Greenmount Primary School
Science Policy

Intent

Science teaches an understanding of natural phenomena. It aims to stimulate a child's curiosity in finding out why things happen in the way they do. It teaches methods of enquiry and investigation to stimulate creative thought. Children learn to ask scientific questions and begin to appreciate the way science will affect their future on a personal, national and global level.

The aims of Science are to enable children to;

- ask and answer scientific questions
- plan and carry out scientific investigations, using equipment, including technology correctly
- know and understand the life processes of living things
- know and understand the physical processes of materials, light, sound and natural forces
- know about the nature of the solar system
- evaluate evidence and present their conclusions clearly and accurately.

Implementation

We use a variety of teaching and learning styles in our science lessons. Our principal aim is to develop children's knowledge, skills and understanding and stimulate their curiosity. We do this through practical, hands on activities where possible and maximise the outdoor learning environment in all year groups. Children are encouraged to ask, as well as answer, scientific questions. They have the opportunity to use a variety of data, such as graphs, pictures and photographs. ICT is used in lessons where it enhances learning. Children regularly visit a variety of local educational sites and visitors come in to school to enhance their learning.

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 open-ended tasks that can have a variety of responses where appropriate
- sometimes children are grouped by ability and tasks are appropriately differentiated. At other times, children may be working in a mixed ability group where they are supporting each other.
- providing resources of different complexity, matched to the ability of the child
- using classroom assistants to support the work of individual children or groups of children.

Planning and Standards in Science

The school uses the national curriculum to form the basis for our planning.
In KS1 Science is taught in block weeks. In KS2 Science is taught once a week.

A topic starts with a 'Basecamp' session. Children have a range of resources to form scientific questions they would like to find out. Teachers match these questions to the NC and form enquiry based lessons to answer the children's questions.

Enquiry skills lessons will come under one of the following;
comparative/fair testing,
research
observation over time,
pattern seeking,
identify, grouping and classifying.

Children will then complete a 'Summit Point' to showcase all their learning for each topic.

We carry out our curriculum planning in science in three phases (long term,
medium term and short term). The long term plan maps the scientific
topics studied in each term during the key stage, each topic is closely linked to the overall theme for the half term.

We assess children's work in science by making informal judgements as we observe them during lessons. On completion of a piece of work the teacher marks the work and gives feedback as necessary, in line with the schools marking policy. Upon completion of a science topic teachers will us formative judgements collated throughout the topic which includes questioning, book work and group discussions. Children also answer the 'Summit Question' after each topic where teacher can base their judgements. These judgements will be inputted into a data spreadsheet under the decision "working towards", "working at", "greater depth".

A sample of children of varying abilities across the school are interviewed about their learning in science each year. The outcomes from the interviews enable us to identify standards, strengths and areas that need development.

Work scrutinies are held each year. The science leader will look through the evidence in books to identify strengths and areas to develop following the schools work scrutiny feedback form.

Staff Health and Wellbeing

Staff plan science with their work colleague for each topic. Staff have access to Twinkl, QCA and Inspiring Science schemes of work to guide planning and make displays and resources easily available. Staff meetings give staff a chance to share best practice and share resources.

The contribution of Science to teaching in other curriculum areas.

Literacy

Science contributes significantly to the teaching of Literacy in our school by actively promoting the skills of reading, writing, speaking and listening. Some of the texts that the children use in their literacy lessons are of a scientific nature. Story books relating to the topic are used. The children develop oral skills in science lessons through discussions and through recounting their observations of scientific experiments. Writing skills are developed through report writing, presenting information in a variety of ways and fiction writing where appropriate (eg space stories). In STEM books, vocabulary used in all topics are referred to each lesson.

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 investigative work, they learn to estimate and predict. They develop accurate observation skills and recording of events.

Personal, social and health education and Citizenship

Science makes a significant contribution to the teaching of PSHCE. This is mainly in two areas. Firstly, the subject matter lends itself to raising matters of citizenship and social welfare. For example, children learn how some environments are better than others for food growth and the negative impact of drought and famine. Secondly, children benefit from the nature of the subject in that it gives them opportunities to take part in debates and discussions. They help to organize fundraising activities on matters of concern to them, such as children in our partner school in Kenya.

Spiritual, moral, social and cultural development

Science offers children many opportunities to examine some of the fundamental questions of 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. Children have the opportunity to discuss, for example, the effects of smoking and the moral questions involved in the issue.

Teaching science to children with special 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 children's IEPS and specific learning objectives are built on year after year from BSquared.

Resources

We have sufficient resources for all science teaching units in the school. Each class has a box filled with quality resources for each unit of work. There is a range of computer software to support teaching and independent research.

Monitoring and Review

It is the responsibility of the science subject leader to monitor standards and the quality of teaching in science. S/he does this by regularly collecting children's books for work scrutiny on a rolling program and by chatting informally to colleagues. The science subject leader is also responsible for supporting colleagues in the teaching of science, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. The science subject leader gives the head teacher an annual summary report in which s/he evaluates strengths and weaknessess in the subject and indicates areas for further improvement.

Impact

Knowledge- The teaching of science at Greenmount will provide students with the ability to access a wealth of knowledge and information which will contribute to an overall understanding of how and why things work like they do. Children will be able to use this knowledge to understand new concepts, make well-informed decisions and pursue new interests.

Inspiration- Children will find science inspiring and interesting and instil a sense of intrigue and enable students to develop understanding and form questions based both on the knowledge they already have and the insight they wish to gain in the future. Students who excel in science lessons are likely to develop a strong ability to think critically.

Signed: N.Hall

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