

Kirkby Church of England Primary School



Science Policy

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Aims and Objectives

Science at Kirkby C of E aims to teach our children the skills, knowledge and understanding they need to question and understand concepts and phenomena that occur in the world around them and equips them with the motivation to seek explanations for these. Children learn the skills required for scientific enquiry and they will 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 fair scientific investigations, using equipment including computers
- 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 materials and their properties
- Evaluate evidence and present their conclusions clearly and accurately

Teaching and Learning Style

The school uses a variety of teaching and learning styles in science lessons. Our principal aim is to develop the children's knowledge skills and understanding. We do this through a mixture of whole class teaching and individual/group activities. Teachers encourage the children to ask as well as answer scientific questions. The children have opportunity to use a variety of secondary sources of information, where it will enhance learning as well as gaining first hand experiences, for example, the use of books, photographs, graphs, diagrams, models and ICT.

Kirkby C of E also has links with Kirkby High School who provide transition science activities for the children in years 5 and 6.

We recognise that the fact that we have children of differing scientific ability in all our classes and so 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 that are open ended and can have a variety of responses
- Setting tasks of increasing difficulty (we do not expect all children to complete all tasks)
- Grouping children by ability and setting different tasks for each group
- Providing a range of challenges with different resources
- Using additional adults to support the work of individual children or small groups
- Incorporating high order questions that apply to scientific thinking to extend the most able children in science

Science Curriculum Planning

The National Curriculum is used as the basis of curriculum planning. Unit and lesson plans from White Rose Science are followed and adapted by teachers to ensure that all children are able to achieve the objectives of the national curriculum.

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 progress through the school.

Foundation Stage

We teach science in the Foundation stage as an integral part of the topic work covered during the year. It comes under Understanding the World in the EYFS. Children must be supported in developing the knowledge, skills and understanding that help them to make sense of the world. Their learning must be supported through offering opportunities for them to use a range of tools

safely; encounter creatures, people, plants and objects in their natural environments and in real life situations; undertake practical 'experiments'; and work with a range of materials.

Curriculum Links

English

Science contributes significantly to the teaching of English at Kirkby CE by actively promoting the skills of thinking, reading, writing, speaking and listening. The children develop oral skills in science lessons through discussions 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 skills. 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 computing in science lessons where appropriate. They use it to support their work in science by learning how to find, select and analyse information on the internet. Children use computers to record, present and interpret data and to review, modify and evaluate their work and improve its presentation.

Personal, social and health education (PSHE) and citizenship

Science makes a significant contribution to the teaching of PSHE. This is mainly in two areas. Firstly, the subject matter lends itself to raising matters of citizenship and social welfare and healthy eating and exercise. Secondly, children benefit from the nature of the subject in that it gives them opportunities to take part in debates and discussions. Science promotes the concept of positive citizenship.

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 pollution and the moral questions involved in this issue. We give them the chance to reflect on 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 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. Through our science teaching, we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels. Our work in science takes into account the targets set in the children's individual education plans (IEP's).

Assessment and Recording

We assess children's work formatively in science through observations and marking. These assessments inform the class teacher's planning for future lessons. At the end of each unit of work, White Rose Science End of Block Assessments are carried out. At the start of the year, key objectives are identified that will be assessed in each unit and opportunities for assessment are planned for. Wherever possible, children are the first to assess their learning. Assessments may take the form of practical activity, a concept map or a written assessment. Teachers record their assessments on iTrack and use them to inform reports to parents and the next class teacher at the end of the year.

Resources

We have a range of resources to support the teaching of science across the school and all our resources are kept in classrooms and a central resource room.

As applicable, pupil premium funding may be made available to ensure that children who are in receipt of this funding and who may normally miss out on opportunities to make progress are supported to do so.

Monitoring and Review

It is the responsibility of the Science Subject Leader, the Headteacher and Governors to monitor the standards of children's work and the quality of teaching in science. The science Subject Co-ordinator 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 co-ordinator helps with the levelling and moderation of work samples to ensure consistency and calls in books and assessment folders for scrutiny and evidence of progress, with feedback being given to staff on a termly basis. We are working with Liverpool School Improvement and a cluster of schools to share ideas and look at how we moderate our science books.

Date: September 2026

Date for next review: September 2027