SCIENCE GUIDELINES (CURRICULUM)

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Introduction

This document is a statement of the aims, principles, strategies and procedures for the teaching and learning of Science throughout the school.

Intent

A high-quality Science education provides foundations for understanding the world. Science has changed our lives and is vital to the world's future prosperity. Through building key foundational knowledge and concepts, children are encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They are encouraged to understand how key knowledge and concepts are used to explain what is occurring, predict how things will behave, and analyse causes.

In teaching Science, we are developing in our children:

- a positive attitude towards Science and an awareness of its fascination;
- an understanding of Science through a process of enquiry and investigation;
- confidence and competence in scientific knowledge, concepts and skills;
- an ability to reason, predict, think logically and to work systematically and accurately;
- an ability to communicate scientifically, using appropriate vocabulary;
- the initiative to work both independently and in co-operation with others;
- the ability and understanding to use and apply science across the curriculum and real life.

Aims

Our Science Policy follows The National Curriculum 2014 Science Guidelines and aims to ensure that all pupils:

- develop knowledge and conceptual understanding through the specific disciplines of Biology, Chemistry and Physics;
- develop understanding of the world around them through scientific enquiry;
- are equipped with the knowledge required to understand the uses and implications of Science, today and in the future.

Implementation

National Curriculum

At Key Stages 1 and 2, schemes of work are planned in accordance with the requirements stated in the National Curriculum document. Cross-curricular links are frequently made.

Planning and Teaching Methods

Lessons are planned according to units outlined on the school's curriculum plan. Within these units, planning takes account of the progression of skills within the National Curriculum.

A variety of teaching and learning styles are used in science lessons, seeking to develop children's knowledge, skills, and understanding. This can be through whole class teaching, while at other times the children are engaged in an enquiry-based research activity. Children are encouraged to ask, as well as find the answers to scientific questions. They have the opportunity to use a variety of data, such as statistics, graphs, pictures, and photographs. They engage in a wide variety of hands on, real life, practical activities in and outside of the classroom.

Implementation

Progression for all pupils

To allow pupils to progress in Science we:

- respond to pupils' diverse learning needs;
- use classroom assistants to support the work of individual children or groups of children;
- set tasks which are open-ended and can have a variety of responses;
- set tasks to develop and build on skills through the year groups;
- increase conceptual understanding by making links and building on previous knowledge;
- ask increasingly challenging questions to develop a deeper understanding of a wide range of scientific ideas.

Assessment

Science is assessed against Age Related Expectations using teacher assessment and end of topic formative assessment papers.

Health & Safety

Children are taught to use scientific equipment safely when using it during practical activities. Class Teachers, Teaching Assistants and the Subject Leader check equipment regularly and report any damage, taking defective equipment out of action. Teachers ensure that the school policy for Health and Safety is integrated into Science teaching.

The role of the Science Leader

- Supporting and working with colleagues and keeping them informed of changes and developments within their subject.
- Monitoring the relevance, continuity and progression of the Science curriculum throughout the school and recommending any action needed.

- Providing advice about the Science policy and scheme of work.
- Keeping, updating and extending resources, ensuring staff are aware of their availability and identifying future needs.
- Keeping own skills and knowledge up to date through reading and attending relevant courses and by developing links with sources of expertise and information beyond the school.