

SCIENCE

All students study science, either Combined Science (double award) or the separate 3 sciences, Biology, Chemistry and Physics.

Courses being offered:

GCSE Biology, Chemistry & Physics

Students will study all 3 individual sciences giving them 3 separate grades (9-1). The students will sit two papers in each science at the end of Year 11. Each paper is 1hr 45 mins long and both are worth 50% of the final GCSE grade.

GCSE Combined Science

Students will receive 2 grades at the end of Year 11. Students will study a combination of Biology, Chemistry and Physics topics. There will be two exams in each of the sciences at the end of Year 11. Students will then receive two grades ranging from 9-9 to 1-1. Each exam is worth 16.67% of the final grade.

Some of the key ideas studied in the different sciences are:

Biology

- Life processes depend on molecules whose structure is related to their function.
- The fundamental units of living organisms are cells, which may be part of highly adapted structures including tissues, organs and organ systems.
- The chemicals in ecosystems are continually cycling through the natural world.
- The characteristics of a living organism are influenced by its genome and its interaction with the environment.

Chemistry

- Matter is composed of tiny particles called atoms and there are about 100 different naturally occurring types of atoms called elements.
- Atoms bond by either transferring electrons from one atom to another or by sharing electrons.
- Chemical reactions take place in only three different ways: proton transfer, electron transfer, electron sharing.

Physics

- The concept of cause and effect in explaining such links as those between force and acceleration, or between changes in atomic nuclei and radioactive emissions.
- That differences, for example between pressures or temperatures or electrical potentials, are the drivers of change.
- That proportionality, for example between weight and mass of an object or between force and extension in a spring, is an important aspect of many models in science.

What does a GCSE in Science involve?

GCSE study in the sciences provides the foundation for understanding the material world. Scientific understanding is changing our lives and is vital to the world's future prosperity. All students should learn essential aspects of the knowledge, methods, processes and uses of science. They should gain appreciation of how the complex and diverse phenomena of the natural world can be described in terms of a small number of key ideas that relate to the sciences and that are both inter-linked and of universal application.

Coursework and maths:

Coursework has been removed from the new GCSE Science courses so now the grade achieved rests solely on exam performance at the end of Year 11.

Maths plays a very important part in Science. To reflect this, the different science qualifications will have the following percentage of marks on the exam papers assessing maths skills

Combined Science : 20 %

Biology : 10%

Chemistry: 20%

Physics: 30 %

GCSEs in Biology, Chemistry and Physics are recommended for any student wishing to go on to further study of sciences at A level. A levels in Sciences are required for a wide range of careers including any medical career or a career in engineering.

EXAMINATION BOARD: Edexcel

website:<http://qualifications.pearson.com/en/qualifications/edexcel-gcse/sciences-2016.coursematerials.html>

ASSESSMENT DETAILS: Examination 100%

For further information contact: Mr Shore