

How to get a grade 9 in AQA GCSE Chemistry (Higher tier)

A grade 9 needs near-complete, precise chemistry, applied to unfamiliar situations under time pressure. What separates it from a 7 is rarely new content: it is accuracy on almost every mark, fully developed explanations, and the hardest multi-step and unfamiliar questions.

What a grade 9 asks of you

- Almost no dropped marks on recall, standard calculations, equations and practicals. There is very little room for careless slips.
- Multi-step calculations in unfamiliar settings where you choose the method, e.g. balancing an equation from reacting masses, or combining a titration with a mass or gas volume calculation.
- Applying principles to substances and reactions you haven't met: an unfamiliar member of a homologous series, an unfamiliar element's properties from its position in the periodic table, a new reversible reaction.
- Explanations with every link, in precise terms: intermolecular forces versus bonds, strength versus concentration, rate versus yield.
- Evaluations that weigh the data given and reach a justified judgement.
- Top-level 6-mark answers every time, written efficiently.
- Linking topics: Paper 2 questions that need bonding, structure or moles from topics 1 to 3.

Secure these topics first

- Every grade 7 topic, then the fine detail that separates the top grades.
- Quantitative chemistry at full stretch: balancing equations from masses, limiting reactants, gas volumes and titrations, all with correct significant figures and units.
- Nanoparticles: comparing sizes in standard form, and why surface area to volume ratio matters.
- Rate and equilibrium together: why the Haber process uses a compromise temperature and pressure, and what a catalyst does and doesn't change.
- Organic reactions and polymers applied to unfamiliar molecules: products of an unfamiliar alkene or alcohol, and condensation polymers from given monomers.
- Chemical analysis: interpreting instrumental and flame emission data, and choosing the sequence of tests to identify an unknown compound.
- Using resources with data: life cycle assessments, potable water, alternative extraction methods (phytomining and bioleaching) and recycling, where the evaluation marks sit.

Question types that decide a 9

- Long, unstructured calculations where no steps are given.
- 'Suggest' and 'predict' questions in unfamiliar contexts.
- 'Evaluate' and 'justify' questions using data from a table or graph.
- 6-mark explanations that link several ideas, e.g. explaining industrial conditions in terms of rate, yield, cost and safety.
- Practical analysis: identifying errors, explaining anomalies, calculating uncertainty and suggesting precise improvements.
- 'Why doesn't reality match theory' questions, e.g. why the percentage yield is less than 100% or why a measured energy change is smaller than expected.

An 8-week plan

- Aim for 5 or 6 focused sessions a week, plus the Daily 5, with at least one timed paper every week from week 3.
- Week 1: timed mocks of both papers. Mark strictly and build a fix list of every dropped mark, however small.
- Week 2: Paper 1 topics (4.1 to 4.5). Close every gap on the fix list, with Hard and Extreme custom papers on quantitative chemistry and electrolysis.
- Week 3: Paper 2 topics (4.6 to 4.10) the same way, with extra work on equilibrium, organic reactions and chemical analysis. Timed Paper 1 mock.
- Week 4: unfamiliar contexts: Extreme custom papers mixing subtopics from both papers. Timed Paper 2 mock.
- Week 5: 6-mark answers: two a day, marked against the levels and rewritten until they are top level. Timed Paper 1 mock.
- Week 6: required practicals and working scientifically in depth: methods, errors, uncertainty and improvements. Timed Paper 2 mock.
- Week 7: a timed mock of each paper under strict conditions, reviewed straight away, then redo every dropped question from Progress.
- Week 8: the fix list only, equations and tests from memory, a final pair of mocks early in the week, then light review before the exam.

Using GCSE Paper Builder

- Notes: make sure every skill up to grade 9 in the grade-by-grade checklist is ticked, and reread the notes for any subtopic where you drop even one mark.
- Custom paper: Hard and Extreme, mixing subtopics from both papers (e.g. 4.3 with 4.6 and 4.10) to practise the links examiners set.
- Mock exams: one every week from week 3, timed, treated as the real thing.
- Progress: aim for no subtopic lagging behind, and redo every question you dropped a mark on until it is full marks.
- Daily 5: aim for five out of five and use it to practise speed on your weaker areas.
- Flashcards: run through the whole course until recall of exact definitions (isotope, dynamic equilibrium, formulation, pure substance), tests and key facts is instant.
- Whiteboard: set out long calculations exactly as you will in the exam.
- 1-to-1 tutoring with Chhetri Academy (free 30-minute trial lesson) gives you feedback on 6-mark answers and the hardest calculations.

Timing in the exam

- Aim to finish with 10 to 15 minutes left for checking. That is only possible if recall questions take well under a minute per mark.
- Don't rush the opening questions: a careless slip on an easy mark costs as much as a hard part.
- Plan every 6-mark answer for 30 to 60 seconds; the plan is what makes it logical and linked.
- Use the checking time to redo each calculation from scratch rather than rereading it, check units, significant figures and standard form, and reread 6-mark answers for any missing link.

Traps at grade 9

- Answering the question you expected, not the one asked, especially in a familiar-looking context with a twist.
- Ignoring data in the stem: when the question says 'use the information', the marks need that information, even if you know the textbook answer.
- Imprecise wording that lower grades get away with: 'particles' for ions or molecules, 'the reaction is quicker' for 'the rate increases', 'strong' for 'concentrated'.
- Spending time on detail beyond GCSE that the mark scheme doesn't reward, instead of making every expected link.
- Significant figures and standard form: follow instructions exactly. Single lost marks add up.
- Evaluations that sit on the fence: make a judgement and say why.
- Overlong 6-mark answers that repeat themselves and eat into your checking time.

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Stuck? 1-to-1 tutoring with a free 30-minute trial lesson.