



Crawford Village
Primary School & Nursery

Small enough to care...big enough to inspire

Science Policy

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Introduction

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes (*National Curriculum Science Programmes of Study 2014*).

This policy reflects the school values and philosophy in relation to the teaching and learning of science at Crawford Village Primary School. It sets out the framework within which the teaching staff can operate and gives guidance on planning, teaching and assessment. This policy has been issued as a direct result of whole staff discussion and subsequent agreement with the Governing Body. The implementation of this policy is the responsibility of all teaching staff and teaching assistants with classroom responsibilities. The monitoring and assessment of science is the responsibility of the science Co-ordinator.

The importance of science

Scientists at all levels, from children in the classroom to university researchers, use skills of investigation to find out more about the world around them. For the child, the importance of teaching science is because:

1. Scientific knowledge can give a deeper understanding of the world.
2. Scientific attitudes can foster their curiosity and develop enquiring minds.
3. Scientific skills can equip children with strategies for finding out independently and solving problems.
4. Science has, does and will continue to play a major role in our modern society.

Science Vision Statement 2019

At Crawford Village Primary School, our vision is to give children a science curriculum which enables them to explore and discover the world around them, confidently, so that they have a deeper understanding of the world we live in.

We realise that young children are naturally curious and passionate about learning; we provide a stimulating science curriculum that nurtures children's natural curiosity and their on-going intellectual development. Through a hands-on, inquiry-based curriculum, children will experience the joy of having wonderful ideas, exploration and investigation – that is, the joy of finding out. Our aim is that these stimulating and challenging experiences help children secure and extend their scientific knowledge and vocabulary.

We believe that these opportunities will ensure that our children are confident, life-long learners who will explore the world around them.

Aims

The teaching of science at Crawford Village Primary School aims to:

- Enhance children's understanding of the world
- Encourage care and respect for the environment and the living things in it
- Provide equality of opportunity
- Develop curiosity and foster problem solving, exploration and discovery

- Encourage co-operative skills as well as the growth of the individual
- Encourage development of problem solving strategies in science, and transfer of these skills to other areas of the curriculum.
- Appreciate and promote positive attitudes towards the impact of science and scientists, to capture their interests and reflect current science from the world of industry
- Ensure pupils have the subject knowledge linked to the Science National Curriculum programmes of study.
- Promote pupils' spiritual, moral, social and cultural development through experiencing the full wonder of the universe.

The Science Curriculum

The Science Curriculum is delivered following the 2014 programmes of study for science for key stages 1 and 2. The Early Years Foundation Stage ensures continuity and progression from the Foundation Stage through to the National Curriculum. Pupil provision is related to attainment, not age. The work covered in key stage 1 and 2 is taught following core content and science skills are taught through topics covered in each phase, supported by the Lancashire Curriculum Planning Support documents. Real life science, including outdoor learning opportunities, are encouraged through working outside, school visits and visitors invited into school along with science 'themed' days.

The Early Years Foundation Stage

Children in the EYFS are provided with opportunities to foster social skills and the development of scientific language and understanding. Teachers will support children in developing their knowledge and understanding of the world in a broad range of contexts in which they can explore, enjoy, learn, practise and talk about their developing understanding. Adult-led activities will focus on areas of skills that need to be developed. The learning environment and continuous provision will allow child initiated learning to take place using scientific skills across the curriculum.

At Key Stage 1

Pupils observe, explore and ask questions about living things, materials and physical phenomena. They work together to collect evidence to help them answer 'what if?' questions and to link this to simple scientific ideas. They begin to evaluate evidence and consider whether tests or comparisons are fair. They use reference materials including ICT to find out more about scientific ideas. They share ideas and communicate them using scientific language, drawings, charts and tables with the help of ICT where appropriate.

At Key Stage 2

Pupils learn about a wider range of living things, materials and physical phenomena. They make links between ideas and explain things using simple models and theories. They apply their knowledge and understanding of scientific ideas to familiar phenomena, everyday things and their personal health. They think about the effects of famous scientists, scientific and technological developments on the environment and in other contexts. They carry out more systematic investigations, planning and working independently or as part of a group using group roles to understand the importance of each member, listening and respecting the opinions and ideas of others. A range of reference sources are used, including ICT, in their work. They are able to confidently talk about their work and its significance, question its uses and validity and find links to real life science through use of a wide range of scientific language. Pupils will also be able to demonstrate their scientific understanding

through a variety of writing opportunities. They will practise mathematical skills (counting, ordering numbers, measuring, drawing and interpreting graphs and charts) in real contexts and use conventional diagrams, charts, graphs and ICT to communicate their ideas. Models may be used to represent things that they cannot directly experience. They will acquire and refine practical skills necessary to investigate ideas and questions safely. These activities focus on developing key scientific skills of sorting, classifying, planning, predicting, questioning, inferring, concluding and evaluating through investigative activities.

Approaches to Teaching and Learning in Science

Science teaching should include visual, auditory and kinaesthetic elements to ensure access for children with different learning styles. All lessons should have clear learning objectives, to be shared and reviewed with the pupils. Lessons will make effective links with other curriculum areas and subjects, especially literacy, numeracy and ICT. Activities should inspire the pupils to experiment and investigate the world around them, and to help them raise their own questions such as “Why...?”, “How...?” and “What happens if...?”. They should challenge, motivate and extend pupils learning (with a focus on SC1 enquiry). Activities should develop the skills of enquiry, observation, locating sources of information, selecting appropriate equipment and using it safely, measuring and checking results, making comparisons and communicating results and findings. To demonstrate the profile of science as a core subject in the National Curriculum, staff are encouraged to display science topics in the classroom, aimed at both celebrating the children’s work, reviewing aspects of the current topic, engaging them in interactive activities where possible and promoting scientific vocabulary.

All practical activities undertaken will be in line with our Health and Safety Policy.

Role of the Subject Leader

The role of the science subject leader is:

- To co-ordinate the teaching of science within the school
- To monitor the use of the policy and scheme of work
- To ensure continuity and progression of the teaching and learning of science across the key stages and the school
- To make changes to the policy and scheme of work if necessary
- To order and maintain resources
- To make staff aware of developments in science by offering professional development opportunities or opportunities to discuss best practice
- To support staff who are less confident with science
- To identify and celebrate examples of good practice in science.

The role of the subject leader also involves being informed about current developments in the subject, and providing a strategic lead and direction for the subject in school.

An annual summary of science should be produced in which strengths and areas for development in the subject are evaluated, and an action plan to address any issues arising is formulated for the forthcoming year.

Assessment, recording and reporting

Work will be assessed and marked in line with the Assessment and Marking Policies. At the end of a topic of work, each pupil is assessed in relation to the acquisition of key skills in science

Children are assessed in a variety of ways at the beginning of and during a topic of work by:

- Observing children at work, individually, in pairs, in a group and in classes.
- Questioning, talking and listening to children.
- Considering work/materials/investigations produced by children together with discussion about this with them.
- Work within their science book

Single Equality Policy

We aim to provide a supportive and flexible atmosphere in which all children are enabled to achieve success. All pupils are given access to the science curriculum regardless of sex, religion age, ethnic origin or gender. Targets from Individual Education Plans should be incorporated into planning for science providing appropriate additional resources as necessary, and flexibility in expectations of children with Special Educational Needs, particularly in recording.

Parental / Community Involvement

We value parent involvement in children's development of science and promote a home school partnership a variety of ways. Parents can work with children to investigate the world around us, and through questioning can develop their child's knowledge and understanding of the world.

This policy should be read in conjunction with the following policies:

Teaching and Learning Policy
Assessment for Learning Policy
Feedback / Marking policy
SEND Policy
ICT Policy
Equality Policy
Health and Safety Policy

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