

## Combined Science GCSEs (Compulsory) or Separate Sciences: Biology, Chemistry and Physics GCSEs (Optional)

**Board: Edexcel**

### Skills

Science enables students to develop a wide range of transferrable skills, which will be extremely useful in any future study or employment. These include data analysis, critical review of science in the media, research, practical skills, evaluation, problem-solving, designing experiments, developing models to explain phenomenon, communication and calculations.

Mathematics skills, tabulating data and drawing accurate graphs of the students' own data are assessed in the following proportions in the final exams:

- Combined Science (15%)
- Biology (10%)
- Chemistry (15%)
- Physics (20%)

### Knowledge

Topics covered include:

**Biology:** cells, genetics, natural selection and genetic modification, health, disease and the development of medicines, plant structures and their functions, animal co-ordination, control and homeostasis, exchange and transport in animals, ecosystems and material cycles.

**Chemistry:** states of matter, separating and purifying substances, atomic structure, the periodic table, ionic and covalent bonding, acids and alkalis, rates of reaction, fuels, qualitative analysis, metals, chemical cells and fuel cells.

**Physics:** motion, forces, energy, waves, light and the electromagnetic spectrum, radioactivity, astronomy, electricity and circuits, magnetism and electromagnetic induction, particle model.

### Assessment

All courses are examined in Year 11 after 2 years of study as follows:

- Combined Science (2 GCSE grades)
- 6 x 1hr 10 min exams (2 Biology, 2 Chemistry and 2 Physics)
- Options for both Foundation and Higher tier of entry

The combined grades range from grade 1-1 to 9-9 which are calculated from a total score across all 6 papers

- Separate Science (3 GCSE grades)
- Biology 2 x 1hr 45 min exams
- Chemistry 2 x 1hr 45 min exams
- Physics 2 x 1hr 45 min exams
- Options for both Foundation and Higher tier of entry

The separate science grades are individual for each subject. The overall grade for each is calculated as a total score across both papers.

**For further details, please see your Science teacher or Mr Muhiddin (Head of Science).**