

KS4 Biology Curriculum Map 2026–27

AQA GCSE Combined Science: Trilogy (8464) AQA GCSE Biology (8461)

Key: green = required practical • orange = careers link • yellow = formal assessment / exam. "Biology only" = separate (Triple) content not in Combined Science. Dates are indicative — confirm against the Kingsdale 2026–27 calendar and the AQA 2027 examination timetable.

Year 10

Year 10 — Combined Science: Trilogy (8464)	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic & key content	Complete Topic 3 — Infection & response (≈ first 2 weeks): Communicable diseases; viral, bacterial, fungal & protist pathogens; human defence systems; vaccination; antibiotics & painkillers; discovery & development of drugs. Then begin Topic 4 — Bioenergetics (Photosynthesis): the reaction, leaf structure, rate & limiting factors, uses of glucose.	Complete Topic 4 — Bioenergetics (Respiration): aerobic & anaerobic respiration, response to exercise, oxygen debt, metabolism. Consolidation of maths, graph and required-practical skills; Paper 1 question technique.	Start Topic 5 — Homeostasis & response: Principles of homeostasis; the human nervous system; neurones & synapses; the reflex arc; the endocrine system; control of blood glucose; Type 1 & Type 2 diabetes.	Complete Topic 5: Hormones in human reproduction; the menstrual cycle; contraception. HT: controlling fertility (FSH/LH, IVF); negative feedback.	Start Topic 6 — Inheritance, variation & evolution: Sexual & asexual reproduction; meiosis; DNA & the genome; inheritance & genetic crosses (Punnett squares); variation.	Complete Topic 6: Evolution by natural selection; selective breeding; genetic engineering; evidence for evolution & antibiotic resistance; classification. Exam revision.
Required practicals (RPs)	RP — Photosynthesis (effect of light intensity on rate)	—	RP — Reaction time	—	—	—
Assessment	Topic tests; extended-response questions (literacy, numeracy, analysis); AFL in lessons.	Topic tests; extended-response questions; AFL in lessons.	Mock exam — Paper 1 (Topics 1–4) (indicative w/c mid-January). Extended-response questions; AFL.	Topic tests; extended-response questions; AFL in lessons.	Topic tests; extended-response questions; AFL in lessons.	End-of-year exam — Topics 1–5 (indicative w/c mid-June). Topic 6 assessed by end-of-topic test.
Careers	Immunologist; Microbiologist; Epidemiologist; Vaccine scientist; Pharmacologist; Clinical-trials researcher; Public-health officer; Doctor / GP	Biochemist; Plant scientist / Botanist; Sports scientist; Exercise physiologist; Agricultural scientist; Nutritionist; Biofuel researcher	Neuroscientist; Neurologist; Optometrist; Audiologist; Biomedical scientist; Anaesthetist	Endocrinologist; Diabetes specialist nurse; Reproductive-medicine specialist; IVF embryologist; Pharmacist; Midwife	Geneticist; Genetic counsellor; Forensic scientist; Molecular biologist; Bioinformatician	Evolutionary biologist; Plant breeder; Conservation geneticist; Taxonomist; Research scientist
Skills & AOs	Across every unit, students demonstrate knowledge and understanding of the content and the associated mathematical and practical skills, and construct a sustained line of reasoning that is coherent, relevant, substantiated and logically structured. AO1: knowledge and understanding of scientific ideas, techniques and procedures. AO2: application of knowledge and understanding of scientific ideas, enquiry, techniques and procedures. AO3: analyse information and ideas to interpret and evaluate, make judgements and draw conclusions, and develop and improve experimental procedures.					
Enrichment / wider curriculum	After-school interventions & revision clinics; talks by undergraduate medics; Imperial outreach programme; Royal College of Surgeons trip; visit to the Millennium Seed Bank; STEM & careers events linked to the topic careers above.					

Year 10 — Separate (Triple) Biology (8461)	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic & key content	Complete Topic 3 — Infection & response (≈ first 2 weeks): Communicable diseases; viral, bacterial, fungal & protist pathogens; human defences; vaccination; antibiotics & painkillers; discovery & development of drugs. Biology only: monoclonal antibodies (production & uses); plant disease detection & plant defence responses. Then begin Topic 4 — Bioenergetics (Photosynthesis).	Complete Topic 4 — Bioenergetics (Respiration): aerobic & anaerobic respiration, response to exercise, metabolism. Consolidation of maths, graph and required-practical skills.	Start Topic 5 — Homeostasis & response: nervous system; neurones; reflex arc; endocrine system; blood glucose & diabetes. Biology only: the brain; the eye; control of body temperature.	Complete Topic 5: reproduction hormones; menstrual cycle; contraception; HT fertility & negative feedback. Biology only: plant hormones (auxins) & their uses.	Start Topic 6 — Inheritance, variation & evolution: reproduction; meiosis; DNA & the genome; inheritance & crosses; variation. Biology only: DNA structure; protein synthesis; mutations.	Complete Topic 6: natural selection; selective breeding; genetic engineering; evidence for evolution; classification. Biology only: cloning; gene technology & ethics; speciation; three-domain system. Exam revision.
Required practicals (RPs)	RP — Photosynthesis (effect of light intensity on rate)	—	RP — Reaction time	RP — Plant responses (light/gravity on seedlings) [Biology only]	—	—
Assessment	Topic tests; extended-response questions (literacy, numeracy, analysis); AFL in lessons.	Topic tests; extended-response questions; AFL in lessons.	Mock exam — Paper 1 (Topics 1–4) (indicative w/c mid-January). Includes RP: Reaction time. Extended-response questions; AFL.	Topic tests; extended-response questions; AFL in lessons.	Topic tests; extended-response questions; AFL in lessons.	End-of-year exam — Topics 1–5 (indicative w/c mid-June). Topic 6 assessed by end-of-topic test.
Careers	Immunologist; Microbiologist; Epidemiologist; Vaccine scientist; Pharmacologist; Biotechnologist (monoclonal antibodies); Plant pathologist; Doctor / GP	Biochemist; Plant scientist / Botanist; Sports scientist; Exercise physiologist; Agricultural scientist; Nutritionist; Biofuel researcher	Neuroscientist; Neurologist; Optometrist; Audiologist; Biomedical scientist; Anaesthetist	Endocrinologist; Diabetes specialist nurse; Reproductive-medicine specialist; IVF embryologist; Pharmacist; Horticulturist	Geneticist; Genetic counsellor; Forensic scientist; Molecular biologist; Bioinformatician	Evolutionary biologist; Plant breeder; Conservation geneticist; Taxonomist; Research scientist
Skills & AOs	Across every unit, students demonstrate knowledge and understanding of the content and the associated mathematical and practical skills, and construct a sustained line of reasoning that is coherent, relevant, substantiated and logically structured. AO1: knowledge and understanding of scientific ideas, techniques and procedures. AO2: application of knowledge and understanding of scientific ideas, enquiry, techniques and procedures. AO3: analyse information and ideas to interpret and evaluate, make judgements and draw conclusions, and develop and improve experimental procedures.					
Enrichment / wider curriculum	After-school interventions & revision clinics; talks by undergraduate medics; Imperial outreach programme; Royal College of Surgeons trip; visit to the Millennium Seed Bank; STEM & careers events linked to the topic careers above.					

Year 11 (Topic 6 completed in Year 10 — Topic 7 plus revision)

Year 11 — Combined Science: Trilogy (8464)	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic & key content	Topic 7 — Ecology (Paper 2): Adaptations (structural, behavioural, functional); interdependence & competition; abiotic & biotic factors; organisation of an ecosystem; feeding relationships & predator–prey cycles.	Continue & complete Topic 7: Biodiversity; human impacts (pollution of air, water & land); land use, deforestation, peat & global warming; maintaining biodiversity; the carbon & water cycles.	Revision — Topic 5 (Homeostasis) & Topic 6 (Inheritance, variation & evolution). Exam-technique and extended-response focus.	Revision — Paper 1 (Topics 1–4): Topic 1 Cell biology & Topic 2 Organisation. Exam-question practice.	Revision — Paper 1 (Topics 1–4): Topic 3 Infection & response; Topic 4 Bioenergetics. Whole-paper practice. Exam season begins.	EXAM SEASON Final AQA GCSE Biology examinations (Paper 1 & Paper 2). Bespoke pre-exam clinics on request.
Required practicals (RPs)	RP — Field investigations (quadrats & transects)	—	—	RP — Microscopy; Osmosis (revisited)	RP — Food tests; Enzymes; Photosynthesis (revisited)	—
Assessment	Assessment on Topic 6 (carried from Y10); extended-response questions; AFL; spaced repetition.	Mock — paper covering Topics 4, 5 & 6 (indicative early Autumn 2).	Topic test on Topic 7; extended-response questions; AFL; spaced repetition.	Mock — Full Biology Paper 2 (Topics 5–7) (indicative start of Spring 2).	Full Biology Paper 1 (Topics 1–4) in class (no data required for Go4Schools). External exams begin.	—
Careers	Ecologist; Conservation biologist; Wildlife biologist; Marine biologist; Environmental scientist	Forest ecologist; Restoration ecologist; Climate-change analyst; Fisheries biologist; Environmental consultant	Neuroscientist; Endocrinologist; Geneticist; Genetic counsellor	Cell biologist; Histologist; Microbiologist; Biomedical scientist	Biochemist; Sports scientist; Plant scientist; Nutritionist	—
Skills & AOs	Across every unit, students demonstrate knowledge and understanding of the content and the associated mathematical and practical skills, and construct a sustained line of reasoning that is coherent, relevant, substantiated and logically structured. AO1: knowledge and understanding of scientific ideas, techniques and procedures. AO2: application of knowledge and understanding of scientific ideas, enquiry, techniques and procedures. AO3: analyse information and ideas to interpret and evaluate, make judgements and draw conclusions, and develop and improve experimental procedures.					
Revision & support	Weekly after-school revision sessions; spaced-repetition retrieval starters; past-paper clinics; Seneca / Tassomai set tasks; targeted intervention for borderline students.					

Year 11 — Separate (Triple) Biology (8461)	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic & key content	Topic 7 — Ecology (Paper 2): Adaptations; interdependence & competition; abiotic & biotic factors; organisation of an ecosystem; feeding relationships. Biology only: trophic levels; pyramids of biomass; decomposition.	Continue & complete Topic 7: Biodiversity; human impacts; land use, deforestation & global warming; maintaining biodiversity; carbon & water cycles. Biology only: food security; food production; biotechnology (mycoprotein, GM crops).	Revision — Topic 5 (Homeostasis) & Topic 6 (Inheritance, variation & evolution), including Biology-only content.	Revision — Paper 1 (Topics 1–4): Topic 1 Cell biology & Topic 2 Organisation, including Biology-only content.	Revision — Paper 1 (Topics 1–4): Topic 3 Infection & response & Topic 4 Bioenergetics, including Biology-only content. Exam season begins.	EXAM SEASON Final AQA GCSE Biology examinations (Paper 1 & Paper 2). Bespoke pre-exam clinics on request.
Required practicals (RPs)	RP — Field investigations (quadrats & transects)	RP — Decay (effect of temperature on rate of decay) [Biology only]	RP — Reaction time; Plant responses (revisited)	RP — Microscopy; Culturing microorganisms; Osmosis (revisited)	RP — Food tests; Enzymes; Photosynthesis (revisited)	—
Assessment	Assessment on Topic 6 (carried from Y10); extended-response questions; AFL; spaced repetition.	Mock — paper covering Topics 4, 5 & 6 (indicative early Autumn 2).	Topic test on Topic 7; extended-response questions; AFL; spaced repetition.	Mock — Full Biology Paper 2 (Topics 5–7) (indicative start of Spring 2).	Full Biology Paper 1 (Topics 1–4) in class (no data required for Go4Schools). External exams begin.	—
Careers	Ecologist; Conservation biologist; Wildlife biologist; Marine biologist; Environmental scientist	Forest ecologist; Restoration ecologist; Climate-change analyst; Fisheries biologist; Biotechnologist; Food scientist	Neuroscientist; Endocrinologist; Geneticist; Genetic counsellor	Cell biologist; Histologist; Microbiologist; Biomedical scientist	Biochemist; Sports scientist; Plant scientist; Nutritionist	—
Skills & AOs	Across every unit, students demonstrate knowledge and understanding of the content and the associated mathematical and practical skills, and construct a sustained line of reasoning that is coherent, relevant, substantiated and logically structured. AO1: knowledge and understanding of scientific ideas, techniques and procedures. AO2: application of knowledge and understanding of scientific ideas, enquiry, techniques and procedures. AO3: analyse information and ideas to interpret and evaluate, make judgements and draw conclusions, and develop and improve experimental procedures.					
Revision & support	Weekly after-school revision sessions; spaced-repetition retrieval starters; past-paper clinics; Seneca / Tassomai set tasks; targeted intervention for borderline students.					