

GCSE Maths

Spring hub network meeting

Tier choices

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Tiering choices

How common questions can support your decisions

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One of the main challenges of the new GCSE was deciding which tier to enter students into. Looking at the results of the summer 2017 exams suggests that teachers made the right choice between Foundation and Higher for the vast majority of students, but even in the second year of the new specification, the decision is still a tough one for many teachers.

In this guest blog, Fay Sheppard, Director of Maths for United Learning, shares her approach of using performance on common questions to help inform tiering decisions, and also explains how common question tests can be used to support students.

Common questions and how you can use them

As Director of Maths for a group of schools across England, a big part of my role in 2016/17 was providing guidance on delivering the new GCSE, securing positive outcomes in the 5+ measure: a key part of that was making sure students were entered for the right tier for them. One area that I'm convinced supported these decisions was the use of common questions.

Common questions are the questions that appear on both the Foundation and Higher Tier papers of an exam series. They address the 'standard' or 'underlined' specification content, but not the 'bold' specification content. Ofqual requires that common questions account for at least 20% of the marks available on each paper. Across the three AQA papers from summer 2017, common questions accounted for 28% of the available marks (67/240).

In the schools I work with, we extracted these common questions from the exam papers and compiled them into mini-papers to set our students (allowing 20–30 minutes for completion, depending on the number of marks). AQA have compiled the common questions from their summer 2017 exam papers into three common questions tests.

Below are a few examples to show how we use students' performance on these mini-papers to inform the choice of which tier to enter them for.

Case study: Using common questions to support tiering decisions

The following worked examples are based on students' results in mock exams in December 2017. (The students in Foundation have been following a hybrid course, focusing on 'underlined' specification content.)

We looked at how each student performed on the common questions, compared with the mean performance of students who achieved each grade in the AQA summer 2017 exam series. This data was provided by AQA and is summarised in the table below. For example, a grade 5 student on Foundation achieved nearly 55% on the common questions. We then worked out an indicative grade based on their performance on the common questions.

Grade	Mean performance on common questions (%)	
	Higher	Foundation
9	90.3	
8	81.9	
7	74.1	
6	65.3	
5	55.1	54.7
4	42.7	37.8
3	30.0	25.3
2		15.3
1		7.8
U		3.7

Mean performance on common questions at each grade of the summer 2017 GCSE Maths exams.

Source: AQA

Student A

Target grade: 5

Tier taken for mock exams: Foundation*

Total marks in mock exams (240): 139 (58%)

Mock grade (based on summer GB +4%): 4(-)

Common question performance: 46%

Common question indicative grade: 4

I would recommend entering this student for the Higher Tier because they are currently working at grade 4 and their performance on the common questions is in line with a grade 4 student from the summer exams. Although it would be possible for them to achieve their target grade 5 the Foundation Tier, there is potential for this student to work towards a grade 6 or higher if they are entered for Higher.

Student B

Target grade: 4

Tier taken for mock exams: Foundation*

Total marks in mock exams (240): 135 (56%)

Mock grade (based on summer GB +4%): 4(-)

Common question performance: 32%

Common question indicative grade: 3

This student would be better off remaining on the Foundation Tier. Although they have secured a grade 4 in the mock, their performance on the common questions was not strong, which suggests that they may find a lot of the Higher paper inaccessible.

Student C

Target grade: 5

Tier taken for mock exams: Higher

Total marks in mock exams (240): 48 (20%)

Mock grade (based on summer GB +4%): 3(+)

Common question performance: 36%

Common question indicative grade: 3(+)

In this case, the student would benefit from moving to the Foundation Tier, because they did not achieve a grade 4 or perform well on the common questions. Their marks are likely to have been scattered randomly throughout the papers, consolidating neither on Higher Tier questions nor on the initial common questions. They can still achieve their target grade on the Foundation Tier, and would have a far better experience between now and the summer exam.

Student D

Target grade: 8

Tier taken for mock exams: Higher

Total marks in mock exams (240): 50 (21%)

Mock grade (based on summer GB +4%): 4(-)

Common question performance: 61%

Common question indicative grade: 5

The results support this student staying on Higher, based on raw grade, target and common question performance. The low raw mark could be a result of a lack of exposure to the remaining Higher Tier content (given that the exams were taken in December).

Of course, this analysis is a fairly cold assessment of the students' performance, and doesn't take into account knowledge of the students themselves, their work ethic or personal situations, nor the experience that the student would have at either tier. However, I think it's important to have this as a starting point when making decisions about tier of entry.

Using common questions to support students

Common question papers can also be used to help raise the bar for Foundation students who are targeting a grade 4 or grade 5. They can be very effective in modelling the more challenging content when introduced to weekly lessons or during intervention time and can help build resilience by increasing the students' familiarity with the more challenging questions on a Foundation paper.

For Higher Tier students, performance on common question papers can be used to help ensure students have the necessary foundations to achieve a grade 6 or higher on the Higher paper. In the summer 2017 exams, grade 6 students achieved just over 65% on the common questions. If a student targeting grade 6 isn't performing in line with this on the common questions, but their overall grade from the raw mark suggests they are secure on the higher paper, it can highlight areas where intervention might be needed to ensure they have the basics covered. If their overall grade from the raw mark is low but their performance on common questions is secure, then it could indicate they need more exposure to the more challenging Higher Tier content.

More experience, more confident decisions

My experience of using common question papers with schools has been very positive. Foundation students slowly start to gain confidence and are less intimidated when taking mock papers. Higher Tier students realise that to be successful on the Higher Tier they need to have a secure core knowledge of the less challenging concepts.

We also now also have more data and experience to support whether the right tier decision is being made.

It's also worth noting that I've talked about the use of common questions in Year 11, but bringing their use forward would help indicate the right tier to enter a student for earlier, and support them in having the best chance of reaching the highest grade they can.

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