

Year 12 Biology

Students start with basic Biology ideas and build on these so that application of prior knowledge builds as the complexity of the knowledge develops. There are two teachers delivering Year 12 Biology. One teacher focusses on cell biology (topics 2 and 3) with the other teaching the biochemistry topics (1 and 4). Through the course, practical skills are developed and competencies are assessed so that evidence is built up towards awarding of the practical endorsement at the end of Year 13. These skills are developed in context, when the appropriate practical opportunity allows for it. We assess students every term with a progress assessment which builds in volume and complexity as the year progresses. Smaller-end-of topic tests allow us to track specific strength and weaknesses and address these as soon as we are aware of them.

Methods of deepening and securing knowledge:

Spaced practice	The progress test ensure knowledge is revisited again and again.
Retrieval practice	Almost all lessons have retrieval practice embedded.

	Autumn term 1	Autumn term 2	Spring term 1	Spring term 2	Summer term 1	Summer term 2
Topic(s)	Unit 1 - Monomers and polymers - Carbohydrates - Lipids - Proteins - Nucleic acids - ATP - Water - Inorganic ions Unit 2 - Cell structure - All cells arise from other cells - Transport across membranes - Cell recognition and the immune system		Unit 3 - Surface area to volume ratio - Gas exchange - Digestion - absorption - Mass transport Unit 4 - DNA, genes and chromosomes - DNA and protein synthesis - Genetic diversity (mutation and meiosis) - Species and taxonomy - Biodiversity		Revision Unit 5 part 1 - Energy and ecosystems - Nutrient cycles Unit 7 part 1 - Populations in an ecosystem	
Assessment	Progress test 1 End-of-topic tests	End-of-topic tests	Progress test 2 End-of-topic tests	End-of-topic tests	Progress test 3 End-of-topic test	End-of-topic test

CEIAG (*Careers that are linked to that topic*)

Careers in healthcare, environment monitoring or protection, biochemistry and drug development, clinical research, animal care, agriculture link to topics taught in Year 12 biology

Independent learning:

Students complete pre-reading exercises prior to every lesson. A one hour independent learning task is given every lesson to embed the learning. Past papers are used nearer exam periods and online resources are increasingly used to develop instant feedback opportunities.