



Science Policy

The Importance of Science in Primary Schools

“The teaching of Science offers students 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 and students are able to use this knowledge to understand new concepts, make well-informed decisions and pursue new interests. Science also helps to provide tactile or visible proof of many facts we read about in books or see on the television; this helps to increase understanding and helps children to retain that information.” **Centre for Education in Science and Technology**

Intent:

Kniveton Primary School understands the need for all pupils to develop their scientific ability as an essential component of all subjects and as subject in its own right. A good understanding of scientific knowledge and conceptual understanding helps to support pupils work across the curriculum.

Aims:

At Kniveton Primary school we believe that Science is a body of knowledge built up through the experimental testing of ideas. Science is also a practical way for our children to find reliable answers to questions which they may ask about the world around them. Through Science in our school we aim to:

- Encourage the development of positive attitudes to Science.
- Deliver the Science Programmes of Study of the National Curriculum 2014.
- Help in developing and extending children’s scientific concept of the world, and encourage them to ask deeper questions about the world building upon their natural curiosity.
- Develop the use of scientific language, recordings and techniques.
- Develop the skills of investigation including observing, measuring, predicting, experimenting, communicating, interpreting, explaining and evaluating.
- To promote learning through a wide variety of teaching and learning styles.
- Prepare our children for life in an increasingly scientific and technological world.
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Implementation:

Kniveton Primary School will ensure coverage of the Primary Science National Curriculum 2014 by means of following the strands laid down in the current Programmes of Study.

Foundation Stage (Reception):

Children will explore Science through making predictions, using their senses and investigating materials and their properties. Science is taught through the strand of, 'Understanding the World'. Science teaching is also linked to other strands of the EYFS framework for learning 2014.

Teachers and Teaching assistants support children to develop a solid understanding of things occurring around them in their day-to-day lives. Children are encouraged to be creative and inquisitive as they participate in activities. Children are encouraged to use their natural inquisitiveness, whilst taking part in exploratory play in specific scientific areas as well as areas which link across the EYFS framework.

Key Stage One (Years 1 and 2):

During Key Stage one, pupils observe, explore and ask questions about living things, materials and the world around them. They begin to work together to collect evidence to help them answer questions, find patterns, classify and group objects, research using a variety of sources and become familiar with the concept of a fair test. Children will use reference material to find out about scientific ideas. They will share their ideas and communicate them using scientific language, drawings, charts, and tables. Key areas of Science to be covered include: Plants, Animals (including humans), Everyday materials and their uses, Seasonal changes, Living things and their habitats.

Lower Key Stage Two (Years 3 and 4):

Children are encouraged to extend the scientific questions which they ask and answer about the world around them. They will explore everyday phenomena and the relationships between living things and familiar environments and begin to develop their ideas about functions, relationships and interactions. Children will make some decisions about which types of enquiry will be the best way of answering questions including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out using secondary sources. They will make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including new equipment including thermometers and data loggers. Children will begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them and help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Key areas of Science to be covered include: Plants, Animals, including humans, Living Things in Their Habitat, Rocks, Light, Forces and Magnets, Electricity, Sound and States of Matter.

Upper Key Stage Two (Years 5 and 6):

The principal focus of Science teaching in Upper Key Stage 2 is to enable children to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing

functions, relationships and interactions more systematically. In Upper Key Stage 2, children should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. Children will take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate, choosing the most appropriate equipment and explaining how to use it accurately. They will identify patterns that might be found in the natural environment. They will make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them. Key areas of Science to be covered include: Plants, Living Things in Their Habitat, Animals, including humans, Earth and Space, Light, Forces, Electricity, Properties and Changes of Materials and Evolution and Inheritance.

Working Scientifically:

Working scientifically is a key skill integral to Primary Science and is embedded and developed throughout the whole of Primary Science at Kniveton Primary School.

Inclusion and Equal Opportunities:

Kniveton Primary School is proud of its inclusive approach to the whole curriculum and we aim to provide for all children in order that they achieve as highly as they can according to their individual ability. We value Science as a vehicle for the development of language skills, and we encourage our children to talk constructively about their Science experiences. We work to ensure that all children have the opportunity to gain scientific knowledge and understanding regardless of gender, race, class, physical or intellectual ability. We will ensure that expectations do not limit pupils' achievements, supporting where there is a need and extending children who need further challenging.

Impact:

Work will be assessed in line with the current Assessment Policy. The annual report to parents will include a statement related to the children's achievement in science. All teachers of science will pass their class results to the science co-ordinator (Miss L Firth) to be analysed and verbal feedback will be given to members of staff.

Role of Teachers:

Teachers at Kniveton Primary School will:

- Plan and deliver the Science curriculum following the guidelines in this document.
- Follow the Science Programmes of Study as laid down in discrete planning documents.
- Undertake CPD as recommended by the Science Coordinator.
- Look after the resources and keep Science areas neat, safe and accessible

- Ensure, where appropriate, work is displayed in an informative and stimulating way.
- Consider and minimise risks for all activities and systematically teach pupils to take responsibility for determining the risks to themselves and others.
- Notify the co-ordinator of any extra resources required, of any breakages or losses that occur and of any new materials, books, DVDs etc. that might prove useful.

Role of the Subject Coordinator:

The Science Coordinator at Kniveton Primary School will:

- Be responsible for the development of Science in school.
- Monitor the Science curriculum and update school policy when and where necessary.
- Monitor the effectiveness of Science in school by means of book scrutinies, ensuring the quality of the learning environment and overseeing assessment in line with the current school assessment policy
- Support teachers in their planning and strategies for classroom management.
- Disseminate new information.
- Support teachers in delivering the curriculum and arrange staff development and INSET training where appropriate.
- Develop links with local Secondary Schools to improve development of Science in Kniveton Primary School.
- Be responsible for purchasing and providing appropriate Science resources.
- Consider and minimise risks for all activities in line with current Health and Safety Regulations.

Review Date

The Kniveton Primary School Science policy is to be reviewed every two years by the Science Coordinator.