

Science

Science is all about understanding all that is around you, whether it be what makes up the natural environment, how forces and energy interact in machines, animals and the weather, or what everything is actually made of. Students develop the skills of observing and recording evidence, finding and analysing patterns of data, and evaluating the reliability of results. Alongside practical skills, pupils use ICT skills to research important information about materials and the earth (Chemistry), energy and forces (Physics) and all variety of life as well as human health (Biology).

Science promotes and develops social and emotional aspects of learning such as the ability to work together as a team, to ask and answer questions confidently, and to share and see value in different opinions and points of view. Literacy is reinforced in every lesson and numeracy is enhanced within every practical task.

From Year 9, students work towards an **Entry Level Science Certificate (AQA)** to enable grounding of scientific principles. This involves:

- Three externally set assignments (exams) across topics within Biology, Chemistry and Physics (57%)
- Three pieces of written coursework that assess practical investigative skills (planning, obtaining evidence, analysing and evaluation) (43%)

Progression from the single award Entry Level Certificate (ELC) can lead to different pathways depending on ability or need. These include:

- Entry into a **double award** for the ELC, with three additional exams and three additional assessed pieces of practical and written coursework.
or
- Further work on the **single award** for the ELC in order to enhance understanding, improve coursework and allow for higher levels to be reached within the single award.
or
- Entry into **GCSE Combined Science: Synergy (AQA)**

GCSE Combined Science: Synergy (AQA) leads on from the topics covered in the Entry Level Certificate. The GCSE course encourages learners to engage in science within everyday life, investigating connections between biology, chemistry and physics. The requirements include four written exams taken at the end of year 11. Each exam is 1 hour 45 minutes long and focus on the following

- **PAPER 1: Life and Environmental Sciences:** Multiple choice, structured, close and open short answer questions, with greater emphasis on knowledge and application than analysis and evaluation. (25%)
- **PAPER 2: Life and Environmental Sciences:** Multiple choice, structured, closed and open short answer questions. This paper assesses most of the analysis and evaluation skills, and most of the work on the required practical investigations, for the topics. (25%)

- PAPER 3: **Physical Sciences:** Multiple choice, structured, close and open short answer questions, with greater emphasis on knowledge and application than analysis and evaluation. (25%)
- PAPER 4: **Physical Sciences:** Multiple choice, structured, closed and open short answer questions. This paper assesses most of the analysis and evaluation (AO3) skills, and most of the work on the required practical investigations, for the topics. (25%)

The tests will assess practical and mathematical skills as well as knowledge and understanding of the content within each topic.

Life and environmental sciences: Building blocks; Transport over larger distances; Interactions with the environment and Explaining change.

Physical sciences: Building blocks for understanding; Interactions over small and large distances; Movement and interactions and Guiding Spaceship Earth towards a sustainable future.

Some of the current year 11 group are entered for **GCSE Biology (AQA)**, in their second half of a two-year course. Topics include Cell Biology, Organisation, Infection and Response, Bioenergetics, Homeostasis and Response, Inheritance Variation & Evolution, Ecology, and Key Ideas in Biology. This course will continue through year 11, at which point pupils will be assessed by two terminal tests, each lasting one hour and forty-five minutes. The tests will assess practical and mathematical skills as well as knowledge and understanding of the content within each topic.

QUALIFICATIONS:

- Entry Level Science (Legacy) – WJEC (last award for year 10 – May 2018)
- Entry Level Certificate (Single) – AQA
- Entry Level Certificate (Double) – AQA
- GCSE Combined Science: Synergy – AQA
- GCSE Biology (8461) – AQA (last award for year 11 – June 2018)