

A Level Biology OCR A Masterclass Plan Class of 2024 - 2026

PAG 1: Microscopy; PAG 2: Dissection; PAG 3: Sampling techniques; PAG 4: Rates of enzyme-controlled reactions; PAG 5: Colorimeter or potometer; PAG 6: Chromatography or electrophoresis; PAG 7: Microbiological techniques; PAG 8: Transport into and out of cells; PAG 9: Qualitative testing; PAG 10: Investigation using a data logger or computer modelling; PAG 11: Investigation into the measurement of plant or animal responses; PAG 12: Research Skills

Date	Lesson	Content	Pages to summarise
Year 1	0	Welcome module	Book 1: Pages 304-313; Take some time to get your head around the glossary
7-13 Sept 2024	A01 OCR	Content: Module 2.1: Cell structures and functions of parts of cells Module 2.1: Making and secreting a protein Maths: Maths formulae to memorise and mathematical requirements for A level	Book 1: Pages 35-49
14-20 Sept 2024	A02 OCR	Content: Module 2.1: Comparing prokaryotes with eukaryotes Module 2.1: PAG 1 - Microscopy Maths: Magnification and graticule calculations	Book 1: Pages 26-34
21-27 Sept 2024	A03 OCR	Content: Module 2.2: Bonding types Module 2.2: Water and macromolecules Module 2.2: Carbohydrates Maths: Haemocytometer, dilution plating, water potential and percentage change	Book 1: Pages 50-60
28 Sept – 4 Oct 2024	A04 OCR	Content: Module 2.2: Lipids Module 2.2: Proteins Module 2.2: Inorganic Ions Maths: measures of centre, Q_{10} temperature coefficient	Book 1: Pages 61-73; 110
5-11 Oct 2024	A05 OCR	Content: Module 2.2: PAG 9 – Biochemical tests Module 2.2: PAG 5 – Colorimetry and Benedict's test Module 2.2: PAG 6 – Chromatography Maths: Hardy Weinberg Equations	Book 1: Pages 74-83
12-18 Oct 2024	A06 OCR	Content: Module 2.3: Nucleotides and nucleic acids Module 2.3: DNA structure and polynucleotides Maths: Respirometer and potometer calculations	Book 1: Pages 84-88
19-25 Oct 2024	A07 OCR	Content: Module 2.3: PAG 9 – Purifying DNA Module 2.3: DNA replication Maths: Cardiac output and minute ventilation	Book 1: Pages 89-90

26 Oct-8 Nov 2024	A08 OCR	Content: Module 2.3: Protein synthesis Module 2.4: Action of Enzymes and models of enzyme action Maths: Quadratic calculations, The Lincoln Index, Standard deviation, Simpsons diversity index.	Book 1: Pages 91-102; 105-107
		Half term	
9-15 Nov 2024	A09 OCR	Content: Module 2.4: Factors affecting enzyme action Module 2.4: PAG 4 – Enzyme controlled reactions Maths: Statistical tests – the null hypothesis, writing a null hypothesis, p-values and critical value tables. How to we choose a stats test?	Book 1: Page 108-109; 111-116
16-22 Nov 2024	A10 OCR	Content: Module 2.4: Cofactors and enzyme inhibition Module 2.5: Cell membrane structure and permeability Maths: The paired and unpaired t-test	Book 1: Pages 103-104; 117-125
23-29 Nov 2024	A11 OCR	Content: Module 2.5: PAGs 5 & 8 – Membrane permeability in beetroot Module 2.5: Cell membranes and signalling Maths: The Spearman's rank correlation coefficient	Book 1: Pages 126-130
30 Nov-6 Dec 2024	A12 OCR	Content: Module 2.5: Transport: All 6 types: diffusion, osmosis, active transport, facilitated diffusion, exocytosis and endocytosis. Module 2.5: PAG 8 – Diffusion investigation and osmosis investigations on plants and animal cells Maths: The Chi-squared test	Book 1: Pages 131-143
7-13 Dec 2024	A13 OCR	Content: Module 2.6: Cell cycle, mitosis and meiosis Module 2.6: Stem cells, differentiation and specialisation	Book 1: Pages 146-156; 161-163
14-20 Dec 2024	A14 OCR	Content: Module 2.6: Animal tissues, plant tissues, organs and systems Module 3.1: Surface area to volume ratio and specialist exchange surfaces	Book 1: Pages 157-160; 164-167
21 Dec 2024 – 10 Jan 2025	A15 OCR	Content: Module 3.1: Gas exchange in mammals Module 3.1: PAG 10 – Ventilation in mammals and using a spirometer	Book 1: Pages 168-177
		Christmas break	
11-17 Jan 2025	A16 OCR	Content: Module 3.1: Gas exchange in fish and insects Module 3.1: PAG 2 – Dissections of gas exchange systems and insects	Book 1: Pages 178-183

18-24 Jan 2025	A17 OCR	Content: Module 3.2: Circulatory systems; single, double, open, closed Module 3.2: Types of blood vessels and gas exchange at the capillaries	Book 1: Pages 186-191
25-31 Jan 2025	A18 OCR	Content: Module 3.2: The heart and cardiac cycle Module 3.2: PAG 2 – Dissection of the heart	Book 1: Pages 192-195
1-7 Feb 2025	A19 OCR	Content: Module 3.2: Electrical activity of the heart Module 3.2 Haemoglobin and oxygen affinity and carbon dioxide transport	Book 1: Pages 196-205
7-14 Feb 2025	A20 OCR	Content: Module 3.3: Transport in plants: structure of xylem and phloem Module 3.3: PAG 2- Dissection of plant stem	Book 1: Pages 206-211
15-28 Feb 2025	A21 OCR	Content: Module 3.3: Water transport and pathways of water through plants Module 3.3: Transpiration, transpiration stream and factors affecting transpiration	Book 1: Pages 212-217
		February half term	
1-7 Mar 2025	A22 OCR	Content: Module 3.3: PAG 5 & 11: Estimating rate of transpiration using a potometer Module 3.3: Adaptations of xerophytic and hydrophytic plants	Book 1: Pages 218-219
8-14 Mar 2025	A23 OCR	Content: Module 3.3: Translocation and active loading in phloem	Book 1: Pages 220-225
15-21 Mar 2025	A24 OCR	Content: Module 4.1: Pathogenic organisms and communicable diseases Module 4.1: Defences against pathogens (plant and animal) – primary and secondary responses	Book 1: Pages 226-238
22-28 Mar 2025	A25 OCR	Content: Module 4.1: The immune system response Module 4.1: Antibodies and primary and secondary immune response	Book 1: Pages 239-243
29 Mar – 4 Apr 2025	A26 OCR	Content: Module 4.1: Vaccinations and the development of drugs Module 4.2: Biodiversity and investigating biodiversity (PAG 3 – sampling)	Book 1: Pages 244-259
5-25 Apr 2025	A27 OCR	Content: Module 4.2: Maths skill: Calculating biodiversity using Simpson's Index and assessing genetic diversity using polymorphic gene loci Module 4.2: Factors affecting biodiversity	Book 1: Pages 260-265
		Easter break	
26 Apr-2 May 2025	A28 OCR	Content: Module 4.2: Conservation (<i>in situ</i> and <i>ex situ</i>) Module 4.3: Biological classification basics and nomenclature	Book 1: Pages 266-281

3-9 May 2025	A29 OCR	Content: Module 4.3: Evidence used for classification & phylogeny Module 4.3: Adaptations	Book 1: Pages 282-285; 292-293
10-16 May 2025	A30 OCR	Content: Module 4.3: Darwin's contributions and the fossil evidence Module 4.3: Variation Module 4.3: Natural selection and how this works	Book 1: Pages 286-291; 294-299
17-23 May 2025	A31 OCR	Content: A2 Content Module 5.1: Cell signalling Module 5.1: Homeostasis, negative and positive feedback	Book 2: 8-13
24 May – 6 June 2025	A32 OCR	Content: Module 5.1: Temperature control Module 5.2: Excretion Module 5.2: The liver structure and function	Book 2: Pages 14-29
		May half term	A2 Paper skills, pages 316-322 Glossary pages: 323-329
7-13 June 2025	A33 OCR	Content: Module 5.2: The kidney structure, ultrafiltration and osmoregulation Module 5.2: Kidney failure	Book 2: Pages 30-43
14-20 June 2025	A34 OCR	Content: Module 5.3: Sensory receptors and the structure of neurones	Book 2: Pages 44-49
21-27 June 2025	A35 OCR	Content: Module 5.3: Nervous impulses, action potentials and impulse propagation Module 5.3: Synapses	Book 2: Pages 50-61
		Summer break	
	Lesson	Content	Pages to summarise
30 Aug-5 Sept 2025	A36 OCR	Content: Module 5.4: Endocrine gland control: adrenal glands and the pancreas Module 5.4: Blood glucose control and diabetes	Book 2: Pages 62-77
6-12 Sept 2025	A37 OCR	Content: Module 5.5: Plant responses: growth, tropisms, and commercial uses of plant hormones Module 5.5: Mammalian nervous response to the environment and structure of the nervous system Module 5.5: The brain and the functions of all parts	Book 2: Pages 78-89; 90-95
13-19 Sept 2025	A38 OCR	Content: Module 5.5: Reflex actions and how responses are coordinated Module 5.5: Heart rate control	Book 2: Pages 96-102

20-26 Sept 2025	A39 OCR	Content: Module 5.5: Muscles, coordination and muscle contraction Module 5.5: How nerves control muscles and the neuromuscular junction	Book 2: Pages 103-111
27 Sept-3 Oct 2025	A40 OCR	Content: Module 5.6: Photosynthesis – the whole process Module 5.6: Limiting factors in photosynthesis and the Calvin cycle	Book 2: Pages 112-125
4-10 Oct 2025	A41 OCR	Content: Module 5.6: PAG 6 – Investigating pigments in leaves Module 5.6: PAG 11 – Investigating the rate of photosynthesis	Book 2: Pages 126-133
11-17 Oct 2025	A42 OCR	Content: Module 5.7: Respiration – the whole process	Book 2: Pages 134-145
18-24 Oct 2025	A43 OCR	Content: Module 5.7: Anaerobic respiration and respiratory substrates Module 5.7: PAG 4 & PAG 11: Investigating the respiration rates of yeast	Book 2: Pages 146-159
25 Oct-7 Nov 2025	A44 OCR	Content: Module 6.1: Gene mutations and the regulation of gene expression including the lac operon model Module 6.1: Body plans and homeobox genes	Book 2: Pages 160-175
		October half term	
8-14 Nov 2025	A45 OCR	Content: Module 6.2: Inheritance I (monogenic, dihybrid, multiple alleles)	Book 2: Pages 176-186
15-21 Nov 2025	A46 OCR	Content: Module 6.2: Inheritance II (sex linkage, codominance, autosomal linkage)	Book 2: Pages 187-192
22-28 Nov 2025	A47 OCR	Content: Module 6.2. Epistasis and the Chi-squared test	Book 2: Pages 193-198
29 Nov-5 Dec 2025	A48 OCR	Content: Module 6.2: Types and causes of variation (continuous, discontinuous, etc) Module 6.2: Evolution by natural selection and genetic drift	Book 2: Pages 199-203
6-12 Dec 2025	A49 OCR	Content: Module 6.2: Hardy-Weinberg Principle Module 6.2: Speciation and artificial selection	Book 2: Pages 204-215
13-19 Dec 2025	A50 OCR	Content: Module 6.3: DNA sequencing and applications Module 6.3: DNA profiling and uses of sequencing	Book 2: Pages 216-222
20 Dec 2025-9 Jan 2026	A51 OCR	Content: Module 6.3: PCR and PAG 6 - Electrophoresis	Book 2: Pages 223-227
		Christmas break	

10-16 Jan 2026	A52 OCR	Content: Module 6.3: Genetic engineering and issues related to GM Module 6.3: Gene therapy	Book 2: Pages 228-239
17-23 Jan 2026	A53 OCR	Content: Module 6.4: Natural clones and plant cloning Module 6.4: Artificial animal cloning	Book 2: Pages 240-247
24-30 Jan 2026	A54 OCR	Content: Module 6.4: Biotechnology and the use of microorganisms Module 6.4: Culturing microorganisms and PAG 7 – Investigating factors that affect the growth in microorganisms	Book 2: Pages 248-255
31 Jan-6 Feb 2026	A55 OCR	Content: Module 6.4: Microorganism growth, and serial dilutions Module 6.4: Immobilised enzymes	Book 2: Pages 256-267
7-13 Feb 2026	A56 OCR	Content: Module 6.5: Ecosystems and energy transfer Module 6.5: Ecosystem recycling	Book 2: Pages 268-278
14-27 Feb 2026	A57 OCR	Content: Module 6.5: Succession	Book 2: Pages 279-281; 308-313
		Half term	
28 Feb-6 March 2026	A58 OCR	Content: Module 6.5: PAG 3 – Abundance and distribution; sampling within ecosystems Module 6.6: Factors causing variations in population size (biotic, abiotic factors, competition, predation)	Book 2: Pages 282-293
7-13 March 2026	A59 OCR	Content: Module 6.6: Conservation, predation and sustainable management Module 6.6: Human impact on the environment case studies	Pages 294-307
14-20 March 2026	A60 OCR	Content: PAG 12: Research Skills	
27 March 2026		Top tips of focus items for Paper 1	
		Easter break	
17 April 2026		Top tips of focus items for Paper 2	
24 April 2026		Top tips of focus items for Paper 3	
		Final Exams: usually every Thursday in June (possibly 4, 11, 18 June 2026).	