

## Year 12 Biology

The biology A-Level course is structured to build and expand upon prior knowledge from GCSE. The units through Year 12 cover fundamentals of biological understanding that are used and developed in subsequent topics throughout Year 13, incorporating biological and biochemical knowledge and understanding, investigative and data handling skills, as well as practical and mathematical skills. These abilities are required for success in a variety of biology-centred, medical, dental and veterinary university courses and beyond. The Required Practical element of the A-Level course is taught throughout both years and the maths skills required in A-Level biology are presented at meaningful, relevant points in the unit and supported with a Maths for Biology guide. Year 12 covers the content that is on the AS spec (but all taught to A-Level standard), with Year 13 consolidating this content as well as introducing the rest of the A-Level material..

### Methods of deepening and securing knowledge:

<b>Interleaving</b>	Starter tasks are designed to check knowledge from not only the previous lesson but also lessons earlier in the topic and sometimes even other topics within biology at A-Level and GCSE, which will have been previously covered.
<b>Checkpoints/ mini plenaries</b>	These are used within lessons to check understanding and address any misconceptions before moving on.
<b>Independent study</b>	Students are expected to complete a minimum of six hours' worth of independent study per week. This is set in a variety of formats, including guided and independent research, practice questions, exam questions, investigative write-ups, analysing data and preparing presentations.
<b>Assessment for progress</b>	All topics and the Required Practical Portfolio include, at various junctures, 'understanding checkpoints'. These include self-assessment of current ability and incorporate achievable next steps, referencing the AQA Specification directly. Students are expected to check and justify their knowledge against that expected of the course at that point in time.
<b>Literacy links</b>	Students are provided in Year 12 with a Biology Reading Record, with a list of suggested titles across a variety of biological interests and disciplines. Students are expected to read and report on a minimum of one book per half term.

	Autumn term 1	Autumn term 2	Spring term 1
<b>Topic(s)</b>	<b>1A Biological Molecules 2A Cells Structure and Division</b>	<b>1B More Biological Molecules 2B Cell Membranes 2C Cells and the Immune System</b>	<b>3A Exchange and Transport 4A DNA/RNA/Protein Synthesis</b>

Assessment	1A and 2A unit tests. Required Practicals 1 (Enzymes) and 2 (Microscopy).	1B, 2B and 2C unit tests. Required Practicals 3 (Osmosis) and 4 (Membrane Permeability).	3A and 4A unit tests. Teacher Practical 1 (Fish Head Dissection).
CEIAG <i>(Careers that are linked to that topic)</i>	As part of the A-Level biology course, we prepare students for careers in: Biochemistry, oncology, cytology, immunology, medical care, physiological sciences, sports sciences, classification, palaeontology, field work, ecological sciences, horticulture, plant sciences, genetics, physiology, ecological sciences, neuroscience, endocrinology, medical sciences, DNA technology, genetic counselling.		

	Spring term 2	Summer term 1	Summer term 2
Topic(s)	<b>3B More Exchange and Transport</b> <b>4B Diversity &amp; Selection</b>	<b>4C Diversity &amp; Classification</b>	<b>7C Ecology Project</b>
Assessment	3B and 4B unit tests. Required Practical 5 (Heart Dissection).	4C unit test. Required Practical 6 (Aseptic Technique).	Required Practical 12 (Fieldwork). AS Mock Exams Paper 1 and Paper 2.
CEIAG <i>(Careers that are linked to that topic)</i>	As part of the A-Level biology course, we prepare students for careers in: Biochemistry, oncology, cytology, immunology, medical care, physiological sciences, sports sciences, classification, palaeontology, field work, ecological sciences.		

## Independent Study

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