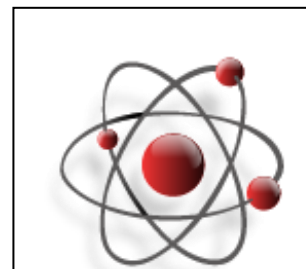


Why study science?

Science encourages students to be inspired, motivated and challenged. Science is an integral part of our modern world and knowledge and understanding of science helps us to make sense of it: -



- How do we fit into the world?
- How are organisms affected and respond to internal and external influences?
- Is the earth's atmosphere changing and if so how can it be prevented?
- What are the Earth's natural materials and how are they used?
- How can we explore the universe?
- Is there a need for non renewable energy resources?

Science covers these and many other topics.

Aims of the course

- To stimulate curiosity, interest and enjoyment in science.
- To experience how science works.
- To develop abilities and skills relevant to science and everyday life.
- To acquire scientific knowledge, skills and ideas.
- To consider the benefits and drawbacks of scientific development.
- To make informed choices about further study.
- To achieve qualifications required for future careers.

Assessment

GCSE Biology, GCSE Chemistry and GCSE Physics will be studied. Assessment for all three qualifications is by internally assessed controlled assessments and externally by three written examinations at Foundation or Higher Level per GCSE. The examination will contain a mixture of question styles, including objective questions, short answer questions and extended writing questions.

Course Content includes:

In Biology students study three units that enable them to find out more about how they fit into the world and how organisms are affected by and respond to internal and external influences. The units include:

- Classification, variation and inheritance.
- Responses to a changing environment.
- Problems of and solutions to a changing environment.
- Biological molecules.
- Cells and organisms.
- Energy and common systems.
- Biological control systems.
- Behaviour.
- Biotechnology.

In Chemistry students study three units where students discover that Chemistry is everywhere. We live and breathe as a result of essential and highly successful chemical reactions. Every substance in the world is a chemical substance, everything we use, everything we eat, everything we need to survive. Whether they are naturally occurring or man-made, all substances have origin in the Earth and its atmosphere. The units include:

- The Earth's sea and atmosphere;
- Materials from the Earth; Acids;
- Acids
- Obtaining and using metals;
- Fuels.
- The periodic table.
- Chemical reactions and different types of chemical bonding.
- Qualitative analysis.
- Quantitative analysis.
- Electrolytic processes.
- Organic chemistry.

In Physics students study three units that give them opportunity to explore physics in terms of waves and the universe, helping them to develop an understanding of waves and how scientific ideas develop. Seismic waves and plate tectonics are also investigated.

The electromagnetic spectrum, electricity and conservation of energy are then explored, to give students a solid grounding in important principles in physics. The three units include:

- Visible light and the Solar System.
- The electromagnetic spectrum.
- Waves and the Universe.
- Waves and the Earth.
- Generation and transmission of electricity.
- Energy and the future.
- Electricity.
- Motion.
- Radioactive materials including the study of nuclear fusion and nuclear fission.
- The use of Radiation in treatment of disease.
- X-rays and ECG's,
- Motion of particles and the kinetic theory and gases.
- Sub-atomic particles.

Where will science take me?

A good pass is needed for 'A' level biology, chemistry and physics.

A science qualification is an essential requirement for some careers, which include teaching, nursing, medicine, laboratory work, fire fighting, veterinary work, dentistry, working in the environment, engineering, computing, space research etc. It is often asked for in many other areas. Even a recent Prime Minister had a degree in chemistry!

For more information contact Mr Durkin, any science teacher or see the web site

<http://www.edexcel.com/quals/gcse/GCSE-science-2011>