

Year 10 Biology

Students who opt to follow the triple science route continue to build on the knowledge and understanding gained from Year 9. Topics studied in Year 9 align with the GCSE Biology AQA specification so the transition from Year 9 to 10 is smooth. Through Year 10 students, study topics that build in complexity and utilise learning from earlier topics. B3 continues to develop ideas of disease and the immune system that were initially learnt in the Key Stage 3 topic 'organisms' and expanded upon in Year 9. B4 develops ideas from the Key Stage 3 topic 'ecosystems' as well as the B2 GCSE topic. It teaches a much more complex understanding of photosynthesis and respiration. We move on to B5 which further develops the ideas of systems (met in B2) and focuses on how organisms control what is happening in them. A deeper understanding of anatomy and how systems are interlinked is developed. B7 finishes the year which and at ecology, developing ideas initially taught in the Key Stage 3 'ecosystems' topic. The interrelationship of organisms is covered here, bringing a number of opportunities to further develop number handling and graph work.

Investigative skills are developed by a number of required practical activities. There are also other practical activities that enriches the learning, as well as practical demonstrations that do the same. Students are assessed at the start and end of the year with tests that check learning on topics in Year 9 and Year 10. This continues to build in demand as students progress through the GCSE course as more and more content is covered in the test. Additionally, there is a PPE in April which has a similar arrangement to the other assessments but takes place in a more formal setting. Students are taught by one teacher in 4 lessons per fortnight

| Methods of deepening and securing knowledge: | |
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| Retrieval practice | Almost all lessons have retrieval practice in them. This is usually as a starter activity. |
| Interleaving | Retrieval practice includes interleaved questions from previous topics, making connections between topics where possible. Many ideas from Key Stage 3 are revisited during Year 9 lessons. |

| | Autumn term 1 | Autumn term 2 | Spring term 1 | Spring term 2 | Summer term 1 | Summer term 2 |
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| Topic(s) | B3 - Infection and response <ul style="list-style-type: none"> - Human defence systems - Vaccination - Antibiotics and pain killers - Discovery and development of drugs - Plant diseases B4 - Bioenergetics <ul style="list-style-type: none"> - Photosynthesis - Using glucose - Respiration | | B5 – Homeostasis and response <ul style="list-style-type: none"> - Human nervous system - Synapses - The brain - The eye - Correcting eye problems - Human endocrine system - Blood glucose and diabetes - Adrenaline - Negative feedback loops - Human reproduction | | B5 – Homeostasis and response <ul style="list-style-type: none"> - Plant growth - Plant hormones - Controlling body temperature - The kidney B7 - Ecology <ul style="list-style-type: none"> - Communities - Environmental sampling - Competition in plants - Competition in animals | |

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| | - Exercise - Metabolism | | - Contraception - Infertility treatment | | - Adapt and survive - Feeding relationships |
| Assessment | Aiming High 1 test including topics studies up to this point in Year 10 and the Year 9 topics | | | PPE – a whole exam paper covering B1-B4 | Aiming High 3 test – covering all Year 10 topics |

Independent Learning:

Independent learning is set every week in line with the school policy. We set online work on Educake which reviews previous learning in a quiz-like format. Additionally we utilise 'knowledge organiser' booklets to set students tasks to produce revision material from allocated pages. We also set 'language for learning' tasks every half term which requires students to complete a quiz on tier 2 and 3 words encountered in the science course.