



Happy, Together, Learning and Caring.

Cwmffrwdroer Primary School



Science Policy



Rationale

The purpose of this policy is to ensure a consistent and corporate approach to Science learning and teaching across the school.

Through the programme of study in the National Curriculum at Cwmffrwdoer we believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. We believe that science promotes communication in a specific and precise language involving mathematical and logical thinking. It fosters:

- A healthy curiosity to develop original ideas and a questioning attitude.
- Allowing children to develop problem-solving skills, finding out information for themselves.
- Developing understanding in selecting and using scientific equipment, collating and interpreting results and drawing conclusions based on real evidence.
- Encouraging pupils to be open minded and to try to make sense of what they see and find out.
- Challenging pupils through activities where fair testing will be encouraged.
- Develop the use of scientific language, recording and techniques.
- We recognise that science may strongly engage our more able and talented children and we aim to challenge and extend them by providing activities and learning experiences which match their ability.

Aims and objectives

At Cwmffrwdoer School believe that the teaching of science develops in children an interest and curiosity about the world in which they live and fosters in them a respect for the environment. Science in our school is about developing children's ideas and ways of working that enables them to make sense of the world in which they live, through investigations, as well as using and applying process skills. We believe that a broad and balanced science education is the entitlement of all children.

Through the framework of the National Curriculum, science aims to:

- Equip children to use themselves as starting points for learning about science, and to build on their enthusiasm and natural sense of wonder about the world.
- Develop through practical work the skills of observation, prediction, investigation, interpretation, communication, questioning and hypothesizing, and increased use of precise measurement skills and ICT.
- Encourage and enable children to offer their own ideas, and to be creative in their approach to science, and to gain enjoyment from their scientific work.

- Enable children to develop their skills of cooperation, discussing, debating and empathising through working with others and where possible ways for children to explore science in forms which are relevant and meaningful to them.
- Teach scientific enquiry through contexts taken from the National Curriculum for science.
- Encourage children to persevere in collecting relevant evidence and to question outcomes.
- Emphasize the importance of treating the living and non-living environment with respect and sensitivity.
- Stress the need for personal safety and group safety by the correct usage and storage of resources.
- Encourage children to become independent learners and develop the skills to find out answers, as we do not always know the answers and results when carrying out scientific enquiry.

Teaching

- Science is a core subject within the National Curriculum KS2. Children in the Foundation Phase are taught science through the Foundation Phase Curriculum - Knowledge and Understanding of the World

- We actively teach science skills,

- We encourage children to ask and answer their own questions as far as practicable.

- The school follows the Newport Science Scheme curriculum. The units are taught as, agreed following whole-staff discussion. This ensures progression between year groups and guarantees that topics are revisited in KS2.

- Teachers are expected to adapt and modify the model plans to suit their children's interests, current events, teaching styles, the use of any support staff and the resources available.

- One unit is taught in each term.

Short Term Planning

This is done on a weekly basis, focusing on:

- Curriculum 2008 skills (KS2)
- Foundation Phase Framework 2015
- Key Skills and LNF skills
- Science focus - differentiated lesson plan.
- Scientific key vocabulary
- Resources
- Assessment
- Evaluation
- Curriculum Cymreig (including relevant Welsh vocabulary).

Foundation Phase

In the Foundation Phase children experience the familiar world through enquiry, investigating the indoor and outdoor environment in a safe and systematic way. They are given experiences that help them to increase their curiosity of the world around them and help them to begin to understand past events, people and places, living things, and the work people do. Using all their senses, they are encouraged to enjoy learning by exploration, enquiry, experimentation, asking questions and trying to find answers. They learn to demonstrate care, responsibility, concern and respect for all living things and the environment. They develop and communicate using an increasing range of appropriate vocabulary. They learn to express their own ideas, opinions and feelings with imagination, creativity and sensitivity. Children's skills are developed across all Areas of Learning through participation in experiential learning activities and through the use of sources such as stories, photographs, maps, models and ICT. *In the teaching and learning of Science, we can identify a number of objectives for the children.*

Pupils should be given opportunities to

Be curious about the things they observe, experience and explore relating to the world around them.

Use their experiences to develop understanding of key scientific ideas.

Use models to represent things that they cannot directly experience.

Acquire and refine practical skills necessary to investigate ideas and questions safely.

Develop skills of sorting, classifying, planning, predicting, questioning, inferring, concluding and evaluating through investigative activities.

Make informed decisions based on evidence and their own experiences and be able to apply scientific knowledge to new situations.

Practise mathematical skills (counting, ordering numbers, measuring, drawing and interpreting graphs and charts) in real contexts.

Think creatively about Science and enjoy trying to make sense of phenomena.

Develop their own ideas on how to investigate an idea or phenomena.

Develop language skills through talking about their work and presenting their ideas using writing of different kinds.

Use progressively technical scientific and mathematical vocabulary and draw diagrams and charts to communicate scientific ideas.

Use a range of media and secondary sources, including ICT to extract scientific information.

Work with others, listening to their ideas and treating these with respect.

Develop a respect for the environment and living things and show they understand how human activity impacts these things.

Develop responsibility for their own health and safety and that of others when undertaking scientific activities.

ICT

- We use ICT widely in science. Children are given the opportunity to practise science skills and enhance their presentation using carefully chosen software.
- We use ICT for enquiry work, including microscopes, digital cameras, video capture of images and activities, laptops, smartboards, ipads.

Assessment Recording Reporting

We assess for learning (AfL). Children are involved in the process of self-improvement, recognising their achievements and acknowledging where they could improve.

- We mark each piece of work positively, making it clear verbally, or on paper, where the work is good, and how it could be further improved in line with whole school policy.

- We have an online tracking system (INCERTS) to follow and accelerate children's progress.

- The school science coordinator monitors progress through the school by sampling children's work at regular intervals.

- The Y2 staff assess children's level of attainment at the end of the Foundation Phase and at the Y6 staff assess children's level of attainment at the end of the National Curriculum 2008 document for KS2. This teacher assessment is based on assessment records and work samples and cluster moderated work.

- Reports to parents are made verbally each term during parent consultations and receive written reports once per year.

Roles and responsibilities

Governors

Will review the policy as and when required and should have an understanding of the policy when conducting their link governor role.

Headteacher

Will ensure the policy is adhered to and monitor and review.

Teachers

Should ensure they understand and carry out policy. Any comments about the policy should be shared during the review process

Science Subject Leader

There is a designated Science Subject Leader to oversee the planning and delivery of Science within the school.

The Science coordinator will be responsible for

- *raising standards in Science as a national curriculum subject*
- *providing or organise training to keep staff skills and knowledge up to date*
- *advising colleagues about effective teaching strategies, managing equipment and purchasing resources*
- *monitoring the delivery of the Science curriculum and reporting to the Head teacher on the current status of the subject*
- *Ensure Policies reflect the current thinking and that S.O.W and policies are kept updated*
- *Check that practice reflects policy -reviewing planning, books and quality of teaching and learning*
- *Collect, review and monitor planning where appropriate*
- *Check links to SOW, LNF, N.C coverage and use of curriculum maps*
- *Monitor links throughout the curriculum area*
- *Write an annual Action Plan for the curriculum area*
- *Check differentiation of work and identify development of skills*
- *Highlight good practice and draw attention to any perceived shortcomings*

Use ARR systems effectively e.g - review performance data -where appropriate - to inform future planning and needs in the curriculum area.

Review

This policy will be updated annually, although it is acknowledged that due to major changes in the Curriculum it may be revised at any time to meet the statutory guidance and for Cwmffrwdroer Primary to maintain effective teaching and learning in Science. If this policy is updated at any time, copies

will be made available to staff on the Central Server and provided to Governors for their approval.

This policy will be reviewed every 2 years by the governing body