SCIENCE

AIMS

- To provide pupils with a broad and balanced Science Curriculum
- To stimulate curiosity, interest and enjoyment in the study of Science
- To promote an interest in the care for the environment
- To allow pupils to “find out” for themselves by carrying out practical investigations
- To allow pupils to develop thinking skills through “Thinking Science”
- To help pupils develop the key skills of numeracy, literacy and ICT
- To prepare Key Stage 3 pupils for GCSE

ASSESSMENT

Pupils are assessed regularly by end of unit tests, classwork and homework tasks (which are added to individual pupil portfolios) and examinations.

ENQUIRY WORK

Pupils are involved in active learning using a ‘hands on’ approach. They are encouraged to investigate scientific problems by enquiry.
Enquiry work in Science is asses in the following categories-

- Fair test
- Exploration
- Pattern seeking
- Design a system
- Classification
- Use and apply a model
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BEING CURIOUS AND SEARCHING FOR ANSWERS IS ESSENTIAL TO UNDERSTANDING AND PREDICTING PHENOMENA

Curiosity about science and technology leads us to ask questions about the world around us. By being encouraged to use logic, evidence and creativity, learners will be supported to inquire into and apply scientific knowledge to further understanding of how our world works. Developing and testing *models* will also help them make sense of its complexity. With evidence derived from observations, new theories can be developed, and existing ideas may be refined or challenged.

Learners need to be able to evaluate scientific claims to help make informed decisions that affect our environment and well-being. The choices we make depend on many factors, including moral viewpoints and personal beliefs. However, rigorous and robust evidence-based research provides a solid foundation on which to base decisions. As ethically informed citizens, learners will need to consider the impact of our actions and of scientific and technological developments, locally and elsewhere in Wales, as well as in the wider world, asking ‘Just because we can, does that mean we should?’

SCIENCE

THE WORLD AROUND US IS FULL OF LIVING THINGS WHICH DEPEND ON EACH OTHER FOR SURVIVAL

By recognising the diversity of living things and how they interact with their environment, learners can develop an understanding of how these have evolved over significant periods of time. All living things require specific conditions and resources to survive and they may have to compete with other organisms to do so. Humans form part of the living world and our decisions and actions, along with natural selection, can have a significant impact on the diversity of life. Knowing about the structures and functions of living things enables learners to understand how these things grow, develop and reproduce successfully. Developing an understanding of the factors which affect the health and success of organisms allows us to make informed decisions, including about the prevention and treatments of diseases.

MATTER AND THE WAY IT BEHAVES DEFINES OUR UNIVERSE AND SHAPES OUR LIVES

The universe and all living things are made up of *matter*. The behaviour of matter determines the properties of materials and allows us to use natural resources, as well as to create new substances. Understanding the nature of matter can help learners to appreciate the impact that chemistry has on the world around them, as well as how it contributes to advances in science and technology. Chemical reactions happen continuously in our environment as well as in living things. Learning how to control and apply these reactions has benefits to individuals and industry.

FORCES AND ENERGY PROVIDE A FOUNDATION FOR UNDERSTANDING OUR UNIVERSE

Forces and energy can be used to describe the behaviour of everything from the smallest building blocks of matter to the motion of planets and stars. Understanding forces and energy helps us to predict and control the behaviour of our environment. These ideas can be modelled and expressed formally, providing a consistent mathematical framework to describe physical systems. This has enabled some of society's greatest scientific breakthroughs and engineering achievements. An understanding of forces and energy can help learners overcome future challenges and use our planet's resources efficiently and sustainably, helping them become responsible citizens of Wales and the world.