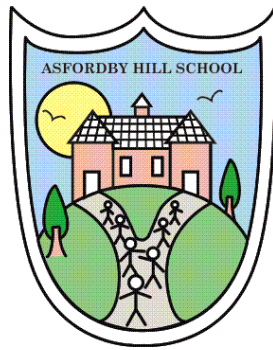


The Asfordby Hill School



Science POLICY

This Policy Links With: PSHE English	
Recommended:	Y
Statutory:	
Date Reviewed:	October 2019
Date of Next Review:	October 2021
Committee Responsible for Review:	QEHS
Chair of Committee signature:	

"The important thing is to not stop questioning. Curiosity has its own reason for existing."

Albert Einstein

Rationale

Science is a systematic investigation of the physical, chemical and biological aspects of the world which relies on first hand experiences and on other sources of information. The scientific process and pupils' problem-solving activities will be used to deepen their understanding of the concepts involved. The main aspects of science to be studied will be determined by the programmes of study of the National Curriculum 2014.

Through science, pupils at Asfordby Hill Primary School will continue to deepen their respect, care and appreciation for the natural world and all its phenomena.

Intent

In science, we aim to provide a learning atmosphere which encourages curiosity, perseverance, open-mindedness, critical reflection and co-operation. We endeavour to provide a broad and balanced learning experience for all our children and, wherever possible, opportunities to develop skills and gain an understanding of Science concepts through first-hand experience and practical work. Children collaboratively plan and implement investigations for their own enquiries, which support their spiritual and social development. We also use Science to promote the children's moral and cultural understanding by exploring other scientists' theories, environmentalist and human issues and how these concepts impact on us, our communities and the wider world.

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 creatively 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

We use a variety of teaching and learning styles in science lessons. Our principal aim is to develop children's knowledge, skills, and understanding. Sometimes we do this through whole-class teaching, while at other times we engage the children in an enquiry-based research activity. We encourage the children to ask, as well as answer, scientific questions and make conclusions, often from evidence they have collected themselves. They have the opportunity to use a variety of data, such as statistics, graphs, pictures, and photographs. They also use ICT in science lessons where it enhances their learning. When appropriate, they take part in role-play and discussions and they present reports to other members of our community. Children engage in a wide variety of problem-solving activities. Experts on scientific subjects are often invited in to extend and enhance the children's knowledge and experience.

We recognise that there are children of widely different scientific abilities in all classes and we ensure that we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this in a variety of ways by:

- Setting common tasks which are open-ended and can have a variety of responses.

- Setting tasks of increasing difficulty (we don't expect all children to complete all tasks)
- Using classroom assistants to support the work of individual children or groups of children.
- Working in mixed ability groups

The school uses the national curriculum objectives for science as the basis of its curriculum planning. The Active Learn Science Bug scheme is used from Year 1 to Year 6 to support the planning and implementation of Science although we often use other sources for support when appropriate.

The whole school long-term plan maps the scientific topics studied in each term during the key stage and year group. 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.

The class teacher is responsible for writing the individual lesson plans for each lesson (short term plans). These plans list the specific learning objectives of each lesson and how they intend for the children to achieve these.

We have planned the topics in science so that they build upon prior learning. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit and we also build progression into the science scheme of work, so that the children are increasingly challenged as they move up through the school. This progression of skills is evident in the agreed Progression of Skills document.

Foundation Stage

At Asfordby Hill we teach science in E.Y.F.S. as an integral part of the topic work covered during the year. We relate the scientific aspects of the children's work to the objectives set out in 'Development Matters' and Early Learning Goals, which underpin the curriculum planning for children aged three to five. Science makes a significant contribution to the objective in the ELGs of developing a child's knowledge and understanding of the world, e.g. through investigating what floats and what sinks when placed in water.

Cross Curricular Opportunities

English: Science contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. Many of the texts that the children study in Reading are of a scientific nature and an effective source of vocabulary. The children develop oral skills in science lessons through discussions (for example of the environment) and through recounting their observations of scientific experiments. They develop their writing skills through writing reports and projects and by recording information.

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.

Computing: Children use ICT in science lessons where appropriate. They use it to support their work by learning how to find, select, and analyse information on the Internet. Children use ICT to record, present and interpret data and to review, modify and evaluate their work and improve its presentation.

PSHE: Science makes a significant contribution to the teaching of personal, social and health education. This is mainly in three areas. 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. Finally, through science, children learn how their bodies work and how to make healthy choices in lifestyle and well-being.

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.

Teaching science to children with special educational needs

We teach science to all children, whatever their ability. Science forms part of the school curriculum policy to provide a broad and balanced education for all children. We provide learning opportunities that are matched to the needs of children with learning difficulties. Our work in science takes into account the targets set in the children's provision maps.

Assessment

We assess children's work in science by making informal judgements as we observe them during lessons. Next step planning relies heavily on these judgements. On completion of a piece of work, the teacher uses the school's marking and feedback policy to mark the work and comment as necessary.

At the end of a unit of work s/he makes a summary judgement about the work of each pupil in relation to the National Curriculum objectives and record them on the 123 grids. This includes the skills when working scientifically.

Teachers make an assessment of the children's work in science at the end of the Key Stages. We report the results of these tests to parents along with the teacher assessments which we make whilst observing the work of children throughout the year.

Resources

We have sufficient resources for all science teaching units in the school. We keep the resources in a central store where there are boxes of equipment and a supply of science topic books. Teachers often loan a collection of topic themed books from Library Services.

Impact

The teaching of science at Asfordby Hill will result in the majority of children not only acquiring the appropriate age-related knowledge linked to the science curriculum, but also the skills which will equip them to progress from their starting points, and within their everyday lives.

All children will have:

- A wider variety of skills linked to both scientific knowledge and understanding, and scientific enquiry/investigative skills.
- A richer vocabulary which will enable to articulate their understanding of taught concepts.
- High aspirations, which will see them through to further study, work and a successful adult life in modern day Britain.