Science Policy

Version: 4
Date: September 2024
Review Date: March 2025

Albrighton Primary School
Science Policy

Aims
Throughout the school Science should:

- stimulate and excite pupils' curiosity to explore and investigate the world in which they live.
- develop and enable children to use communication skills and techniques involved in obtaining, presenting and responding to information.
- Develop scientific knowledge in line with the aims of the national curriculum
- Develop understanding of the nature, processes and methods of science through different types of science enquiries.
- Ensure that children are equipped with the scientific knowledge required to understand the uses and implication of science, today and for the future.

In the Early Years Foundation Stage the aim is to enable children to:

- ask questions about why things happen.
- investigate a wide variety of objects and materials in the natural and made world using all senses as appropriate.
- learn about themselves and living things.
- look closely at similarities and differences, patterns and change.
- talk about their observations and sometimes record them.

At KS1 children should

- ask simple questions and recognising that they can be answered in different ways
- observe closely, using simple equipment
- perform simple tests
- identify and classify
- use their observations and ideas to suggest answers to questions
- gather and record data to help in answer questions

At Lower KS2 children should

- ask relevant questions and using different types of scientific enquiries to answer them
- set up simple practical enquiries, comparative and fair tests

- make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gather, record, classify and present data in a variety of ways to help in answering questions
- record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identify differences, similarities or changes related to simple scientific ideas and processes
- use straightforward scientific evidence to answer questions or to support their findings.

At Upper KS2 children should:

- plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- use test results to make predictions to set up further comparative and fair tests
- report and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- identify scientific evidence that has been used to support or refute ideas or arguments

Objectives

To develop their knowledge and understanding, children should:

- be curious about things they observe and experience, and explore the world about them with all their senses.
- use this experience to develop their understanding of key scientific ideas and make links between different concepts and experiences.
- begin to think about models to represent things they cannot experience directly.

- try to make sense of concepts, seeking explanations and thinking critically about claims and ideas.

 To develop processes and skills, children should:
- acquire and develop the practical skills needed to investigate questions in a scientific way and with an awareness of safety.
- develop skills of predicting, asking questions, concluding and evaluating based on findings and understand how to apply these to their own investigations.
- apply mathematical skills, e.g. counting, ordering numbers, measuring using non-standard and standard units, drawing and interpreting charts and graphs in real contexts provided by investigational learning.

 To develop language and communication skills, children should:
- develop language skills through talking about their work, explaining and making sense of scientific ideas and presenting their own ideas through pictorial representation and writing of different kinds.
- read non-fiction texts to extract information from sources such as reference books or the internet.

 To develop scientific values and attitudes, children should:
- work with others, listening to their ideas and treating these with respect.
- develop respect for evidence and evaluate critically ideas which may or may not fit the evidence available.
- develop a respect for the world around them and for their own health and safety.

 To ensure progression in science, our teaching should provide opportunities for the children to:
- develop from their personal experience of scientific ideas, a deeper understanding of a wider range of concepts and links between them.
- use everyday language to develop increasingly precise use of technical and scientific vocabulary, notation and symbols.
- progress from describing ideas to explaining them.
- progress from talking about scientific concepts in terms of their own ideas to explaining them in terms of accepted scientific ideas or models.
- progress from using simple drawings, diagrams and charts to representing and communicating scientific information in a wide range of formats.

Teaching and Learning

Science is a core subject that is taught throughout the school on a weekly basis. Our lessons are taken from White Rose science, which follows the national curriculum, ensuring that all subject areas are covered in the correct order. For example, children in year won't learn about space until they fully understand forces.

Throughout the Early Years Foundation Stage, children are taught science as part of 'Knowledge and Understanding of the World', guided by the Early Learning Goals. Cross-curricular opportunities are planned with specific reference to areas of learning.

To begin each lesson, children will recap their prior learning and add it to the working wall so they can see their build up of knwowledge.

Children in KS1 will record their work as a group, each group having a Science book. From year 3, children will have their own Science book to record their work. EYFS work will be recorded in floor books. Where work is recorded in Science books, it will be marked and spelling and grammar will be corrected following the school marking policy.

STEM (Science, Technology, Engineering and Mathematics) activities will be offered to the children throughout the year to ensure that they have opportunities to develop the curiosity and problem solving skills that come with it.

The Science Leader will attend Science network meetings delivered by Shropshire Council to ensure that practice is current.

Assessment

Each Science lesson will begin with a 'Flashback 4' of 4 questions relating to children's previous learning. These questions will ensure that the children are 'Knowing more and remembering more' and will provide an opportunity for teachers to see if they need to revisit any previous learning.

Marking within lessons will provide immediate feedback to teachers to know if they need to adapt the lesson.

At the end of a topic, children will quizzed on their learning from the term and data will be used to develop future lessons, and to pass onto their next teacher.

Saffron Evans
Science Lead, 2024

Signed by Chair of Governors: _____

Name: _____ Date: _____

Signed by Headteacher: _____

Name: _____ Date: _____