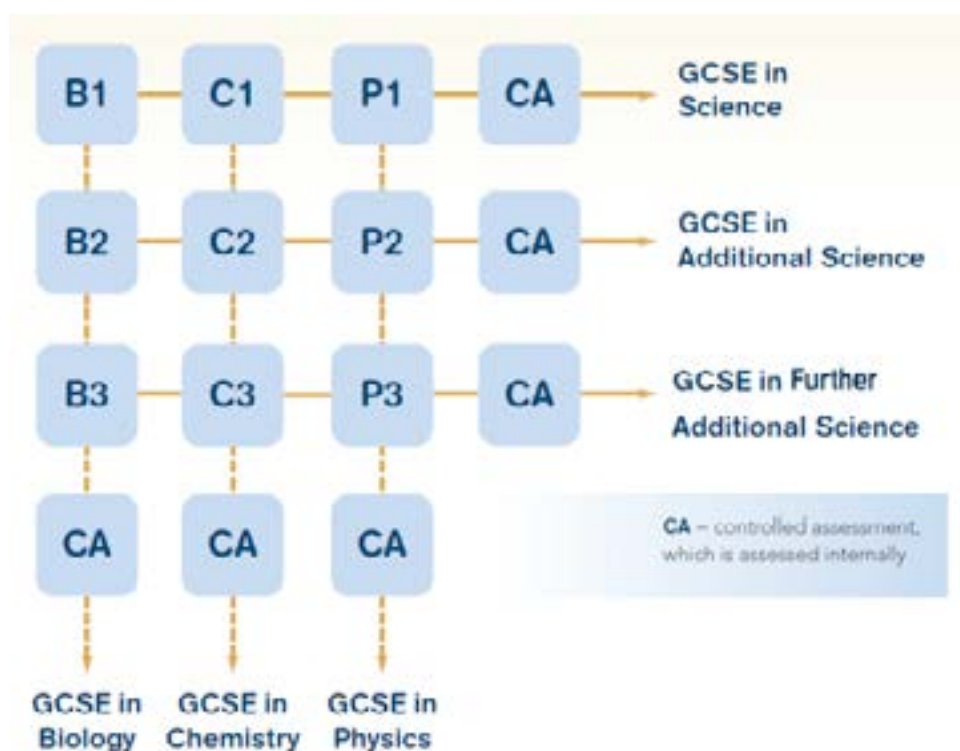


Assessment Overview

Overall qualification structure

Outlined below is the structure of GCSE in Science, GCSE in Additional Science, Further Additional Science and GCSEs in Biology, Chemistry and Physics:



In order to cash-in for any GCSE, candidates must sit three examined units and one controlled assessment unit. There are some simple rules governing the nature of the controlled assessment:

- Candidates taking GCSE in Science must take the controlled assessment unit for GCSE in Science
- Candidates taking GCSE in Additional Science must take the controlled assessment for GCSE in Additional Science
- Candidates taking GCSE Further Additional Science cannot use the same subject for their controlled assessment as they use for Additional Science. For example, if a candidate submits a Biology controlled assessment task for Additional Science, they must submit either Chemistry or Physics controlled assessment for Further Additional Science.
- Candidates taking GCSE Biology (or Chemistry or Physics) cannot use the controlled assessment associated with B1 (or C1 or P1); but can use the controlled assessment task associated with either B2 or B3 (or C2 / C3 or P2 / P3).

Sitting patterns

We would expect to see four common sitting patterns:

1. Candidates taking GCSE in Science only – these candidates would sit B1, C1, P1 and the controlled assessment for GCSE in Science.
2. Candidates taking GCSE in Science and GCSE in Additional Science – these candidates would sit B1, C1, P1 and the controlled assessment for GCSE in Science; then B2, C2, P2 and the controlled assessment for GCSE in Additional Science.
3. Candidates taking GCSE in Science, GCSE in Additional Science and GCSE in Further Additional Science – these candidates would sit B1, C1, P1 and the controlled assessment for GCSE in Science; B2, C2, P2 and the controlled assessment for GCSE in Additional Science; and B3, C3, P3 and the controlled assessment for the GCSE in further Additional Science.
4. Candidates taking separate sciences – using Biology as an example, these candidates would sit the B1, B2, and B3 exams, and the Biology controlled assessment unit, using a controlled assessment task from either B2 or B3.

NB Candidates CANNOT use the controlled assessment task from B1 when taking separate sciences.

Candidates taking other routes through the qualification need to be aware of the rule that **no examined unit can be used to count against more than one qualification**. In other words, if a candidate takes GCSE in Science and then goes on to take GCSE in Chemistry, then he or she must sit C1 twice – once for GCSE in Science and again for GCSE in Chemistry. These two attempts must be made in different examination series.

To make administration simpler for centres, the same code will be used for these common units.

It is also worth noting that GCSE in Science followed by a single separate science (e.g. GCSE in Chemistry) would not count towards the English Baccalaureate.

The controlled assessment tasks are valid for one year. The tasks will be released one year in advance of them becoming 'live'. Each controlled assessment task will clearly show the moderation windows for which it is valid. These windows will always be May/June.

Structure of the exam

Each exam has the same structure: the paper will be one hour long and be worth 60 marks. The total will then be converted to a uniform mark of 80.

Each exam paper will usually contain six questions, each question finding its 'home' in a topic of the unit. Some questions may ask candidates to draw on knowledge across the topics in the unit.

Each individual question will be ramped in difficulty. It is likely that the increasing demand will be reflected by an increase in mark allocation for the question parts.

In addition, there will also be ramping across the question paper, so that Q6 would normally have a higher overall demand than Q1. However, each question should have an accessible beginning so that all candidates have access to all questions and candidates of lower ability do not lose confidence by facing questions of high difficulty early in the paper. For these reasons, there are no 'common' questions between Foundation and Higher Tier. Instead, the differentiation between the tiers comes from the level of demand of the questions and, to some extent, from the types of question and mark allocations for the questions.

The papers will contain a variety of question types: multiple choice, sentence completion, matching and short answers. The short answer questions will usually be worth between one and three marks, although candidates may encounter a four-mark question on the Higher Tier papers.

At Higher Tier, about one-quarter of the paper will be made up of short answer questions; this will rise to around one-third for Foundation Tier. The remainder of the papers will be made up of slightly longer questions (with Foundation Tier having more two-mark than three-mark questions), the likelihood of a four-mark question at Higher Tier; and then the six-mark extended writing questions.

The extended writing questions are usually worth six marks. It is most likely that they will appear in Q5 and Q6; although there may be examples of an extended writing question appearing in Q4, allowing Q5 to be comprised of a greater number of shorter structured questions.

The extended writing questions will give candidates the opportunity to show depth of knowledge, or to consider a scientific issue or practical scenario. It is likely that there will be some stimulus material to prompt the candidate's answer – this stimulus material should be accessible enough that even lower ability candidates will be encouraged to attempt these longer questions. The marking of these questions will be through a levels-based mark scheme, with candidates being placed into one of three levels based on the scientific content of the response. Each level will be a two-mark band (1 – 2 marks; 3 – 4 marks and 5 – 6 marks). The final mark within the level may also be influenced by the quality of written communication in the answer

Tiering

The new GCSE in Science has two tiers: Foundation Tier for those candidates working at grades G – C; and Higher Tier for those performing at D – A*. One of the hardest decisions is where candidates performing around the C/D level should be tiered.

This will depend on your judgement, taking into account:

1. the nature of the different exam papers and whether the candidate is best suited to one-mark answers, or can often earn marks in longer answer questions
2. how the candidate would deal with Higher Tier papers – by rising to the challenge or by becoming despondent due to the difficulty
3. how likely it is that, between entry and examination, the candidate can improve performance to allow a good attempt at a Higher Tier paper
4. how well the candidate scores on practice papers at both tiers.

If a candidate is very good at two of the sciences, but weaker at the third, then remember that a good performance in one or more papers can compensate for poorer performance in another.

As you can see in the uniform mark scale examples on the following pages, Higher Tier candidates do get rewarded with uniform marks, even if they are below the official D grade cut-off for the Higher Tier papers.

Many teachers will be familiar with tiered papers where some questions – those aimed at the C/D candidates – are common to both tiers. In this specification, there are no common questions between the tiers, but there are differences between the question papers:

1. The Foundation Tier papers have questions with lower mark allocations - more 1-mark questions, with the bulk of the remaining questions being worth 2-marks, with one or two 3-mark questions and the two extended writing questions
2. The Higher Tier papers have fewer 1-mark questions, then more of a range of 2-mark and 3-mark questions, and often a 4-mark question, as well as the extended writing questions
3. The language of the papers and the degree of support given to candidates to help them access the paper is also greater in Foundation Tier.

Candidates can take a combination of Foundation and Higher papers, and this may be of use for candidates who are less strong in one of the three sciences. Candidates entered for Foundation Tier can only achieve a grade C for that paper, and this will limit the uniform marks they can score.

Reporting of marks

Each externally-assessed unit is marked out of 60 and, at Awarding, the raw mark will be converted to a uniform mark out of 80.

The internally-assessed units are marked out of 50 (for Additional Science, Further Additional Science and separate sciences), but out of 48 for GCSE Science. These raw marks, after moderation, will also be converted to uniform marks out of 80.

The uniform mark scale is always arranged (at GCSE) so that 90% of the total uniform mark is an A*, 80% is an A, 70% is a B and so on. Remember that the conversion to uniform mark is not as simple as just saying "40/60 must be $40 \times 80/60$ to get it to a UMS mark out of 80". Uniform mark conversion works by fixing all grade boundary marks (A, C and F) and, using these fixed points, scaling all other marks between these grade boundaries.

This table shows uniform marks against grades for each unit.

Untiered uniform mark score (unit)	72	64	56	48	40	32	24	16
Foundation Tier uniform mark score (unit)			(55)	48	40	32	24	16
Higher Tier uniform mark score (unit)	72	64	56	48	40	36		
Grade	A*	A	B	C	D	E	F	G

Remember that the different tiers target different grades, and so the range of uniform marks available to candidates at each tier is different. A candidate taking a Foundation Tier paper can only score a C grade at the very best and so the range of UMS marks available on the paper would be from 0 to 55. For Higher Tier candidates, the highest possible UMS mark is 80. The Higher Tier paper is aimed at A* – D (and an allowed E) so the 'normal' range of uniform marks goes down to 36 uniform marks. Higher Tier candidates who do not score enough marks to be awarded an E grade are not given a uniform mark of 0 – they are given uniform marks on a scale from 36 down to 0, depending on their raw mark, although the grade reported to them will still be 'U'.

You may be more used to the total uniform mark score for a paper being 100 (and the numbers therefore being a little easier) – for technical reasons this was not used for GCSE in Science. However, this table will enable you to match the uniform mark score on a paper to a grade with ease.

This table shows full uniform marks against qualification grades

Untiered uniform mark score (GCSE)	288	256	224	192	160	128	96	64
Grade	A*	A	B	C	D	E	F	G

As each GCSE comprises four units, the uniform mark total for each GCSE is 320. Again, 90% of the total uniform marks would yield an A* grade, 80% an A grade and so on.

For an example, a teacher estimates that a candidate is working around the C/D boundary and performs better in biology and chemistry than he does in physics. The candidate is therefore entered for B1 and C1 at Higher Tier, but P1 at Foundation Tier. His results (in uniform marks) are 48 for B1 (C grade), 42 for C1 (D grade) and 34 for P1 (E grade). The candidate also scores 40 for the controlled assessment, making a total for GCSE Science of 164 uniform marks (D grade).

If the same candidate had been entered for all the units B1, C1 and P1 at Higher Tier, it is likely that his performance on the more demanding P1 Higher Tier paper would be poorer. As the decrease in uniform marks below D grade is quite rapid at Higher Tier, he may achieve a lower uniform mark on the Higher Tier paper than on the Foundation Tier. Hence, if this candidate scored the same uniform marks of 48 for B1, 42 for C1 and 40 for the controlled assessment, but only 28 uniform marks for P1, the overall uniform mark for GCSE Science would be 158 (E grade).