

# St. Anne Line Catholic Infant School



## Science Policy

January 2017

*'Education is not the learning of facts, but the training of the mind to think.'*

- Albert Einstein

### **Introduction:**

Science is a core subject of the National Curriculum and is incorporated into the specific area of learning 'Understanding the World' in the foundation stage. This policy outlines the teaching and learning of science in our school and the principles upon which this is based.

It has the full agreement of the governors who have approved it. The implementation of this policy is the responsibility of all teaching staff.

### **Aims:**

We aim to ensure pupils:

- Build on their natural curiosity by asking questions and making simple predictions.
- Develop their scientific knowledge and inquiry skills.
- Learn how to communicate their ideas using appropriate scientific language.
- Learn how to record and evaluate their findings in different ways.
- Have opportunities to apply their ICT, Literacy and Numeracy skills
- Learn how to work safely
- Have an everyday working knowledge of science that they can apply to their everyday lives

### **How SMSC and Fundamental British Values are integrated in the Science curriculum**

Spiritual, moral, social and cultural development and Fundamental British Values are an integral part of our school ethos and are promoted through all the subjects of the curriculum. Please refer to the SMSC policy for further information.

### **Teaching and Learning:**

We use a variety of teaching and learning styles in science lessons such as research, investigation, exploration, collaborative work and individual work. Our main aim is to develop children's scientific skills, knowledge and understanding through challenging, motivating activities that extend the pupils learning.

The 'Core Principles of Teaching and Learning in Science' document outlines our belief of what good science learning should look like. It was created using suggestions from both teaching staff and pupils. It is displayed in each classroom to remind staff and children alike of our school's ethos regarding the importance of science learning in our school. See Appendix 1.

Each classroom will also have a 'Scientific Words' display in the room to highlight scientific language relevant to the current science topic being taught. This is to emphasize the meaning and importance of the words and encourage the children's to develop their use of scientific vocabulary.

### **Foundation Stage:**

Science is taught in the Foundation Stage as an integral part of the topic work covered throughout the year. Scientific aspects of the children's work are related to the objectives set out in the Early Learning Goals and Characteristics of Effective Learning. Science is taught within the area of 'Understanding of the World'. Activities inspire the pupils to experiment and investigate the world around them and to help them raise their own questions. The teachers plan opportunities to ensure children are gaining first hand experiences to investigate and discover knowledge about their world.

### **KS1**

In KS1 we teach the national curriculum for science. The long-term plans identify the science topics to be taught each term to each year group. The medium term plans identify the science objectives for the block of work for that term. Science skills are taught continually and are identified in teachers' short term planning. The planning is monitored by the Science subject leader to ensure there is appropriate curriculum coverage and an emphasis on practical exploration and investigation. The science curriculum map in details the scientific focus for each year group across the academic year. See Appendix 2

Activities will develop the skills of enquiry, observation and locating sources of information. Lessons make effective links with other curriculum areas and subjects, especially Literacy, Mathematics, and Computing. Activities are challenging, motivating and extend pupils' learning. Pupils have frequent opportunities to develop their skills and take responsibility for planning investigative work. They will select relevant resources and make decisions about sources of information. They will learn to carry out activities safely and decide on the best form of communicating their findings.

### **Differentiation**

We differentiate by:

- Visuals and word introductions for EAL learners in preparation for the lesson.
- Using tasks and different types of questions that are appropriate for various levels of ability.
- Giving different tasks to different groups.
- Mixed ability grouping.
- Varying the level of adult support given to groups.

### **Parent Partnership**

Parents and carers have an important role to play in helping our pupils learn about Science. They are asked to support their children with science homework projects each term. Parents and carers are also invited to an annual Science Fair where they are asked to display a shared investigation that they have carried out with their children as well as participate in various scientific activities created and set up by each class. Parents are able to view the science curriculum via the school website as well as read about the children's weekly science learning on the class blogs.

### **Assessment**

All lessons have clear learning objectives, which are shared and reviewed with the pupils. A variety of strategies, including questioning, discussion and marking, are used to assess progress. The information is used to identify what is taught next. The subject of Science will be an on-going assessment of the children's knowledge and understanding. Teacher assessment is used to track the children's understanding of science on entry and to record final levels at the end of the academic year.

The 'blog books' are class project books, which aim to give an overall picture of the practical activities, scientific thinking, learning and progress of the children in the subjects of science, technology computing and maths. This can be accessed via the class blogs too.

### **Monitoring**

The Science subject co-ordinator is responsible for monitoring the standards of children's work and the quality of teaching. The co-ordinator supports colleagues in the teaching of science by giving them information about current developments in the subject, and by providing a strategic lead and direction for the subject in the school. The subject coordinator is also responsible for reviewing developments for Science identified on the School Improvement Plan, evaluating strengths and weaknesses in the subject, and indicating areas for further improvement.

### **Other Documents**

The Science policy should be read in conjunction with our policies for teaching and learning, SMSC, British values, and assessment.

### **Governor Approval and Review Dates**

The policy is to be reviewed every three years.

# Science and Understanding of the World

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## Core principles

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*Good science teaching and learning happens when...*

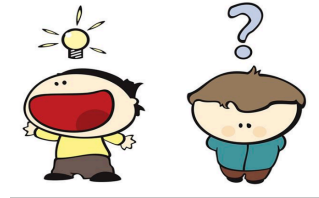
- The children and teachers are **involved** and **enjoying** the lesson
- Lessons are **practical** and provide opportunities for children to **link science** to their own experiences and everyday life.
- Children are able to develop their use of **scientific vocabulary** through discussions, asking **questions** and making **choices**.
- Children are able to initiate and **explore** ideas with **independence**, have time to **reflect** on their findings and use any mistakes as a learning opportunity
- Inside and outside **resources** are used effectively to enhance learning opportunities. They are organised, accessible and available.

# For great science learning to happen we must...

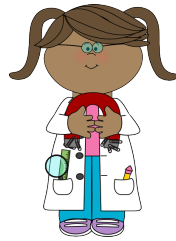
**Explore**



**Make choices and ask questions**



**Use tools to help us**



**Get involved!**



**Use scientific words**



**Look for science EVERYWHERE**



## Appendix 2.

### Science and Understanding of the World Curriculum Map 2016- 2017

Term	Reception	Year 1	Year 2
Autumn 1	-Signs of Autumn Changes – How have we grown?	-Our Body -Senses, parts of the body. -Deciduous and Coniferous trees	- Animals including humans -Animals and their young -Life cycles - Healthy lifestyle
Autumn 2	-To show care and concern for living things and the environment. Can talk about the animals they have observed.	Seasonal Changes - Signs of Autumn Common British Animals -Nocturnal and Diurnal animals	- Living things - Basic needs and survival
Spring 1	-Comments and asks questions about aspects of their familiar world.	- Seasonal Changes -Changing weather and day length	- Use of everyday materials -Identify materials and compare suitability for uses.
Spring 2	-Make observations of animals and explain why some things occur, and talk about changes.	Seasonal Changes - Signs of spring Plants -Basic structure of flowering plants and trees	- Everyday materials and their properties - Changing materials
Summer 1	-Make observations of plants and explain why some things occur, and talk about changes.	Seasonal Changes Animal Classification -Fish, amphibians, reptiles, birds, mammals -Carnivores, herbivores, omnivores	- Plants -How plants grow, what they need to grow. -Observations and tests.
Summer 2	-Talk about the features of their own immediate environment and how environments might vary from one another. -Make observations of animals and plants and explain why some things occur. Talk about changes.	-Everyday Materials -Material properties -Floating and sinking -Translucent, opaque, transparent	- Habitats -Name a variety of plants and animals in different habitats. -Microhabitats. -Food chains.