in a way that is appropriate to the needs and interests of all pupils and which challenge them to fulfil their potential;
- develop their scientific knowledge and understanding;
- develop their investigation skills;
- explore the history of scientific inventions and famous scientists (including through cross curricular links);
- have opportunities to apply their scientific knowledge and skills to solve problems in a wide variety of contexts including real life examples and be encouraged to discuss and debate their findings;
- record their scientific studies in a variety of ways and consider how these are relevant to their learning;
- develop their explanatory and communicative skills;
- build confidence in working both collaboratively and independently on scientific tasks;
- develop a caring attitude to the environment and living things;

- understand safe ways of working and to take increasing responsibility for managing their own investigations safely;
- use a progressive scientific vocabulary;
- use scientific contexts to develop and consolidate the basic cross curricular skills of literacy, numeracy and ICT;
- study a balance of biology, chemistry and physics.

Teaching and Learning

Where appropriate teachers are encouraged to integrate their science teaching with their IPC (International Primary Curriculum) topic work. When this is not possible, science is taught as a discrete subject using a variety of teaching and learning methods including whole class, group work, pair work and individual study.

In the Early Years Foundation Stage (EYFS) children are encouraged to develop the characteristics of effective learning, many of which help the children to develop skills which support their scientific learning. For example, the children are encouraged to think of ideas, find ways to solve problems, make links, notice patterns, make predictions, test their ideas and develop ideas of grouping, sequences, cause and effect. They are also given opportunities to choose the way they do things which involves planning, making decisions, changing strategies when needed and reviewing how well their approach worked. Science is taught through Understanding of the World. Science is developed by building upon the children's natural curiosity and fascination for their environment and the world around them. Children are encouraged to use all their senses to investigate, explore and to make predictions.

The programme of study at Key Stages 1 and 2 follow the current programmes of study linked to and enriched by the IPC curriculum. 'Working Scientifically' is planned within the context of the programmes of study. Through the programmes of study, elements of biology, chemistry and physics are covered in each year group. Investigation and exploration skills are taught throughout the programme of study and practical activities are encouraged in every lesson.

Children learn through observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils should seek answers to questions through collecting, analysing and presenting data. Activities are planned carefully for specific ability groups within the class which involve varying levels of support and open ended investigations where appropriate. Very able children are identified within an extension group in the class and activities are provided which both support and extend their learning.

Teaching and learning is extended by a wide range of activities at Forest School and optional science clubs that run during the school year, outside visitors running assemblies / class sessions and a themed annual science week to promote science both at school and in the wider world.

Role of the Co-ordinator

The role of the co-ordinator includes:

- attending courses, collecting information and distributing it to staff;
- providing a variety of literature and knowledge based support;
- assisting colleagues in the effective implementation of the science programmes of study;

- identifying and addressing any needs and concerns;
- organising resources and the budget;
- monitoring and evaluating the teaching of science;
- co-ordinating a policy and scheme of work;
- delivering targeted training for both teaching staff and LSAs through INSETs, staff meetings and LSA meetings;
- ensuring the development of science reflects and enhances the school's philosophy and ethos;
- analyse internal data to measure progress, identify strengths and address perceived weaknesses;
- lead moderation sessions for staff and keeping a portfolio of children's work to reflect progression through the school.

Resources

Science resources can be found in the science cupboard near Year 6. The school grounds provide a valuable resource for scientific enquiry, knowledge and understanding. Teachers are encouraged to make good use of the extensive outdoor environment including the outdoor classroom, Forest School with a pond and vegetable plots, small copse, and various habitat areas which encourage a range of organisms.

The local community is also a significant resource, with the village and pocket park providing exciting learning opportunities for the children to explore. Visits further afield are planned so that children experience different environments where they can explore and investigate the world around them.

Guest speakers are encouraged to visit the school and all those with a particular expertise within the scientific field are most welcome so that children may receive a broad and varied perspective.

Health and Safety

All staff are aware of the requirement of the school's Health and Safety Policy. Risk assessments are carried out for all science activities within the planning process and children are included in the discussion of safety rules for different projects and tasks. Resources which could pose a danger are stored in a marked box out of reach of children. A copy of the 4th edition of 'Be Safe – Health and safety in primary school science and technology' is hanging on a hook in the science cupboard for staff reference.

Assessment

Teachers formatively assess pupils throughout the duration of each unit based on the associated programmes of study and working scientifically skills. On iTrack each child has an assessment grid showing the programmes of study which are checked off when achieved. Children's achievements and areas for improvement are reported to parents in the annual report at the end of the year.