

How the 9 to 1 grading scale is applied to GCSE Combined Science

Students who take GCSE Combined Science study all three sciences and will cover roughly two thirds of the content of the separate GCSEs in Biology, Chemistry and Physics. If they take the combined science qualification, they'll receive an award worth two GCSEs consisting of two equal or adjacent grades from 9 to 1, giving 17 possible grade combinations – 9-9; 9-8; 8-8 through to 1-1.

The table below shows the different grade combinations available for GCSE Combined Science.

Higher	Foundation	How the grade is set
9-9		Comparable outcomes – previous grade 9-9
9-8		Set arithmetically
8-8		
8-7		
7-7		
7-6		Set arithmetically (except Foundation tier 5-5)
6-6		
6-5		
5-5	5-5†	
5-4	5-4	
4-4†	4-4†	Comparable outcomes – previous grade 4-4
(4-3)‡	4-3	Set arithmetically
	3-3	
	3-2	
	2-2	
	2-1	
	1-1	Comparable outcomes – previous grade 1-1
U	U	

† Chained equipercenile equating used to ensure that standards are equivalent between the tiers.

‡ Allowed grade on Higher tier (see next page).

How are grades awarded in GCSE exams in England?

Grades are awarded using a compensatory process: students gain marks for the credit worthy answers they provide, regardless of which questions they answer correctly on the papers. Better performance in one part of a paper can compensate for poorer performance in another part. The more marks students gain, the higher the grade they will achieve.

We do not use criterion referencing to award grades

Grades are not awarded for meeting a specific set of criteria; if this was the case, students could only gain marks when they met each of the required criteria statements. If criterion referencing was used, this could mean that students need to get all of the standard demand questions correct in order to get a grade 5, and if they didn't do so, they would not get a grade 5 even if they had gained marks on the more difficult higher demand questions.

We do not write grade specific questions

We write questions that are targeted at low, standard and high demand, reflecting the likely demand for students operating within broad ability ranges. Different students will find different questions more or less difficult, depending upon their particular skill set and understanding of the concepts involved. There is no such thing as a grade 'x' question in GCSE examinations.

We do not award grades using a norm referenced curve

This would create a fixed, pre-determined percentage of the cohort gaining each grade in each subject, year on year.

Comparable outcomes

The standard achieved in one year should be comparable with the standard achieved in another, with any changes in the year on year ability of the national cohort entering a qualification in a particular subject being reflected in the range of grades achieved by the respective cohorts. This process is achieved through the determination of 'comparable outcomes'.

Comparable outcomes are based on the relative performance of the current national cohort entered for a particular subject, Combined Science in this case, compared to the performance of a prior national reference cohort in that subject.

For GCSE qualifications, the performance of the national reference year cohort is tracked back to their KS2 scores and a performance matrix determined for each GCSE subject. The performance matrix for that subject is then applied to the national cohort who entered for the GCSE in that subject in the current year. This process gives a statistical recommendation of the grades to be awarded, which the awarding panel use as part of their determination of the final grade boundaries. See our [guide to awarding](#) video for more information.

Ensuring a grade 4-4 at Foundation tier is the same as a grade 4-4 at Higher tier

All awarding organisations use a process known as 'chained equipercentile equating' to ensure consistency of standards between the different tiers. The common questions on both tiers enable us to use a statistical equating method to ensure the standard is aligned across both tiers. In the AQA GCSE science suite of specifications, around 30% of the questions will be the same on both Foundation and Higher tiers. Performance on these common questions is used to generate an 'equated pair' of marks at a particular grade boundary, one on the Higher tier and one on the Foundation tier, that represent the same standard on each tier of papers.

This process is applied in all qualifications where there is more than one tier of paper. Ofqual have provided a [worked example](#) for GCSE mathematics, but the same process applies for Combined Science Trilogy and Synergy (at grades 4-4 and 5-5) and GCSE Biology, Chemistry and Physics (at grades 4 and 5).

Allowed grade 4-3 on the Higher tier

Grade 4-4 is the lowest targeted grade on the Higher tier. However, there is a small safety net for students who narrowly fail to achieve grade 4-4. The number of marks between the grade 5-4 and grade 4-4 boundaries is divided by 2 and subtracted from the grade 4-4 boundary. Students whose mark is on or above this threshold but below the grade 4-4 boundary are awarded grade 4-3. Higher tier students whose mark is below this threshold are ungraded (U).