



## Science Policy

### Introduction

This policy outlines the teaching, organisation and management of Science taught at Elmsleigh Infant and Nursery School. The school's policy for science is based on the new primary curriculum which is statutory from September 2014. The implementation of this policy is the responsibility of all teaching staff. Science is a core subject within the National Curriculum and it is important that as a school we ensure that Science is at the forefront of the children's learning to ensure we do not impact on the children's depth and breadth of Science Understanding and Knowledge. Science develops life-long learners that have a curiosity and genuine interest in Science.

### Teaching Science

At Elmsleigh Infant and Nursery School, we firmly believe that children learn best through first-hand experiences, with this and with the high level quality of teaching delivered, we aim to foster and develop pupils' curiosity in the subject whilst also helping them to become inquisitive and investigative, learning lots of new knowledge and developing their understanding along the way.

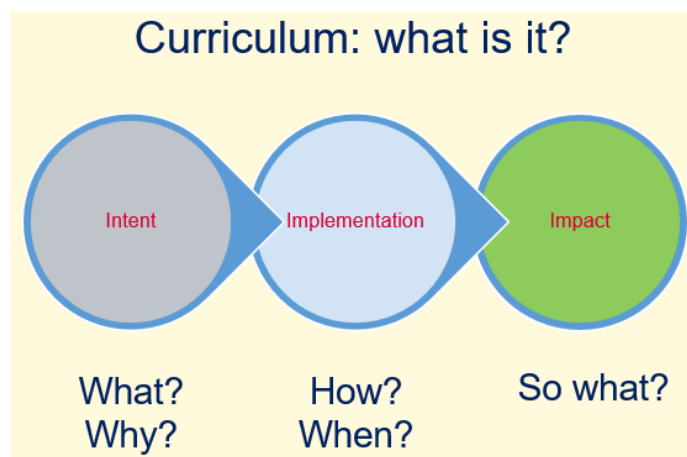
In its simplest form, Early Years and Key Stage One Science is...

- Asking a question that can be investigated
- Collecting evidence to try to answer questions
- Developing the knowledge and understanding about the world around them

The types of investigation we should see across school-

- Observing
- Observing over time
- Identifying and classifying
- Pattern Seeking
- Fair testing. Compare testing
- Designing and Inventing
- Testing an Explanation
- Researching Secondary Sources

Always remembering the key elements to underpin our teaching and learning.



### **The National Curriculum 2014 states why we teach science in schools:**

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

### **National Curriculum Aims-**

*The national curriculum for science aims to ensure that all pupils:*

- *develop **scientific knowledge and conceptual understanding** through the specific disciplines of biology, chemistry and physics*
- *develop understanding of the **nature, processes and methods of science** through different types of science enquiries that help them to answer scientific questions about the world around them*
- *are equipped with the scientific knowledge required to understand the **uses and implications** of science, today and for the future.*

### **Intent**

We hope that through the teaching of Science that we are able to ensure the children are naturally interested in the world around them, and that they are equipped with the scientific knowledge required to understand the uses and implications of Science, today and for the future.

Moreover, we aim to prepare our pupils for life in an increasingly scientific and technological world.

### **Implementation**

- ❖ Delivering high quality, interesting and engaging science lessons that leave the children asking even more questions.
- ❖ Using scientific contexts to develop and consolidate cross curricular skills in literacy, Maths and ICT and any other area of learning it may link to.
- ❖ Teaching science in a global and historical context; including the contributions significant scientists from a range of cultures.
- ❖ Always ensuring we develop and extend pupils' scientific knowledge and understanding.
- ❖ Developing pupils' ability to work scientifically and involve pupils in planning, carrying out and evaluating investigations;
- ❖ Developing pupils' scientific vocabulary and ability to articulate scientific concepts clearly and precisely;

- ❖ Ensuring that all pupils are appropriately challenged to make good progress in science.
- ❖ We give children the opportunity to apply their knowledge, skills and understanding to real life and imaginary situations.
- ❖ Children are prepared to 'have a go' and learn from their mistakes
- ❖ Children's engagement, interest, resilience and enquiring minds mean that they think.
- ❖ Children learn to identify hazards and reduce them to lower the risk so that themselves and others can learn more safely
- ❖ Teachers are ready to identify children's misconceptions and learn from them.
- ❖ Children are given time to reflect, evaluate and improve their science
- ❖ Children are prepared to 'have a go' and learn from their mistakes
- ❖ Children pursue science beyond school (through trips/homework/challenges.)

**The Leader will ensure we meet our whole school aims by:**

- ❖ Ensuring that the children at Elmsleigh Infant and Nursery school have every opportunity to learn Scientifically.
- ❖ Develop a love for Science and the world around them.
- ❖ Implementing regular learning walks to ensure a high level of teaching and learning is taking place.
- ❖ Deliver staff meetings to update the staff of any Science updates and to ensure an up to-date and fresh attitude is paramount and evident with all staff.
- ❖ Ensuring that the Science Scheme of work is up to date and runs parallel with any updates with the National Curriculum.
- ❖ Ensuring that Science resources are organised and readily available to staff and are relevant with the National Curriculum.
- ❖ Encouraging staff to share their good practice of planning on the Shared site and celebrate their fantastic ideas and techniques.
- ❖ Organising a science week every year for the whole school to participate in, thus promoting and embedding science and a love for learning.
- ❖ Using external companies such as Science Workshops and visitors when appropriate.
- ❖ Implementing pupil questionnaires will be carried out 3 times a year to identify areas the children enjoy and other areas that need improvement.
- ❖ Participate in data analysis to explore gaps and identify next steps for bridging gaps.
- ❖ Monitor the coverage of science objectives are being taught linked to medium term planning.
- ❖ Develop the technical vocabulary for Science across the whole school, analysing their learning journey and end points.

## Teaching and Learning

At Elmsleigh Infant and Nursery school we ensure a high-level quality of teaching is delivered across the board, always incorporating a wide range of teaching and learning styles.

At Elmsleigh Infant and Nursery school we aim to:

- ❖ Learn about science, where possible, through first-hand practical experiences;
- ❖ Develop their research skills through the appropriate use of secondary sources;
- ❖ Work collaboratively in pairs, groups and/or individually;
- ❖ Plan and carry out investigations with an increasing systematic approach as they progress through the school;
- ❖ Develop their questioning, predicting, observing, measuring and interpreting skills;
- ❖ Record their work in a variety of ways e.g. writing, diagrams, graphs, tables;
- ❖ Read and spell scientific vocabulary appropriate for their age.
- ❖ Be motivated and inspired by engaging and interactive science displays which include key vocabulary and relevant questions.
- ❖ Learn about science using the outdoor learning environment.

## Planning

- ❖ Science in the Early Years Foundation Stage is planned using the Early Years Curriculum 'Understanding of the World'.
- ❖ Key Stage 1 teachers plan science lessons using the new National Curriculum (2014).
- ❖ All science lessons have focussed learning objectives, clear differentiation and success criteria to ensure that pupils make at least good progress.
- ❖ 'Working scientifically' is embedded throughout the areas of learning in key stage 1 and 2; this focuses on the key aspects of scientific enquiry which enable pupils to investigate and answer scientific questions.
- ❖ Areas of learning within key stage 1 and 2 ensure that statutory requirements are being covered through the specific disciplines of biology, chemistry and physics (teachers may also refer to the non-statutory guidance which provide additional support).
- ❖ Please refer to the long term plan for details of the specific areas of learning covered in each year group over the year.

## Assessment

- ❖ At present key stage 1 use the 'Insight' scheme for summative assessments..
- ❖ In EYFS teachers assess science against the 'Development Matters' statements in the 'Understanding of the world' area of the Early Years Curriculum. The statements go from birth through to the Early Learning Goals at the end of Reception.
- ❖ For formative assessment teachers use effective Assessment for Learning (AfL) strategies which are used to inform their planning and teaching.
- ❖ Teachers provide quality feedback to pupils (verbal or written) which clearly identifies how they might need to improve.
- ❖ At present class teachers provide an annual teacher assessment result and pupils' progress is tracked against the National Curriculum levels for Key Stage 1.

## Monitoring

- ❖ Planning and work book scrutiny as well as pupil voice questionnaires are carried out regularly by the science subject leader and feedback is given to teachers at an appropriate time and regular staff meetings will be carried out.
- ❖

## Health and safety

- ❖ Teachers must plan safe activities for science and complete a risk assessment if necessary.

- ❖ Teachers and teaching assistants need to be aware of health and safety procedures when using equipment/food in science lessons.
- ❖ Pupils must be aware of the need for personal safety and the safety of others during science lessons.

### **Resources**

- ❖ Science resources are stored in the large cupboard next to doors in the Hall, alongside the Design and Technology Resources.
- ❖ An inventory of resources is carried out yearly by LR and resources updated when needed.
- ❖ The subject leader must be informed of any changes regarding science resources i.e missing or broken resources and/or when new or replacement resources are required.

### **Inclusion**

At Elmsleigh Infant and Nursery school we aim to ensure all pupils, no matter of their ability or their background, have the same opportunity to become Scientists and to develop their inquisitive minds and their natural investigative nature. But most of all our aim is to ensure Science is enjoyable and memorable and will ensure the children start their journey to gain as much knowledge and experience possible to build the Foundations to build their Science Cultural Capital.

Elmsleigh Infant and Nursery school  
Updated September 2021 Written by L. Redhead



