

Curriculum Map: Science/Biology (KS4 offer: Entry Level Science, Biology GCSE, broader flexibility exists to extend GCSE Combined Science and Chemistry and Physics GCSEs)

Curriculum Aims: Through the Science curriculum, we want students to

- To develop an understanding of Biology, Chemistry and Physics.
- To be inspired by Scientists and scientific development, that has changed the world by developing skills such as thinking scientifically and working scientifically.
- To grow confident in designing scientific investigations and develop analytical thinking skills that can be used and transferred.
 - To use ELC Science as a springboard to build confident progression into GCSE level learning when needed.
 - Gain academic qualifications that have genuine impact on life choices and opportunities.

Core content: What do we want students to know/be able to do?

- To build upon prior knowledge, engaging and developing knowledge and understanding across the three scientific disciplines – Biology, Chemistry and Physics.
- To understand the key concepts using specialist vocabulary and also develop and apply mathematical skills to build understanding of scientific enquiry: Prediction, observation, design, analysis and evaluation being embedded within lessons supported by a termly focus.
- Aspire to understand and show genuine interest and enthusiasm for the world around us. Recognising the key role Science plays in everyday life.

Year 8

Key areas of study:

Movement, Energy and Respiration.

Explaining Physical changes

Contact and non-contact forces

Explaining Chemical changes

Year 9

AQA Entry Level Science – ESA and TDA assessment

The human body

Elements, mixtures and compounds

Energy, forces and structure of matter

Chemistry in our world

Year 10 Continue AQA ELC Science

Environment, evolution and inheritance

January Year 10 – AQA Biology GCSE progression.

Review prior knowledge in relation to Required Practical requirements. Microscopy, Enzymes, Food testing and microbiology and aseptic technique.

- Unit 4 Bioenergetics: Respiration and Photosynthesis.
- Unit 5 Homeostasis, nervous system, endocrine system and reproduction.

Year 11

Biology GCSE

Unit Six – DNA, genetics, variation, evolution and classification.

Year 11 Mock GCSES

Unit Seven – Ecology: Organisms and their environment, sampling techniques, human impact on the environment. Food and Biotechnology.

Exam preparation, revision technique and required practical review.