BOYNE HILL SCHOOL

# SCIENCE POLICY

## Introduction

At Boyne Hill CE Infant & Nursery School we believe that 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 will be taught essential aspects of the knowledge, methods, processes and uses of science in an age appropriate way. Through building up a body of key foundational knowledge and concepts, pupils will be encouraged to recognise the power of logical explanation and develop a sense of excitement and curiosity about natural phenomena.

## Intent

We provide a Science Curriculum that is taught discretely as a weekly subject through the **Kapow! Science Scheme of Work.** Teachers encourage the natural curiosity of each pupil through purposeful, practical science and at Boyne Hill, we aim to nurture scientific enquiry skills that are not only a key aspect of the spiral Science curriculum but essential skills for learning across the curriculum. We allow pupils to answer questions that are raised in the learning intention and are the focal points of each lesson, lead their own science investigations and use scientific language to explain what their findings are.

## Science in the Early Years Foundation Stage (EYFS)

In the early years, pupils will explore the world around them. They are encouraged to investigate questions they have about what they observe and use appropriate scientific language to explain what they find out. Pupils will be provided with exciting opportunities to observe natural and man-made phenomena, for example, when learning about life cycles of living things, pupils will witness first-hand, the life cycle of chicks hatching or butterflies emerging and can explore how animals and humans change as they grow.

Teachers in the Early Years aim to build a foundation of skills required to broaden pupils' scientific thinking. They will be encouraged to use exploratory skills by introducing scientific equipment through play-based activities and focused lessons, for example, using magnifying glasses to observe mini-beasts and for observing how their seeds grow.

## Science at Key Stage One (KS1)

Building on the enquiry skills learnt in EYFS, KS1 pupils are encouraged to broaden their scientific view of the world around them. This is supported by our rich Science Curriculum that guides pupils' scientific thoughts about the world we live in. The scheme of work has been designed as a spiral curriculum with the following key principles in mind: it is cyclical, it increases in depth so each time a skill is revisited, it is covered with greater complexity and in varying contexts and prior knowledge is utilised so pupils can build upon previous foundations, rather than starting again.

Opportunities for enquiry are rooted in cross-curricular activities and challenges. Pupils are taught about the possibilities of science and are encouraged to be curious. Through this, they will develop their scientific knowledge and conceptual understanding and they will have the opportunity to plan and undertake experiments and look at and analyse their findings. Pupils are exposed to a rich scientific vocabulary and are encouraged to use this language to communicate what they have found, orally and in writing.

## Aims and Objectives

By adhering to the National Curriculum and its key principles, our pupils will be inspired to:

- be engaged, excited about and involved in all practical experiments
- discover new scientific facts for themselves through trial and error
- be able to use scientific vocabulary
- talk about, ask questions about and be able to explain their reasoning in their own words
- work practically in groups in order to be able to share ideas and transfer knowledge

We aim 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

## Implementation

**Early Years Foundation Stage**

Within the Early Years Foundation Stage, science plays a major part in building up a child's curiosity of the world around them. Within the seven areas of learning and development, pupils will form an understanding of the world and make sense of their physical world and their community.

**Key Stage 1**

Our Kapow! Science scheme of work is organised into five core units consisting of predominantly six lessons. These ensure that all aspects of the National curriculum are covered.

| Year Group | Termly Modules | | | | | |
|---|---|---|---|---|---|---|
| **1** | Seasonal changes | Everyday materials | Sensitive bodies | Comparing animals | Introduction to plants | Making connections |
| **2** | Habitats | Microhabitats | Uses of everyday materials | Life cycles and health | Plant growth | Making connections |

Working scientifically forms one of the strands in the Kapow! Science curriculum, meaning that it is interwoven into each and every unit alongside scientific knowledge and understanding. The Working Scientifically enquiry cycle incorporates all the elements of working scientifically in an easy-to understand model that also helps pupils to understand the steps involved in a complete scientific enquiry.

Working scientifically specifies the understanding of the nature, processes and methods of science. During years 1 and 2, pupils will be taught to use the following practical scientific methods, processes and skills through the engaging Science Curriculum:

- Asking simple questions and recognising that they can be answered in different ways;
- Observing closely, using simple equipment;
- Performing simple tests;
- Identifying and classifying;
- Using their observations and ideas to suggest answers to questions;
- Gathering and recording data to help in answering questions.

Science teaching will include visual, auditory and kinaesthetic elements to ensure access for all pupils, including those with different learning styles. All lessons will have clear learning intentions to be shared and reviewed with the pupils and certain activities may also be differentiated. Lessons will make effective links with other curriculum areas and subjects and teachers will address these links when appropriate. The science curriculum allows pupils to make steady progress and continue to add to their skillset throughout their time at Boyne Hill.

## Recording

Pupils' learning will be recorded in their Science Book. The purpose of this book is to:

- record work from classroom-based tasks
- write short self-reflections about their learning
- record and annotate photographs or drawings of learning or specific achievements, when appropriate

## Impact

Each Kapow! Science lesson provides teachers with opportunities to assess progress and understanding. Teachers will determine whether a pupil has a *secure understanding* or is *working at greater depth.*

## Monitoring

The Science subject leader is responsible for ensuring that all staff are enabled to deliver the curriculum effectively. This will include recommending available CPD opportunities, leading staff meetings and supporting colleagues. Regular communication with staff will be sustained and all staff can speak to the subject leader if they require any further support.

## Safety

All staff will follow health and safety procedures in Science lessons and ensure pupils are aware of the need for personal safety and the safety of others during some Science lessons.

## Resources

Science resources are stored within the Science cupboards located in Cherry room. An inventory of resources can be found on each cupboard door and to also help with the location of the Science equipment. 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.

**This policy will be reviewed biennially**

Last reviewed: July 2023