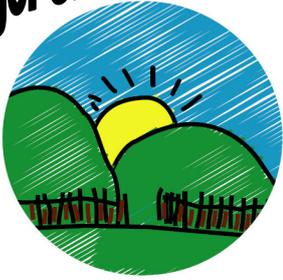


Ysgol Greenfield School



"Opening doors to the future"

CYNGOR BWRDEISTREF SIROL MERTHYR TYDFIL

MERTHYR TYDFIL COUNTY BOROUGH COUNCIL

GREENFIELD SCHOOL

SCIENCE POLICY

Wayne Murphy, Head Teacher.
Rachel Faulkner, Deputy Head - Standards
Carol Conway, Deputy Head - Wellbeing
Gwyn Daniels - Assistant Head



**‘ Opening Doors To The Future ’
‘ Agor drysau i’r dyfodol’**

Original Completion Date

April 2015

Author

David Matthews, Teacher

MONITORING THE POLICY

This policy will be reviewed bi-annually unless change of circumstances or legislation requires it to be amended earlier.

Signed: Date:

Head teacher

Signed: Date:

Chair of Governors

Review Date

Author

Our Vision

'To open doors to the future'

Our Mission Statement

That children, staff, parents, carers and all stakeholders work actively in partnership to enable all pupils to realise and reach their full potential.

Aims

- For pupils to operate as independent learners and thinkers
- To inspire a love for learning
- To provide a relevant curriculum for all
- For pupils to value themselves
- To foster a sense of belonging to a community

Our Values

- We create
- We respect each other
- We try our best
- We are a team
- We learn from mistakes
- We celebrate each other's success
- We are polite and considerate
- We produce magic moments

We want every child to be safe and happy in our school. We believe that the key to this is for us all to have self-respect, respect for others and respect for property.

Everyone has the right to:

- Feel safe, cared for and respected.
- Be able to learn to the best of his/her ability and to develop whatever skills he/she possesses.
- Be treated equally irrespective of gender, race, physical characteristics or any other factors.
- Learn and play without disruption.

Everyone is expected to:

- Be responsible for their own behaviour
- Respect the rights of others
- Share our values

Aim of the curriculum

The aims of Science are:

- To stimulate and excite pupils' curiosity about themselves and the world in which they live.
- To provide first-hand experiences, which help children develop their knowledge, understand themselves and the world they live in.
- To provide a Science Curriculum, which is broad, balanced, relevant and differentiated.
- To fulfil the requirements of the National Curriculum for Science.
- To ensure the progressive development of scientific concepts, knowledge, skills and attitudes.
- Enable children to work scientifically in a range of appropriate contexts using a wide variety of materials and equipment.
- To promote positive attitudes towards, and enthusiasm for, Science work in school.
- To help children develop their logical thinking.

Work in Science follows the requirements of the Foundation Phase curriculum and outcomes, and the skills and range outlined in the National Curriculum for Science.

Teaching and Learning strategies and planning

It is important that the class teacher identifies the most appropriate teaching strategy to suit the purpose of a particular learning situation. There are a variety of ways in which the teaching may be effective and teachers are encouraged to use their enthusiasm and professional judgement to identify the most sensible, suitable and appropriate methods of the work being conducted.

The Schemes used in school provide suggestions to help in the selection of suitable activities and the most effective approach. Pupils are encouraged to work as individuals and in groups when appropriate. Pupils are encouraged to use a variety of means of communicating and recording their work.

Differentiation

All pupils will have access to a broad, balanced curriculum that is relevant to their personal needs. All ranges of ability will be taken into consideration when planning lessons and activities. Planning should be differentiated to meet the range of pupils needs in the class.

A wide range of styles should be employed to ensure all children are sufficiently challenged e.g. Differentiated by task, outcome and by the assistance offered. Resources should be made readily available and adapted to support all learners with consideration given to ASD pupils and pupils with Visual Impairment.

Skills across the curriculum

At each stage, learners will be given opportunities to build on the experiences they gained during the previous stage, and to promote their knowledge and understanding of Wales, their personal and social development and well-being, and their awareness of the world of work.

At Key Stage 4, learners' knowledge and understanding should be developed and applied within the contexts of their individual 14–19 pathways.

Curriculum Cymreig

Pupils will be given opportunities, where appropriate, in science to develop and apply knowledge and understanding of the cultural, economic, environmental, historical and linguistic characteristics of Wales. Pupils should be able to appreciate different languages, images, objects and sounds that give them a sense of belonging to Wales. The use of Hwb, Hwb+ and a variety of welsh websites can provide the pupils with lots of opportunities to develop their understanding of Curriculum Cymreig.

Science contributes to the Curriculum Cymreig by the use of contexts that are relevant to learners' lives in Wales. The rich and varied environment around learners gives the basis for fieldwork. Learners have the opportunity to study recycling, sustainability and the impact of humans within their locality and further a field.

PSE

Learners should be given opportunities to promote their health and emotional well-being and moral and spiritual development; to become active citizens and promote sustainable development and global citizenship; and to prepare for lifelong learning.

Science contributes to learners' personal and social education by helping them to make sense of issues within their lives and others' lives. It gives background evidence to health and well-being, sex and relationships, recycling and the sustainability of both materials and energy. With increasing maturity learners compare their lives with that in developing countries and review the impact of humans on the Earth.

Careers and the world of work

Science contributes to careers and the world of work by enabling learners to study a range of applications of science, medicine and technology in their everyday life and in the wider world. This gives learners insight into how scientists work and also develops experimental and generic skills needed for the world of work.

Progression in Science

As many of our learners are working below age-related expectations careful planning and appropriate support will need to be implemented to support, stretch and challenge learners to ensure progression is maintained. This can be done through progressive task development matched to learners needs.

- Foundation phase

Children should experience the familiar world through enquiry, investigating the indoor and outdoor environment in a safe and systematic way. They should be given experiences that help them to increase their curiosity about the world around them and to begin to understand past events, people and places, living things, and the work people do. Using all their senses, they should be encouraged to enjoy learning by exploration, enquiry, experimentation, asking questions and trying to find answers. They should learn to demonstrate care, responsibility, concern and respect for all living things and the environment. They should develop and communicate an increasing range of appropriate vocabulary. The children's skills should be developed across all Areas of Learning through participation in experiential learning activities and through using sources such as stories, photographs, models and ICT.

- Key stage 2

At Key Stage 2, learners should be given opportunities to build on the skills, knowledge and understanding acquired during the Foundation Phase. They should develop their skills through the range of Interdependence of organisms, The sustainable Earth and How things work. Learners should be taught to relate their scientific skills, knowledge and understanding to applications of science in everyday life, including current issues. They should be taught to recognise that scientific ideas can be evaluated by means of information gathered from observations and measurements. Teaching should encourage learners to manage their own learning and develop learning and thinking strategies appropriate to their maturity. They should be taught to value others' views and show responsibility as local citizens. Activities should foster curiosity and creativity and be interesting, enjoyable, relevant and challenging for the learner. They should enable learners to initiate, explore and share ideas, and extend, refine and apply their skills, knowledge and understanding in new situations. They should allow time for thinking, peer discussion and reflection.

- Key stage 3

At Key Stage 3, learners should be given opportunities to build on the skills, knowledge and understanding acquired at Key Stage 2. They should develop their skills through the range of Interdependence of organisms, The sustainable Earth and How things work. Learners should be taught to apply their scientific skills, knowledge and understanding to design strategies, solve problems and offer explanations, relating scientific ideas to the information about them, including current issues. They should be given opportunities to study the work of scientists and to recognise the role of experimental data, creative thinking and values in their work and in developing scientific ideas. Teaching should encourage learners to manage their own learning and further develop learning and thinking strategies. They should be taught to take different perspectives, value others' opinions and be responsible global citizens.

Activities should foster curiosity and creativity and be interesting, enjoyable, relevant and challenging for the learner. They should enable learners to initiate, explore and share ideas. Activities should enable learners to extend, refine and apply their skills, knowledge and understanding. They should allow time for thinking, peer discussion and reflection.

- 14-16

At Key Stage 4, learners should be given opportunities to build on the skills, knowledge and understanding acquired at Key Stage 3. They should learn about the way that science and scientists work within society. They consider the relationship between data, evidence, theories and explanations and develop their practical, problem-solving and enquiry skills, working individually and in groups. They evaluate enquiry methods and conclusions both qualitatively and quantitatively, and communicate their ideas with clarity and precision. Learners develop their ability to relate their understanding of science to their own and others, decisions about life styles, and to scientific and technological developments in society. Activities should promote peer discussion and reflection when thinking about tasks and problems, in deciding about approaches, and in revising them. Some activities should help learners consolidate their own learning through applying their skills and knowledge in other contexts and situations.

- Post 16

In the Post 16 department pupils will have the opportunity to gain a qualification through the Essential Skills Wales; Application of Number ,Communication and ICT at Entry Level 2, Entry Level 3 and Level 1. Pupils working at Entry Level 2 and below have an opportunity to gain a qualification in Edexcel Personal Progress at Entry Level 1and Edexcel Skills for Independence and work at Entry Level 2.

Literacy and Numeracy Framework

There are three strands in Literacy- Oracy, Reading and Writing. Pupils should be given opportunities, where appropriate, in their study of Science to develop and apply the three strands throughout their work.

There are four strands of numeracy- Developing numerical reasoning, Using number skills, Using measuring skills and Using data skills. Pupil should be given opportunities where appropriate, in their study of Science to develop and apply skills in the four strands. For example using calculators and data handling, software such as recording measurements, adding data and recording results on various charts.

As many of our learners are working below age related expectations we will be working through the continuum according to ability rather than age. The LNF is statutory for all learners aged 5-14 years and as many of our learners are not working at the expected age related level the framework will be used for all learners aged 3-19 within the school.

The role of the science co-ordinator

- To discuss with the head teacher the development of science throughout the school.
- To assist the head teacher in developing and implementing a school policy of schemes of work, taking into account guidelines laid down by the National Curriculum document, Equals schemes of work and the IPC curriculum.
- To assist with the selection of science resources.
- To liaise with colleagues and advise on science development within the school.
- To catalogue science books and resources.
- To monitor and continue to support improvement of pupil progress through a planned cycle of monitoring.