

Elmwood Infant and Nursery School

Science Policy



Updated March 2017

Article 29 'Education must develop every child's personality, talents
and abilities to the full'



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This policy outlines the purpose, nature and management of the science taught in our school. The teaching of science is based on the New National Curriculum in England at Key Stage 1 framework document. In the foundation stage science activities area planned in line with curriculum guidance for the EYFS. The implementation of this policy is the responsibility of the Head Teacher, the Science Co-ordinator and all teaching staff.

Introduction

Science builds upon children's natural fascination with the world in which they live and their desire to find out more about the phenomena occurring around them. This fascination is developed through first hand exploration, which fosters curiosity, critical reflection, cooperation, problem solving, observation, independent learning, perseverance and open-mindedness. Science teaching leads to an appreciation of science as a fundamental part of everyday life and allows children to develop confidently within a scientific society.

Aims

- To foster children's wonder and natural curiosity about the world they live in through active engagement in learning experiences.
- To provide opportunities for children to develop knowledge and understanding of key scientific ideas.
- To develop children's scientific enquiry skills in questioning, predicting, planning, observing, measuring, fair testing, recording, interpreting and working systematically through direct experience.
- To provide children with the ability to make informed decisions based on evidence and their own experiences and be able to apply scientific knowledge to new situations.
- To teach children how to communicate their ideas effectively.
- To demonstrate interest and enthusiasm for science and to be confident to participate in explorative and investigative work.
- To develop skills in discussing and recording work, maths skills to communicate scientific ideas through diagrams and charts and ICT to extract scientific information.
- To develop values and attitudes, communicating with others, listening to ideas and treating these with respect.

- To develop an awareness and sensitivity to the living and non-living environment through access to the natural environment.
- To develop a responsibility for their own health and safety and that of others when undertaking scientific activities.

Management and Organisation

For Key Stage 1, the New Primary Curriculum is organised into the following programmes of study:

- Working Scientifically
- Plants
- Animals inc Humans
- Everyday Materials (Year 1 only)
- Uses of Everyday Materials (Year 2 only)
- Seasonal Changes (Year 1 only)
- Living Things and their Habitats (Year 2 only)

In the Early Years, children work to the Statutory framework for the early years foundation stage (EYFS) The section 'Understanding the World' involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment.

As investigations follow the needs of the children's knowledge base, teachers operate an 'open-ended' approach to timing of lesson coverage. For example some scientific investigations may engage the class in discovery for a day some for a week or more.

Resources

Understanding of the World and Science is taught using the teacher as a fellow investigator not the fount of knowledge, imparting his or her learning to the children. Teachers encourage children to see books as a valuable source of information collected and organised for them to discover new ideas. Science equipment is stored in a central area in labelled trays and is readily available to take into classrooms and used as needed. Our ICT equipment and the Internet are crucial tools in the children's investigative journey. The children are encouraged to see these tools as ways of discovering the possible answers to questions they are looking for. Therefore we place a high priority on developing the children's skills in accessing this equipment. All children are made aware of the relevance of health and safety when understanding work in science.

Science contributes to many subjects within the primary curriculum and opportunities are sought at the planning stage to link curriculum areas. This will allow children to begin to use and apply scientific skills and knowledge in real and relevant contexts. The science is enhanced through trips and workshops, for example visits to a zoo, Lloyd park to compare trees and plants in different seasons and animal workshops within school.

Planning, Assessment and Recording

- Curriculum planning is undertaken by the year group planning team in line with the New Primary Curriculum. Detailed schemes of work have been compiled and will ensure progression and breadth across the year groups.
- In the Early Years attainment in Understanding of World is assessed and passed on to the Year 1 teacher and commented on in the end of year report.
- Informal assessment is undertaken continuously by class teachers and T.A.'s whilst pupils are engaged in tasks. Immediate feedback can be given to pupils about their work and teaching points can be emphasized. This also gives pupils the opportunity to assess and review their own work.
- At the end of year two teachers report on whether the children have achieved age related expectations or not.
- Work is marked in accordance with Elmwood Infant School's marking policy.

Although science teaching at Elmwood Infant School is chiefly activity-based, there are occasions when it is necessary and desirable to make a record of what has been seen, done or discovered. Recording in this instance may take the form of: data handling, helping to plan an activity, comparing data and examining patterns, assessing data, sorting it and drawing conclusions, challenging pre-concepts, making further predictions from outcomes, observation skills, helping to assess/ evaluate what has gone on. We encourage children to record in as many varied ways as possible. Many of the ways are cross- curricular when English, Mathematical, I.C.T. and Artistic skills may be developed at the same time. For example: pictorial, graphical, photographic, audio, video, collage or Frieze, model making, data base, word processing, dramatization or orally.

Inclusion

Staff will ensure that the delivery of the Science curriculum meets the needs of all pupils whatever the ability. At Elmwood Infant School we are committed to providing all children with an equal entitlement to scientific activities and opportunities regardless of race, gender, culture or class. We aim to meet the needs of all our children through differentiation in our science planning and in providing a variety of approaches and tasks appropriate to ability levels. This will enable children with learning and/or physical difficulties to take an active part in scientific learning, practical activities and investigations in order to achieve the goals they have been set. Some children will require closer supervision and more adult support to allow them to progress whilst more able children will be extended through differentiated activities.

Differentiation

Consideration is always given by teachers to the diversity of ages and abilities within each class. Providing a range of experiences via the planning, ensures the fullest involvement of the whole class, encouraging the less able and extending the more able. The use of Hot, Boiling and on Fire challenges ensures all children are being challenged.

I.C.T.

Many elements of Science learning can be enhanced by the use of I.C.T. Planning incorporates the use of DVDs, classroom computers, the internet, data logging, microscopes and i-pads. These will be incorporated into the planning when they are an effective way to meet the Science learning objective but will always be available to the children if they deem them a necessary resource to aid their investigation.

Homework and involvement of parents

Parents are sent half termly newsletters for the year groups in which their children are taught. Within these newsletters, we suggest additional practical activities and experiences that parents can engage with their children in to enrich their experiences and understanding of science in the 'real world'.

In year one termly homework is set which encourages children and parents to work together on a range of activities which support and enhance the topics being taught in school. In year two homework is set at different times within the year to support learning.

Health and Safety

Where appropriate reminders will be given to children about potential hazards and care of the equipment they are using.

Any trips should have been planned with due regard to the school policy on taking children on outings and risk assessments carried out prior to the trips.