



Knavesmire Primary School

Science Policy

Reviewed November 2020

Aims and Objectives

Science 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 questions;
- Plan and carry out scientific investigation, using equipment correctly;
- Evaluate evidence and present their conclusions clearly and accurately;
- Know and understand the life processes of living things;
- Know and understand the physical processes of materials, electricity, light, sound and natural forces;
- Know about the nature of the solar system, including the earth.

Teaching and Learning Style

Wherever possible, we teach scientific concepts through our Big Ideas making cross curricular links where possible. Our principal aim is to develop children's knowledge, skills and understanding and to be positive in their approach to science. Sometimes we do this through whole class teaching, while at other times we engage children in an enquiry based research activity. We encourage children to ask as well as answer scientific questions. They have the opportunity to use a variety of data such as statistics, graphs, pictures and photographs and use ICT where appropriate. We recognise that there are widely differing scientific abilities in all classes and we ensure that suitable learning opportunities are provided for all children. We achieve this in a variety of ways by:

- Setting common tasks which are open ended and can have a variety of responses;
- Grouping children by ability and setting appropriate tasks for each group, including SEND and AG&T children.
- Providing resources matched to the ability of the child.
- Using Teaching Assistants to support the work of the individual or group.
- Providing extending and challenging activities for AG&T children.
- Ensuring Health and Safety is taken into account when planning lessons.

Science Curriculum

The school plans science through cross-curricular themes (Big Ideas). We follow the National Curriculum Programme of Study for science for each year group. Staff have access to a range of resources to support their planning e.g. The Kent Scheme of Work. The long-term plan maps the scientific topics studied each term during the Key Stage and makes links with proposed Big Ideas. Big Idea planning gives details of the scientific aspects to be covered during each Big Idea, including specific objectives for each lesson. The subject leader checks long-term planning at the beginning of the academic year, and coverage is monitored throughout the year.

In Early Years, we teach science as an integral part of the Big Idea and through areas of provision. Science makes a significant contribution to the objectives in the EYFS by developing a child's knowledge and understanding of the world through adult intervention, questioning and first hand experiences.

English

Science contributes to the teaching of English by actively promoting the skills of reading, writing, speaking and listening. Discussions during science lessons enable children to develop their speaking and listening skills and writing skills are developed through the writing of reports and projects and recording of information.

Mathematics

Science contributes to the teaching of mathematics in a number of ways. 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 measuring and use number to enable them to draw conclusions.

Information and Communication Technology

Children use ICT in science lessons where appropriate, including research, and to record, present and interpret data. New technologies are used to support the teaching whenever possible.

Personal, Social and Health Education (PSHE) and Citizenship

Science makes a significant contribution to the teaching of PSHE and Citizenship. The subject matter lends itself to raising matters of citizenship and social welfare. For example, children study the way people recycle materials and how environments are changed for the better.

SEND and AG&T Children

We teach science to children whatever their ability. Science forms part of the school curriculum policy to provide a broad and balanced education for all children. Learning opportunities are matched to the needs of children with learning difficulties. Work in science takes into account the outcomes set in the children's MSP where appropriate. Similarly, opportunities are presented to children of higher ability to provide challenge and extension of knowledge and understanding.

Monitoring and Assessment

Class teachers base judgements about children's work during lessons. At the end of a unit of work, a summary judgement is made about the work of each pupil in relation to the National Curriculum age related expectations. Work is marked following our marking policy. Class teachers make an assessment of children's overall attainment in science at the end of Key Stage One and Two, and progress is tracked in line with the school assessment policy.

It is the responsibility of the science subject leader to monitor the standards of children's work and the quality of teaching in science. 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 school. The science subject leader gives the head teacher an annual summary report identifying strengths and weaknesses. The subject leader makes regular class swaps with class teachers to enable them to discuss science with children and ask questions about their learning. These are recorded and kept in the subject leaders file.

Resources

We have sufficient resources for teaching the science programmes of study. Resources are kept in a central store where there is a box of equipment for each area of science. The school library contains a good supply of science related books for children to use for research and to take home. We have a range of computing software to support teaching and learning and teachers

and children have access to the internet. We incorporate outside agencies to enhance the teaching and learning in science when appropriate.