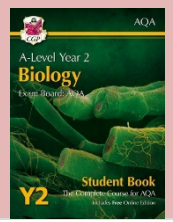
The English Martyrs Catholic School and Sixth Form College

Biology Year 13 - B	Module 1	Module 2	Module 3
Topic Theme and Intent	Students look at **local ecosystems** and how to **sample** the **abundance** and **distribution** of **organisms** there. They will also consider the intricate nature of **genetic inheritance** beyond the levels that they learned in GCSE.	Students will calculate **expected allele frequencies** within **populations**, and consider reasons why this isn't always **observed**. They will also look at **simple animal** and **plant responses** to **stimuli** in order to facilitate optimal functioning.	Students consider how **impulses** are **generated** and sent through our **neurones**, as well as how they cross **synapses**. They also consider **blood glucose control** and **osmoregulation** to facilitate **homeostasis**.
Knowledge	• Ecosystems and investigating their populations. • Succession and management. • Monohybrid and Dihybrid genetic crosses. • Sex and Autosomal linkage. • Epistasis.	• Hardy Weinberg • Allele frequencies • Allopatric and Sympatric speciation • Survival and response. • Responses in plants. • The eye and photoreceptors. • Control of heart rate.	• Nervous control and coordination. • Synapse transmission and the effect of drugs on the synapse. • Muscles and their ultrastructure. • Blood glucose control and diabetes. • Kidney function and osmoregulation.
Skills	Investigate the effect of an abiotic factor on the population and distribution of organisms.	Investigate the responses of simple organisms to various stimuli.	Investigate urine samples to identify an individual suspected of diabetes.
Literacy Links	**Reading –** Students will read about conditions associated with sex linkage. **Writing –** Students start to communicate scientific ideas and concepts through writing. **Oracy –** Students start to use scientific vocabulary in discussion and question and answering.	**Reading –** Students will read about the allopatric and sympatric speciation. **Writing** - Students practise communicating scientific ideas and concepts through writing. **Oracy –** Students practise the use scientific vocabulary in discussion and question and answering.	**Reading – S**tudents will read about the effects of different drugs on synaptic transmission. **Writing** - Students will communicate scientific ideas and concepts through writing. **Oracy –** Students use scientific vocabulary in discussion and question and answering.
Essential Vocabulary	Ecosystems, Logarithm, Abundance, Distribution, Monohybrid, Dihybrid, Independent Segregation, Autosomes	Sympatric, Allopatric Speciation, Phototropism, Gravitropism, Pacinian Corpuscle, Sinoatrial Node	Polarised, Depolarised, Repolarised, Hyperpolarised, Refractory period, Myelination, Osmoregulation

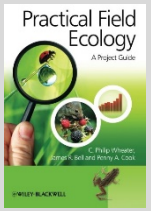
Disciplinary Reading

CGP Books – A level Biology, & Oxford Revise A level Biology.

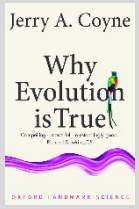


Reading for Pleasure

C.P Wheater *et al* – Practical Field Ecology



J. Coyne – Why Evolution is true



R. Webster – Neurotransmitters, Drugs and Brain Function