**Year 10 Science (Trilogy)**

GCSE Science (Trilogy) follows the AQA specification which leads to two GCSE grades.
It builds on biology, chemistry and physics work studied at KS3 whilst also encountering new content that prepares students for A' level sciences such as transport of chemicals, electrolysis, radioactivity.

There are 24 units (Biology B1-B7, chemistry C1-10 and physics P1-7) which are taught by two teachers. These are examined in six papers at the end of Y11 which can be sat at higher or foundation tier;

1. Biology paper 1 B1-B4
2. Chemistry paper 1 C1-C5
3. Physics paper 1 P1-P4
4. Biology paper 2 B5-B7
5. Chemistry paper 2 C6-C10
6. Physics paper 2 P5-P7

There is no coursework but there are "Required Practicals" which students will be asked about in exams - these are integrated into lessons throughout the course along with other practical work and the development of broader scientific skills

At the end of each topic students complete a topic test made up of past exam questions. This is then marked and graded and used to identify strengths and areas in need of attention. Note that many topics overlap and so end-of-topic assessments may contain elements from different units which also acts as retrieval practice.

Each lesson begins with a Brain in Gear retrieval task and a Key Learning Question. There will be teacher input of some kind followed by tasks which use prior learning to develop greater knowledge understanding. Once understanding is established then students develop their ability to apply this to unfamiliar situations.

Note: B7, C9 and P1 are taught at the end of year 9

| Year 10 Curriculum | Autumn Term 1 | Autumn Term 2 | Spring Term 1 | Spring Term 2 | Summer Term 1 | Summer Term 2 |
|---|---|---|---|---|---|---|
| Topic(s) | **B1 - Cell Biology**<br>Cells,<br>Microscopy,<br>Cell division,<br>Transport across cell membranes<br><br>**C1 - Atomic Structure and The Periodic Table**<br>Models of the Atom<br>Separation techniques<br>The Periodic Table<br>Group 1 chemistry<br>Group 7 chemistry<br><br>**P2: Electricity**<br>Current, potential difference and resistance<br>Series and parallel circuits<br>Domestic uses and safety | **B2 - Organisation**<br>Digestion and enzymes<br>The heart and circulatory system,<br>The breathing system,<br>Cancer and other non communicable diseases<br><br>**C2 - Bonding, Structures and Properties**<br>Ionic bonding<br>Covalent bonding<br>Structures and properties of materials | **B3 - Infection and Response**<br>Communicable diseases,<br>Immune response,<br>Vaccination, development of drugs<br><br>**C3 - Quantitative Chemistry**<br>Relative formula mass<br>The Mole<br>Reacting mass calculations<br>Concentration of solutions<br><br>**C4 - Chemical Changes**<br>Acids, bases and salts<br>Strong and weak acids<br>Reactivity series<br>Extracting metals<br>Electrolysis | **B4 - Bioenergetics**<br>Photosynthesis,<br>Transpiration,<br>Aerobic and anaerobic respiration<br>Plant transport<br><br>**P3: Particle Model of Matter**<br>Changes of state and the particle model<br>Internal energy and energy transfers<br><br>**P4: Atomic Structure**<br>Developing the model of the atom<br>Nuclear radiation and half-life | **B5 - Homeostasis and Response**<br>Reflex responses,<br>Hormonal control including control of blood glucose and reproduction,<br>Puberty,<br>The menstrual cycle,<br>Controlling fertility<br><br>**C5 - Energy Changes in Reactions**<br>Exothermic and endothermic reactions<br>Determination of energy changes<br>Bond energies | **Y10 Summer exams**<br>**Biology (B1-B4), Chemistry (C1-C5) Physics (P1-P4)**<br>- Revision<br>- Feedback<br>- Support<br><br>**B5 - Homeostasis and Response** (cont'd)<br>Puberty<br>The menstrual cycle,<br>Controlling fertility<br><br>**P6: Waves**<br>Waves in air, fluids and solids<br>Electromagnetic waves |
| Assessment | Tests half way through each topic usually set as homework<br>Formal end of unit test<br>Three end of Year 10 exams covering B1-B4, C1-C5 and P1-P4 | | | | | |

## Independent Work

Regular homework covering a variety of skills:

- GOALs ("Go Off And Learn") for factual recall
- Application
- Practice exam questions to gain experience of recall, application, unfamiliar contexts and extended response
- Research
- Write ups of experimental work, especially work related to the Required Practicals
- Increasing use of Tassomai as the year progresses