

Finstall First School Science Policy

School Mission Statement: 'Learning Together, Preparing for Life.'

Introduction

Science is a means of discovering and understanding the world around us. It consists of a body of knowledge which attempts to explain phenomena and experiences. It aims to stimulate a child's curiosity in finding out why things happen in the way they do. It also involves a number of skills and processes by which this knowledge is achieved and applied. Science is also concerned with the development of attitudes concerning scientific activity.

Science forms an integral part of our everyday life. It is therefore important for all children to be scientifically literate. It is an ongoing process as our ideas about the world around us are constantly developed and revised. Children learn to ask scientific questions and begin to appreciate the way science will affect their future on a personal, national and global level while developing a respect for the environment in which they live.

"Children are naturally curious. Science at primary school should nurture this curiosity and allow them to ask questions and develop the skills they need to answer those questions" (Louise Stubberfield - Primary Science Programme Lead).

Curriculum Intent

At Finstall First School, we believe that every child should learn about science in a way that is engaging, educational and relevant and we feel we can do this whilst also following the objectives set out in the national curriculum. By doing this, we aim to provide each child with the opportunity to reach their full potential in this subject

By the time they leave us in Year 4, children need the right knowledge and investigative skills for the next stage in their education.

It is important that they are able to see the relevance of science in their own lives and understand the importance that science has in the world around us. Through the teaching of Science, we also help to prepare children for life by helping them to become more independent, organised, resilient, inquisitive and to be able to solve problems. We aim for them to be appreciative of the world around them and to be reflective about the value of science. We also provide opportunities to allow children to access information through reading.

Our Science Policy follows The National Curriculum 2014 for Science Guidelines and 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 ask and answer scientific questions about the world around them;
- are engaged as learners through linking ideas with practical experiences;
- have the opportunity, where possible, to explore science in forms which are relevant and meaningful to them;
- have an ability to reason, predict, think logically and to work systematically and accurately;
- can work scientifically by: observing over time, pattern seeking, identifying, classifying and grouping, carrying out fair tests and collecting, analysing and presenting data;
- are able to work both independently and in co-operation with others;
- are equipped with the scientific knowledge required to understand the **uses and implications** of science, today and for the future;

Curriculum Implementation

We use a variety of teaching and learning styles in Science. Our principal aim is to develop children's knowledge, skills, and understanding, as well as a sense of enjoyment in Science. This may be achieved through whole-class activities, group activities, paired activities or individual tasks. No matter what form the lesson may take, the objective of the lesson is shared and reviewed with the children.

We do our utmost to ensure that activities are challenging, motivating and extend pupils' learning. We encourage the children to ask, as well as answer, scientific questions. They have the opportunity to use a variety of data, such as statistics, graphs, pictures, and photographs. Pupils use computing skills in Science lessons where it enhances their learning. They may take part in role-play and discussions and present reports to the rest of the class. They engage in a wide variety of problem-solving activities. Wherever possible, we involve the pupils in practical activities and tasks that have a 'real' purpose to them as these increase enthusiasm and motivation and provide first-hand experience.

Organisation of the Science Curriculum

EYFS

Within the EYFS framework, Science is taught as part of the seven areas of learning and development. The area of Understanding the World gives opportunities for children to explore and make sense of their physical world.

The ELG of the Natural World allows teachers to make a best fit judgement about a child's development and their readiness for Year 1.

Year 1 - 4

Long-term planning maps the scientific topics studied by each year group during each key stage. In some cases, we combine the scientific study with work in other subject areas. At other times, the children study science as a discrete subject. Each class will spend an afternoon on Science each week.

There are 5 topics (4 topics for Year 2) that can be covered at any point throughout the year. Teachers will choose which topic fits best with other areas of work that are taking place elsewhere in the curriculum and, in terms of practical activities, that will need to take place to support the teaching of the topic.

Year 1	Materials Seasons (introduction)	Animals including Humans	Humans	Seasonal Change	Plants
Year 2	Uses of everyday materials	Animals including Humans	Living things and their habitat		Plants
Year 3	Forces and Magnets	Animals Including Humans	Rocks and Soils	Light	Plants
Year 4	States of Matter	Sound	Electricity	Animals Including Humans	Living things and their Habitats

The school's Medium term planning and coverage of key scientific skills will be used by teachers to plan. This will drive the journey of Science for every year group, building on from prior learning and developing key knowledge, skills and vocabulary progressively to develop understanding and ensure that this is committed to long term memory. This progression is made clear within the medium-term plans. There will be regular opportunities to recap previous learning to allow knowledge and skills to be embedded.

Equal Opportunities and Inclusion

At Finstall First School, all children have equal access to the Science curriculum and its associated practical activities. All children, irrespective of gender, learning ability, physical disability, ethnicity and social circumstances, will be supported so that we can maximise the achievement of each individual. Where appropriate, work will be adapted to meet pupils' needs and, if appropriate, extra support given. More able pupils will be given suitably challenging activities.

Cross Curricular Links:

English:

Science contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. Some of the texts that the children study in English can be of a scientific nature. The children develop oral skills in Science lessons through discussions and through recounting their observations of scientific experiments. They develop their writing skills through writing reports and projects and by recording information or note taking.

Mathematics:

Science contributes to the teaching of Mathematics in a number of ways. The children use weights and measures and learn to use and apply number. Through working on investigations, they learn to estimate and predict. They develop the skills of accurate observation and recording of events. They use numbers in many of their answers and conclusions. They also produce diagrams, charts and graphs using the data from real investigations.

Computing:

Children use Computing skills in Science lessons where appropriate. They use it to support their work in Science by learning how to find, select, and analyse information. Children use a variety of media, such as data loggers and I-pads, to record, collect, present and interpret data and to review, modify and evaluate their work and improve its presentation.

Personal, Social and Health Education (PSHE) and Citizenship

Science makes a significant contribution to the teaching of Personal, Social and Health Education. Firstly, the subject matter lends itself to raising matters of citizenship and social welfare. For example, children study the way people recycle material and how environments are changed for better or worse. Secondly, children benefit from the nature of the subject in that it gives them opportunities to take part in debates and discussions. Science promotes the concept of positive citizenship.

Spiritual, Moral, Social and Cultural Development

Science teaching offers children many opportunities to examine some of the fundamental questions in life, for example, the evolution of living things and how the world was created. Through many of the amazing processes that affect living things, children develop a sense of awe and wonder regarding the nature of our world. Science raises many social and moral questions. Through the teaching of science, children have the opportunity to discuss, for example, the effects of smoking and the moral questions involved in this issue. We give them the chance to reflect on the way people care for the planet and how science can contribute to the way we manage the earth's resources. Science teaches children about the reasons why people are different and, by developing the children's knowledge and understanding of physical and environmental factors, it promotes respect for other people.

Curriculum Impact

Assessment and Recording:

Children's work in Science is assessed continuously by making informal judgements during lessons, using a variety of methods:

- Observing children at work; individually, in pairs, in a group or as a class.
- Questioning, talking and listening to children.
- Through written work, materials, investigations produced by the children.

As and when appropriate, relevant comments and suggestions for the next steps in learning will be recorded in children's books.

More formal assessments may be carried out at the end of each half term's topic if deemed appropriate by the class teachers.

Children's attainment within the topic area is then recorded on the school's assessment system, Target Tracker, at the end of each unit of work.

Throughout the year, teachers will assess the children on their ability when 'working scientifically' and update the Target Tracker system accordingly.

At the end of the school year, the children's progress will be reviewed on the system and an overall attainment for each individual child will be judged.

Children's progress is continually monitored and tracked through their time at Finstall First School. By doing this, we can see that high quality outcomes are achieved across all year groups so that children know more, remember more and can do more.

Children gain a range of scientific skills and knowledge as they move through our school so that they are confident and independent learners who are ready for the next stage in their education.

Health and Safety

Where appropriate, risk assessments are completed and reminders are given to children about potential hazards and care of the equipment they are using.

Any trips will be planned with due regard to the school policy on taking children on outings. Risk Assessments are always completed and LA guidance adhered to concerning more hazardous visits such as residential and those trips involving farms, etc.

Role of the Science Co-ordinator

The role of the Science Co-ordinator is:

- To co-ordinate the teaching of Science within the school.
- To monitor the use of the policy and schemes of work.
- To ensure continuity and progression of the teaching and learning of Science across Key Stage 1 and 2.
- To order and maintain resources.
- To manage the Science budget.
- To monitor Science through classroom observations, interviewing pupils and staff, the scrutiny of work in books and the analysis of planning and performance data.
- To monitor the school's tracking system ensuring that levels are of the expected standards.

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Governor Responsible: Alexandra Gilder

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Member of Staff responsible: L Davis