KS4 Curriculum Map — Chemistry (2026–27)

AQA GCSE Combined Science: Trilogy (8464) & AQA GCSE Chemistry (8462)

This map has been reformatted for clarity: each year group now runs half-term-by-half-term as rows, with two new columns added — Required Practicals (mapped to AQA's 8 required practicals for Chemistry, spec 8462) and Career Opportunities (expanded from the original single 'Careers link' row into topic-specific suggestions).

Year 10 — Combined Science (Trilogy)

Specification: AQA Combined Science: Trilogy (8464)

Half Term	Approx. Weeks	Topic(s) Covered	Required Practical(s) (AQA 8462)	Career Opportunities	Assessment
Autumn 1	7	Topic 2 – Structure and Bonding	No required practical for this topic. Use models/simulations to teach ionic, covalent and metallic structures.	Materials scientist Metallurgist Chemical/materials engineer Nanotechnologist	Topic tests: Topics 1, 5, 2 Extended-response exam questions (literacy, numeracy, analysis) AFL in lessons
Autumn 2	7	Topic 3 – Quantitative Chemistry	No required practical for this topic.	Synthetic/medicinal chemist Pharmaceutical quality-control chemist Forensic chemist	Topic tests: Topics 1, 2, 3, 5 Extended-response exam questions AFL in lessons
Spring 1	6	Topic 4 – Chemical Changes	RP1: Preparing a soluble salt from an insoluble base	Analytical/industrial chemist Electroplating technician Extraction metallurgist/mining engineer	EXAM: Topics 1, 2, 3 & 5 Extended-response exam questions AFL in lessons
Spring 2	6	Topic 4 – Chemical Changes (cont.) Topic 6 – Rate and Extent of Chemical Change (starts)	RP3: Electrolysis of aqueous solutions RP5: Rates of reaction (introduced — disappearing-cross method)	Chemical process engineer Catalytic-converter design engineer Industrial chemist	Topic tests: Topics 1–5 Extended-response exam questions AFL in lessons
Summer 1	6	Topic 6 – Rate and Extent of Chemical Change (cont.)	RP5: Rates of reaction (completed — gas-collection method)	Chemical process engineer Pharmaceutical R&D technician Food scientist (fermentation rates)	Topic tests: Topics 3, 4 & 6 Extended-response exam questions AFL in lessons
Summer 2	7	Topic 7 – Organic Chemistry (continues into Year 11)	No dedicated required practical for Organic Chemistry.	Petrochemical engineer Polymer scientist Cosmetic/fragrance chemist Biofuel researcher	EXAM: Topics 1–5 Extended-response exam questions AFL in lessons

Skills and Assessment Objectives: Students demonstrate knowledge and understanding of the content in each topic, including 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 that knowledge to scientific inquiry, techniques and procedures. AO3: analysis of information and ideas — interpreting and evaluating, drawing conclusions, and developing/improving experimental procedures.

Enrichment / Wider Curriculum: Royal Society of Chemistry online practical enrichment; IRIS projects; UCL outreach talks/visits; STEM careers speakers linked to each topic's Career Opportunities column.

Year 10 — Separate / Triple Chemistry

Specification: AQA Chemistry (8462)

Half Term	Approx. Weeks	Topic(s) Covered	Required Practical(s) (AQA 8462)	Career Opportunities	Assessment
Autumn 1	8	Topic 2 – Structure and Bonding	No required practical for this topic. Use models/simulations to teach ionic, covalent and metallic structures.	Materials scientist Metallurgist Chemical/materials engineer Nanotechnologist	Topic tests: Topics 1, 5, 2 Extended-response exam questions AFL in lessons
Autumn 2	7	Topic 3 – Quantitative Chemistry	No required practical for this topic. Groundwork for RP2 Titration calculations (Higher Tier / separate chemistry).	Synthetic/medicinal chemist Pharmaceutical quality-control chemist Forensic chemist	Topic tests: Topics 1, 2, 3, 5 Extended-response exam questions AFL in lessons
Spring 1	6	Topic 3 – Quantitative Chemistry (cont.) Topic 4 – Chemical Change (starts)	RP1: Preparing a soluble salt from an insoluble base RP2: Titration (full mol/dm³ and g/dm³ calculations — chemistry only)	Analytical/industrial chemist Electroplating technician Extraction metallurgist/mining engineer	EXAM: Topics 1, 2, 3 & 5 Extended-response exam questions AFL in lessons
Spring 2	6	Topic 4 – Chemical Change (cont.) Topic 5 – Energy Changes (Chemical & Fuel Cells)	RP3: Electrolysis of aqueous solutions (Topic 4)	Fuel-cell/battery engineer Renewable energy scientist Electroplating technician	Topic tests: Topics 1–5 Extended-response exam questions AFL in lessons
Summer 1	5	Topic 6 – Rate and Extent of Chemical Change	RP5: Rates of reaction (disappearing-cross and gas-collection methods)	Chemical process engineer Pharmaceutical R&D technician Food scientist (fermentation rates)	Topic tests: Topics 3, 4 & 6 Extended-response exam questions AFL in lessons
Summer 2	7	Topic 10 – The Haber Process and NPK fertilisers Topic 7 – Organic Chemistry (continues into Year 11)	No dedicated required practical for Organic Chemistry.	Petrochemical engineer Polymer scientist Cosmetic/fragrance chemist Biofuel researcher	EXAM: Topics 1–5 Extended-response exam questions AFL in lessons

Skills and Assessment Objectives: Students demonstrate knowledge and understanding of the content in each topic, including 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 that knowledge to scientific inquiry, techniques and procedures. AO3: analysis of information and ideas — interpreting and evaluating, drawing conclusions, and developing/improving experimental procedures.

Enrichment / Wider Curriculum: Royal Society of Chemistry online practical enrichment; IRIS projects; UCL outreach talks/visits; STEM careers speakers linked to each topic's Career Opportunities column.

Year 11 — Combined Science (Trilogy)

Specification: AQA Combined Science: Trilogy (8464)

Half Term	Approx. Weeks	Topic(s) Covered	Required Practical(s) (AQA 8462)	Career Opportunities	Assessment
Autumn 1	6	Topic 6 – Rate and Extent of Chemical Change	RP5: Rates of reaction — consolidation/exam-style practice	Chemical process engineer Industrial chemist	Topic test: Topics 1–5 & 6 Extended-response exam questions AFL in lessons All assessments cover AO1–3 with spaced repetition
Autumn 2	7	Topic 7 – Organic Chemistry Topic 9 – Chemistry of the Atmosphere	RP6: Chromatography (Rf values)	Petrochemical/polymer scientist Atmospheric/climate scientist Forensic scientist/analyst	EXAM WEEK (start of term): Paper 1, Topics 1–5 Extended-response exam questions AFL in lessons AO1–3 with spaced repetition
Spring 1	6	Topic 9 – Chemistry of the Atmosphere (cont.) Topic 10 – Using Resources	RP8: Analysis and purification of water samples	Environmental scientist Water-treatment engineer Recycling/materials engineer	Topic tests: Topics 6–9 Extended-response exam questions AFL in lessons AO1–3 with spaced repetition
Spring 2	6	Revision: Paper 1 content, then Paper 2 content	Practical-skills exam-question practice across RP1–RP8 (no new practicals).	STEM careers fair / apprenticeship links (all topic areas)	EXAM WEEK (start of term): Paper 2, Topics 6–10 Extended-response exam questions AFL in lessons AO1–3 with spaced repetition
Summer 1	5	Content complete — weekly revision by paper	Practical-skills exam-question practice across RP1–RP8.	STEM careers fair / apprenticeship links (all topic areas)	Full Paper 1 and Paper 2 practice in class, with feedback
Summer 2	3	EXAM SEASON	N/A	N/A	GCSE examinations

Skills and Assessment Objectives: Students demonstrate knowledge and understanding of the content in each topic, including 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 that knowledge to scientific inquiry, techniques and procedures. AO3: analysis of information and ideas — interpreting and evaluating, drawing conclusions, and developing/improving experimental procedures.

Enrichment / Wider Curriculum: Royal Society of Chemistry online practical enrichment; IRIS projects; UCL outreach talks/visits; STEM careers speakers linked to each topic's Career Opportunities column.

Revision: Weekly after-school revision sessions and targeted intervention, in addition to in-class spaced-repetition assessment.

Year 11 — Triple Chemistry

Specification: AQA Chemistry (8462)

Half Term	Approx. Weeks	Topic(s) Covered	Required Practical(s) (AQA 8462)	Career Opportunities	Assessment
Autumn 1	6	Topic 6 – Rate and Extent of Chemical Change Topic 10 – Using Resources: Haber Process & NPK Fertilisers	RP5: Rates of reaction — consolidation/exam-style practice No dedicated required practical for the Haber Process or NPK fertilisers (industrial process study).	Chemical process engineer Industrial chemist Agricultural/fertiliser chemist	Topic test: Topics 1–5 & 6 Extended-response exam questions AFL in lessons AO1–3 with spaced repetition
Autumn 2	7	Topic 7 – Organic Chemistry	No dedicated required practical for Organic Chemistry.	Chemical plant/process engineer Petrochemical engineer Polymer scientist	EXAM WEEK (start of term): Paper 1, Topics 1–5 Extended-response exam questions AFL in lessons AO1–3 with spaced repetition
Spring 1	6	Topic 9 – Chemistry of the Atmosphere Topic 10 – Using Resources (excl. NPK & Haber Process – completed in Autumn 2)	RP6: Chromatography (Rf values) RP8: Analysis and purification of water samples	Environmental/atmospheric scientist Water-quality engineer Forensic analyst	Topic tests: Topics 6–9 Extended-response exam questions AFL in lessons AO1–3 with spaced repetition
Spring 2	6	Revision: Paper 1 content, then Paper 2 content	Practical-skills exam-question practice across RP1–RP8 (no new practicals).	STEM careers fair / apprenticeship links (all topic areas)	EXAM WEEK (start of term): Paper 2, Topics 6–10 Extended-response exam questions AFL in lessons AO1–3 with spaced repetition
Summer 1	5	Content complete — weekly revision by paper	Practical-skills exam-question practice across RP1–RP8.	STEM careers fair / apprenticeship links (all topic areas)	Full Paper 1 and Paper 2 practice in class, with feedback
Summer 2	3	EXAM SEASON	N/A	N/A	GCSE examinations

Skills and Assessment Objectives: Students demonstrate knowledge and understanding of the content in each topic, including 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 that knowledge to scientific inquiry, techniques and procedures. AO3: analysis of information and ideas — interpreting and evaluating, drawing conclusions, and developing/improving experimental procedures.

Enrichment / Wider Curriculum: Royal Society of Chemistry online practical enrichment; IRIS projects; UCL outreach talks/visits; STEM careers speakers linked to each topic's Career Opportunities column.

Revision: Weekly after-school revision sessions and targeted intervention, in addition to in-class spaced-repetition assessment.