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Consultation outcome

# Analysis on changes to the assessment of mathematics, physics and combined science GCSEs in 2025, 2026 and 2027

Updated 13 November 2024

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## Summary

Ofqual consulted on the assessment arrangements for GCSEs in mathematics, physics and combined science in England in 2025, 2026 and 2027. Ofqual's consultation sought views on whether the use of formulae and equations sheets, as used in 2022, 2023 and 2024 for GCSE mathematics, physics and combined

science, should be continued for students taking these exams in 2025, 2026 and 2027.

Ofqual received 15,796 responses to the consultation.

The majority of respondents strongly agreed or agreed that:

- a formulae sheet should be provided in the exams for GCSE mathematics in 2025, 2026 and 2027.
- an equations sheet should be provided in the exams for GCSE physics and combined science in 2025, 2026 and 2027.

Ofqual's proposal was in response to the [decision by the Department for Education](#) (DfE) that it is not necessary for students taking exams in 2025, 2026 and 2027 to memorise all the formulae for GCSE mathematics or equations for GCSE physics and combined science.

## Background

On 3 October 2024, the [DfE decided](#) that it is not necessary for students taking exams in 2025, 2026 and 2027 to memorise the formulae for GCSE mathematics and most equations for GCSE physics and combined science. The longer-term expectations will be confirmed after [DfE's Curriculum and Assessment Review](#).

DfE asked Ofqual to carry forward arrangements from 2022, 2023 and 2024 requiring exam boards to provide students with support materials in their GCSE mathematics, physics and combined science exams.

Given DfE's responsibility for the subject content and Ofqual's responsibility for how that content must be assessed, Ofqual [consulted on proposals](#) to change the assessment arrangements. In line with DfE's request, Ofqual proposed that students should be given support materials that set out the formulae and equations they would usually have to memorise when taking exams in 2025, 2026 and 2027.

The consultation was open for responses between 3 October and 17 October 2024. It received 15,796 responses.

# Approach to analysis

The consultation on the assessment arrangements for GCSEs in mathematics, physics and combined science in England in 2025, 2026 and 2027 was published on Ofqual's website. It was available online and consisted of closed and open questions.

Two of the closed questions allowed respondents to indicate the extent to which they agreed or disagreed with the proposals. These questions used a 5-point scale (strongly agree, agree, neither agree nor disagree, disagree and strongly disagree). There were also open questions inviting comments.

The Equality Impact Assessment and Regulatory Impact Assessment sections each included a closed question asking respondents if there were any impacts of the proposals that Ofqual had not identified. Respondents were asked to respond with 'yes' or 'no'. These were followed by open questions where respondents could identify any impacts on equalities or regulatory considerations as a result of the proposals. Respondents were also invited to offer suggestions on ways to reduce or mitigate any impacts.

Respondents could choose to respond to questions in the consultation. They did not have to respond to them all. This analysis provides the number of responses received for each question. It also provides tables setting out the responses to the closed questions. There are some instances where percentages total more than 100. This is due to the rounding of the individual percentages.

Respondents were asked to identify which group they belonged to, for example: teacher or student. The total numbers for each respondent group are set out in the table below, based on these descriptions. The tables use these unverified self-descriptions.

All responses to the open questions have been read in full. The key themes that emerged are presented in the detailed analysis below.

A selection of comments from respondents have been included as quotes in the report to illustrate the main themes identified. Some quotes have been edited for clarity, brevity and to preserve anonymity but care has been taken not to change their meaning.

# Who responded?

There were 15,796 responses to this consultation.

The following tables present the number of respondents by type.

<b>Official organisational responses</b>	<b>Number of respondents</b>
Academy chain <sup><a href="#">[footnote 1]</a></sup>	450
Awarding body or exam board	8
Employer	17
Local authority	42
Other representative or interest group	22
Private training provider	15
School or college	1,510
University or higher education institution	8
<b>Total</b>	<b>2,072</b>

<b>Individual responses</b>	<b>Number of respondents</b>
Awarding organisation employee	17
Consultant	18
Examiner	32
Exams officer or manager	114
Governor	28
Parent or carer	3,680
SLT (senior leadership team)	311

Student	6,353
Student – private, home-educated of any age	161
Teacher (responding in a personal capacity)	2,621
Other	380
Not answered	9
Total	13,724

## Detailed analysis

This section reports the views of those who responded to the consultation proposals.

### Question 1

To what extent do you agree or disagree with the proposal that a formulae sheet should be provided in the exams for GCSE mathematics in 2025, 2026 and 2027?

Question 1 response	Count	Percentage
Strongly agree	14,104	89%
Agree	795	5%
Neither agree nor disagree	287	2%
Disagree	159	1%
Strongly disagree	342	2%

Total number of responses	Count
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Question 1: response provided	15,687
Question 1: no response	109
Total	15,796

There was strong support for this proposal, with 94% of respondents strongly agreeing or agreeing.

## Question 2

Do you have any comments on the proposal to provide formulae sheets in the exams for GCSE mathematics in 2025, 2026 and 2027?

There were 6,736 responses to this question. Many respondents expressed the view that providing a formulae sheet meant students could focus on learning to apply the formulae, which was a more important skill than rote memorisation. Exams could therefore provide a better indication of students' abilities.

“GCSE mathematics in my opinion should not be a test of memory. Students are taught for many years to hone their mathematical skills and fluency in the subject. Therefore I feel that having to remember formulae goes against this ideal. Suppose there was a 5 mark question where students feel confident how to answer it, but they remember a formula incorrectly, or not at all. Having to remember multiple different and complicated formulae can almost act as a barrier for some students. Restricting them from answering many questions if their memory is not the best, or simply leading to some students being unwilling to learn the topic at all ‘because I’ll never remember that formula so what’s the point?’ This mindset should be discouraged, and I feel that having the formulae sheet would prevent that.” (School or college)

“This is an excellent proposal that will benefit all students in the exam process. There is no need for students to be able to remember equations. We are not testing their ability as scientists or mathematicians, but simply their memory. It does not need to be this way. By supplying the equations we can still ensure they understand the subject as they will still need to select the right equation and then

use it correctly. This will also help to engage student who already find the volume of subject knowledge an overload to obtain better grades, be more engaged in the subject and allow each student to maximise their progress in the subject.” (SLT – Senior leadership team)

“Formulae sheets have now been provided in GCSE (9 to 1) mathematics exams since 2022. This has enabled more classroom time for teaching course content and the development of skills. The ‘gain time’ from not having to teach recall of formulae has allowed teachers to focus on application of content and ideas using formulae, enhancing student understanding. Whilst there may be some limited value to learning formulae, interpretation of a problem and accurate application of equations is a highly valued transferable skill that benefits students in the wider world.” (Awarding body or exam board)

Some of these respondents commented that it was unnecessary to memorise formulae, because students could always look them up in future, as is common practice in many workplaces and fields.

“Having worked in a maths based role my entire career, at no point has it been unrealistic to double check a formula you wish to use in the workplace. Exams testing memory are not useful in these fields in my personal experience. Rather the methods of application are relevant to the real life usage of these subjects and surely therefore more useful to gauge through examination.” (Parent or carer)

“[We] support these proposed changes as a meaningful advancement in education. Rather than viewing this initiative solely as a response to the COVID-19 pandemic, we believe it reflects a deeper understanding of effective teaching and pedagogical practices. Similarly, students will be encouraged to focus on grasping and applying mathematical concepts, moving away from the limitations of rote memorisation. While memorisation skills have their place and should be encouraged to some degree, they should not be the primary focus of assessment. From an engineering perspective, this approach aligns well with real-world practices where professionals routinely access various tools and resources to support their work. [We] support this directive as it prepares students for a professional environment where problem-solving skills and the application of knowledge are far more critical than rote memorisation.” (Other

representative or interest group)

Numerous respondents emphasised how these cohorts of students had experienced significant disruption to their education, through the COVID-19 pandemic, a lack of specialist teachers and teacher strikes. This meant they had missed out on learning key content and taking Key Stage 2 national assessments, which would have given them the experience of taking a formal exam.

“Students that have missed out on Years 7 and 8 have been greatly impacted both socially and in terms of education. Missing out on the normal experience in the crucial years of change from primary to secondary has had a large impact on the behaviour and social skills of the current Year 11s especially. Due to this we have been unable to fully learn the very basic foundation ideas that are crucial to development in KS4. As well as this, behavioural issues mean that many of those in the current Year 11 group are unable to understand the help that they need.”  
(Student)

“The current cohort of Year 11 children due to sit their GCSEs in 2025, were massively affected by COVID. They missed sitting their Year 6 SATs and also had a very staggered and disruptive start to their Key Stage 3 and 4 education. Anything that will help them to succeed will be of added value to them.” (Parent or carer)

Many respondents stated that formulae sheets would decrease students' stress levels and improve their wellbeing ahead of exams.

“Excellent proposal, supportive to the students in what is already a very stressful exam period.” (Parent or carer)

“I believe this proposal would be immensely beneficial to students across the UK. If these equations sheets are provided, it would result in students being less stressed, more prepared and happier.” (Student)



Several of these respondents mentioned the specific experiences of students with additional needs, disabilities and mental health conditions. They believed that providing formulae sheets improved the exam experience and outcomes for these students.

“The provision of a formulae sheet in lessons and the recent years’ GCSE mathematics examinations has reduced the cognitive fatigue experienced by deaf learners. It has subsequently reduced the associated anxiety and stress experienced by some learners during the intense assessment periods. The removal of a formulae sheet in examinations, and in some lessons to reflect memory recall demand of the examination scenario, would cause unnecessary additional anxiety and stress to deaf learners.” (Other representative or interest group)

“This would be of benefit particularly to kids with SEND needs as they sometimes cannot show how clever they are because they confuse a plus with a minus in an equation and so on. It would be a great move to give them the formulae as this would make them feel more relaxed.” (Parent or carer)

Some respondents mentioned issues relating to fairness. They considered providing formulae sheets to be appropriate as recent cohorts had benefitted from them and A level students did not have to memorise formulae.

“These pupils are still amongst those that were affected by the pandemic and to remove the same level of support that was given to the last few cohorts would unfairly disadvantage these groups.” (School or college)

“Students at A level are provided with some of the (same!) formulae when those at GCSE level haven’t been - GCSE students are far less academically mature and to not give them a formulae sheet would be a huge mistake.” (Teacher – responding in a personal capacity)

Several respondents commented on the design and content of the formulae sheets. These included comments about how the presentation of the formulae did not reflect

classroom practice, which could make them inaccessible to students. Respondents therefore suggested that the sheets could be redesigned in future.

“The Trigonometry (right angled) formula should be using O, A & H, as this is how students will have been taught. The sudden introduction of A, B and C (particularly for Foundation Tier students, who will never have seen the Sine or Cosine rule) is confusing and unnecessary.” (School or college)

“Feedback from centres shows that there is continued demand for the provision of formulae sheets for exams in GCSE maths. While maintaining the current format will ensure consistency, we are mindful of the feedback from teachers about issues with the format and the impact on accessibility for students. We therefore recommend that the use of the formulae sheet in its current format continues in 2025 but that there is an opportunity for awarding organisations to work together to identify whether small improvements could be consistently made to improve accessibility for the 2026 and 2027 series.” (Awarding body or exam board)

Some respondents said that formulae sheets should be provided permanently.

“We are strongly in favour of the provision of formulae sheets for GCSE mathematics in 2025, 2026 and 2027 (as set out in the consultation), and would be in favour of this continuing beyond 2027 examinations.” (Other representative or interest group)

“Formulae sheets should be given for the foreseeable future. This is not about COVID, this is about common sense exams.” (School or college)

Several respondents commented on whether formulae sheets should be provided for all the years mentioned in the proposal. Many of these respondents suggested that only students sitting exams in 2025 should receive them because they had experienced the greatest disruption to their education, whilst students sitting exams in 2026 and 2027 had been less affected.

“I believe those currently in Year 11 should receive formulae sheets as they missed majority of Year 7 due to having to do their work online which most students missed as they were ill. I don't think the other years should receive them however as they have and will receive full high school education without an interruption.” (Student)

Respondents who agreed and disagreed with the proposal commented on the timing of the announcement to provide formulae sheets in the exams for GCSE mathematics in 2025, 2026 and 2027. Some respondents appreciated how this arrangement gave clarity about what would be happening over the next 3 years. Others observed that the announcement could have been made sooner, as teachers had been preparing students on the basis that they would need to learn the formulae.

“This is great because it gives certainty. Every year for the last 3 years I have started teaching in September telling students they need to remember formulae to then have this overturned halfway through the year. To be certain that formulae are provided for the next 3 years is a much better plan.” (Teacher – responding in a personal capacity)

“It isn't fair to change expectations for students part way through their course. Those doing exams in 2025 were expecting to have to know the formulae and it is very demotivating for those who have spent a long time learning these to change requirements. For future years expectations should be made clear at least 2 years before the exam.” (Parent or carer)

The small proportion of respondents who disagreed with the proposal commented on several different themes. Many of these respondents asserted that learning the formulae was an essential part of understanding them and would better prepare students for further study. A number of respondents disagreed because they thought providing formulae sheets would increase grade boundaries as well as rewarding those who had not made the effort to learn the formulae. Some respondents argued that the pandemic had not affected these students' GCSE preparation, so they did not need formulae sheets.

“I strongly believe the equation sheets should not be provided for the maths GCSE for various reasons. It defeats the purpose of the time many students

spent learning these equations, assuming they wouldn't be given in the exam. Moreover, memorising can be extremely important for students as it can prepare them for their A levels, where they will probably need to memorise quickly and effectively due to the content.” (School or college)

“Students taking exams in 2025 will have only been affected in Years 6 and 7 which I do not believe affects their current knowledge of the curriculum. This will inevitably raise grade boundaries making them unfair towards students who studied the equations in past years and will put more work in as the questions will be much harder due to not needing to know equations. Resulting in students not getting the grades they deserve.” (Student)

Some comments from respondents were unrelated to the topic of the consultation. These included comments about other subjects and changing the format of assessments.

### Question 3

To what extent do you agree or disagree with the proposal that equations sheets should be provided in the exams for GCSE physics and combined science in 2025, 2026 and 2027?

Question 3 response	Count	Percentage
Strongly agree	14,364	91%
Agree	591	4%
Neither agree nor disagree	181	1%
Disagree	119	1%
Strongly disagree	460	3%

Total number of responses	Count
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Question 3: response provided	15,715
Question 3: no response	81
Total	15,796

There was strong support for this proposal, with 95% of respondents strongly agreeing or agreeing.

#### Question 4

Do you have any comments on the proposal to provide equations sheets in the exams for GCSE physics and combined science in 2024?

There were 5,947 responses to this question. Comments frequently reflected those made in response to question 2 about formulae sheets for GCSE mathematics.

Many comments raised common themes such as that rote learning of equations is unnecessary when it is possible to look them up. Respondents noted that this is the approach in further and higher education and employment. Some respondents pointed out that a data book is available in the exam for use by A level physics students. There were many comments that the skills of understanding, application and manipulation of the equation are more meaningful and should be the focus of the assessment of equations.

“Physics should be about application of the knowledge rather than rote learning equations.” (Teacher – responding in a personal capacity)

“In the modern world it is all about application of knowledge and finding which equations you need to use, using the internet. You are not testing a student’s ability to apply knowledge - if they don’t remember it, they have no chance of showing their skills.” (Academy chain)

“They are not expected to learn the equations at A level which means memorising equations is not a valuable skill going forward.” (School or college)

Many respondents said the education of students taking exams in 2025, 2026 and 2027 had been disrupted by the COVID-19 pandemic. This was because it took place while students were either at the end or towards the end of primary school. Respondents also commented that students doing GCSE exams in 2025 and 2026 did not do Key Stage 2 national assessments in 2020 and 2021 due to the pandemic. These GCSE exams will be students' first public exams and so support in the form of equations sheets is appropriate. Some respondents expressed the view that students doing GCSE exams in 2025 had been disrupted. However, those in 2026 and 2027 had not so equation sheets should only be provided for the 2025 cohort.

“These pupils are still amongst those that were affected by the pandemic and to remove the same level of support that was given to the last few cohorts would unfairly disadvantage these groups.” (School or college)

“I think that for the 2026 and 2027 exams, it would not be necessary to use equations sheets as these children would have been in Year 4 and Year 5. The effects were less detrimental.” (Student)

“Children sitting exams in 2025 missed sitting their Year 6 SATs due to the pandemic.” (Parent or carer)

Industrial action by teachers and a shortage of specialist physics teachers in some schools were mentioned as additional sources of disruption.

“Students sitting exams in 2025 faced huge disruption at pivotal stages in their education. Ongoing teacher shortages has meant my son has been without subject specialist teachers for long periods of time repeatedly throughout his secondary education.” (Parent or carer)

“I believe that the equation sheets should be given for exams in 2025 because COVID affected some crucial years of our education [...] We also had a lot of

strike days in year 9 and 10 that deeply affected our learning.” (Student)

Some respondents noted that the provision of equations sheets would make the exams less stressful for students and increase their confidence in the subject and in the exams.

“I think it’ll reduce some of the stress associated with taking exams which is welcome.” (Governor)

“Having to learn equations adds extra stress onto the students without any actual gain in understanding and definitely removes much of the enjoyment students would otherwise gain from the subject.” (Teacher – responding in a personal capacity)

“Students can focus their learning on application, and grow in confidence in this area, rather than on memorisation.” (Parent or carer)

Some respondents said that the education of students in 2025, 2026 and 2027 had been similarly disrupted to those in the previous years. As a result, it was fair to provide equations sheets so that exam outcomes are comparable.

“To maintain fairness across assessment seasons.” (School or college)

“These students have been just as affected by COVID absences from learning as those in previous years who have had the benefit of the equations sheets.” (Exams officer or manager)

Some respondents requested that equations also be added to the sheet to support students in GCSE chemistry and biology.

“Chemistry and biology also have calculations that involve using equations. Why

is the same not being applied to all sciences? It is not fair for just physics to have the equations provided. Many students are then confused and think they will have equations provided across all 3 sciences and this puts them at a disadvantage in chemistry and biology.” (SLT – Senior leadership team)

Some respondents said that equations sheets should always be provided to students in their exams for GCSE physics and combined science.

“We believe that the equation sheets for GCSE physics and combined science should be kept in place for future exam series. For students to identify the right formula to use, apply it to the information given and work out an answer is a valid assessment of their knowledge and understanding; there is no need for an additional test of memory.” (Other representative or interest group)

“This is a very sensible proposal and one which should become a long-term change to the assessment of physics.” (Academy chain)

Some respondents noted that with the provision of equations sheets, exam questions should not ask students to copy equations from the sheet.

“Questions where a mark is given for simply copying the equation to the question paper should also be removed.” (Teacher – responding in a personal capacity)

“Questions which give marks for ‘write down the equation which links...’ are not testing anything meaningful.” (Teacher – responding in a personal capacity)

As noted above, respondents who disagreed with the proposal made similar points to those that disagreed with the need for formulae sheets in GCSE mathematics. Respondents said that students in this cohort had not had their GCSE years disrupted by the pandemic, and some had already spent valuable time learning the equations. There was also concern about the impact of this support on grade boundaries and that progression to A level physics might be hindered if learning equations is not required. Respondents mentioned that a consultation on this issue



was too late for some current Year 11 students who had sat mock exams without the use of the equation sheet. Others mentioned that it was good that there would be clarity for 2025, 2026 and 2027.

“It was made incredibly clear to everybody that 2024 would be the LAST year that students would be provided an equation sheet. For this reason, many students have been spending lots of time learning these equations for the past few years and from my own experience, I have spent hours learning these equations over the past 4 years.” (Student)

“Students from 2025 were Year 6 during COVID meaning we haven’t been affected at all in secondary education, we have already learnt the equations as that was what we were told and prefer to not have the equation sheets and keep the grade boundaries lower.” (Student)

“Students need to have higher expectations about what is expected in terms of learning. Removing the need to learn key aspects of subjects does not prepare students for further study post-16.” (Local authority)

“This consultation should take place earlier so that the mock exams in the autumn term can reflect the same process and provision that the real exams will have e.g. equation sheets with all equations on.” (Teacher – responding in a personal capacity)

“Having clarity for the next 3 years will make a big difference to preparation for exams and I welcome this as opposed to yearly decisions.” (Teacher – responding in a personal capacity)

## **Equality impact**

As a public body, Ofqual is subject to the public sector equality duty. The

consultation considered whether these proposals might impact (positively or negatively) on students who share particular protected characteristics.

The protected characteristics under the Equality Act 2010 are age, disability, gender reassignment, marriage and civil partnerships, pregnancy and maternity, race, religion or belief, sex, and sexual orientation.

### Question 5

Are there other potential equality impacts that we have not explored?

Question 5 response	Count	Percentage
Yes	892	6%
No	14,893	94%

Total number of responses	Count
Question 5: Response provided	15,785
Question 5: No response	11
Survey total responses	15,796

Almost all respondents answered this question with most respondents, 94%, answering 'no'.

### Question 6

If yes, what are they?

There were 916 responses to this question, with some respondents who had answered 'no' to question 5 also providing comments. Many of the comments identified wider impacts that go beyond protected characteristics.

Some respondents expressed concerns that students with special educational needs and disabilities (SEND) would be disadvantaged by the proposals. A few respondents also expressed concerns that students for whom English is an additional language (EAL) or foreign language (EFL) could be disadvantaged by the proposals.

“SEND students may find it intimidating in its current format. It may also not translate well for those with a visual impairment.” (Teacher – responding in a personal capacity).”

“The formulae for maths are written in an unfamiliar format and this may mean that some SEND students may be disadvantaged trying to decode this.” (Academy chain)

“Text-based formulae sheets prohibit EAL and dyslexic learners from engaging in maths.” (Teacher – responding in a personal capacity)

Some respondents expressed concerns about the ways in which students have been affected by the long-term impact of the COVID-19 pandemic rather than identifying potential impacts directly resulting from the consultation proposals. For example, students, who due to the pandemic, did not take Year 6 SATs and lost learning time in Year 7 and Year 8. A few respondents commented that SEND students had been more affected by the COVID-19 pandemic than other students. This included that SEND students had not been able to access their normal learning support due to the pandemic.

“SEN have been especially affected by COVID – all stages of SEN – not just children with an Education, Health and Care Plan (EHCP).” (Student)

“The impact of Covid 19 lockdowns and transferring education to remote learning will have had an impact on students with SEN difficulties.” (Parent or carer)

Many comments related more generally to students with mental health needs and

those who struggle to retain and recall information, including formulae and equations. Respondents also emphasised the impact of cognitive load and working memory on SEND students. For example, SEND students who, due to their learning needs, find it difficult to retain and recall complex information or students who, due to their learning needs, struggle to process new information and instructions. Some of these comments were made more generally, rather than addressing the impacts directly associated with the consultation proposals.

“Memorising equations is having a negative impact on the students’ mental health.” (Teacher – responding in a personal capacity)

“For some neurodivergent children, and children experiencing anxiety, trauma or who have difficulty with working memory, being able to use formulae and equations sheets will help to reduce their anxiety and stress.” (Teacher – responding in a personal capacity)

“Children with dyslexia often struggle to remember things such as formulae but can be capable of using and understanding them.” (Parent or carer)

## **Question 7**

Do you have any suggestions for how any potential negative impacts on particular groups of students could be mitigated?

There were 2,020 responses to this question.

Most respondents suggested that while the proposals were welcome for providing additional support, further measures should be taken to maximise their effectiveness.

Some respondents suggested that the formulae and equations should be attached to specific questions or included in the question paper rather than as a separate sheet. Comments favouring this approach often noted that SEND students may struggle to organise and navigate between the question and the formulae or equations sheet.

“Relevant equations could be included in the correct section or question on the exam paper so that there isn’t a separate equation sheet. This could prevent some students finding the equation sheets confusing.” (Exams officer or manager)

“The incorporation of the formula into the actual question rather than it being in a separate formulae sheet. This reduces the need for students to “hunt the formula” which disadvantages those students with specific needs.” (Teacher – responding in a personal capacity)

A few respondents suggested that grouping the formulae and equations by topic could help students with navigating the formulae and equations sheets.

“Possibly grouping the formulae into the particular topic areas (group all the electricity equations together and forces equations together) to facilitate quicker location of the correct formula.” (Teacher – responding in a personal capacity)

“To help with navigating the equation sheet, it should be grouped into topics with headings for each block so you can quickly find where the equation will be, without giving away which one to use”. (Student)

Many respondents suggested that the formulae and equations sheets should be edited or printed in different formats to be more accessible for SEND students.

“Adjustments could be made for coloured overlays (if beneficial), larger font or adapted font style, read aloud or computer reader.” (Parent or carer)

“Ensure pupils with dyslexia or Irlen’s have their formulae sheets printed on the relevant colour paper.” (Parent or carer)

“Ensure that equations and formulae sheets are provided in formats accessible to students with visual impairments. This could include large print, Braille versions, or electronic formats that work with screen readers”. (Student)

Many responses fell outside of the scope of the consultation, rather than addressing possible negative impacts of the proposals or suggesting mitigations for groups of students. For example, returning to the use of coursework, allowing students to choose whether to use formulae and equations sheets or not, providing extra support for other subjects and making formulae and equations sheets permanently available to students. Some respondents also commented on the potential impact on grade boundaries.

## Regulatory impact

### Question 8

Are there additional activities associated with providing students with formulae and equations sheets in their GCSE mathematics, physics and combined science exams that Ofqual has not identified above?

Question 8 response	Count	Percentage
Yes	763	5%
No	15,022	95%

Total number of responses	Count
Question 8: Response provided	15,785
Question 8: No response	11
Survey total responses	15,786

Almost all respondents answered this question with the majority of respondents, 95%, answering 'no'.

## Question 9

If yes, what are they?

There were 662 responses to this question. Many of those who answered 'no' to the previous question also provided comments.

Some respondents commented that the formulae and equations sheets must be made available as soon as possible for the purposes of mock exams and student preparation.

“The formulae sheet must be agreed and sent to schools before 1 December 2024 to enable students to use this in mock exams.” (SLT - Senior leadership team)

“Schools will need to have copies available for practice examinations.” (Academy chain)

“Our schools and lots more will have mock exams in the next half term. I think it is essential to make decisions as quickly as possible so that the mock exams can represent what students will face.” (Teacher – responding in a personal capacity)

Some respondents commented that students would need to be taught how to use the formulae and equation sheets.

“Schools should be required to use them in teaching to familiarise all pupils so no unfair advantage.” (Parent or carer)

“Schools need to know well in advance of exams whether formulae sheets will be

used and what they will look like, in order that they can familiarise students with these papers and also make sure that they are used in mock exams in November.” (SLT - Senior leadership team)

“Teaching time to ensure pupils are familiar with them.” (Teacher – responding in a personal capacity)

A few respondents commented on the potential for increased burden due to formulae and equations sheets needing to be printed on coloured paper or with enlarged font for accessibility needs. This point is covered in more detail in the EIA section above but is exemplified specifically below in relation to potential increased burden.

“There could be an increased burden on centres in terms of exams officers at large centres preparing extra materials for GCSE mathematics, physics and combined science exams if the formulae are presented as separate documents or booklets.” (Awarding body or exam board)

“Some students required coloured copies due to SEND requirements. This puts a burden on exams officers and should also be supplied.” (Teacher – responding in a personal capacity)

## **Question 10**

What, if any, additional costs do you expect you would incur if students are provided with formulae and equations sheets in their GCSE mathematics, physics and combined science exams for 2025, 2026 and 2027?

There were 2,930 responses to this question. The majority of these responses expressed the view that there would be no or minimal costs. Some respondents also asserted that the proposal should be implemented regardless of the expense, while a few were unsure of the costs.



“None to schools, only benefits to more quality teaching and time spent embedding how to use the equations and combine them. More confidence for the students too.” (SLT - Senior leadership team)

“Some minimal printing costs associated with providing matching formulae sheets for internal assessments, although these can often be re-used.” (Teacher – responding in a personal capacity)

“No additional costs beyond what we would normally incur to provide students with the current sheets. If there are any changes, for example adding in diagrams to the mathematics formulae sheet, this could increase costs due to the increased number of pages of the insert.” (Awarding body or exam board)

Some of those who commented stated that there would be costs involved in producing the formulae and equations sheets and administering them during exams and mock exams.

“The cost to print and insert data sheets for GCSE maths, physics and combined science for summer 2024 was c£25k. The cost for 2025 should not be considerably different. Increases may be seen in 2026 and 2027 reflecting inflationary costs which impact on production.” (Awarding body or exam board)

“There is a printing cost to centres to use these in mocks to make the experience as realistic as possible and also being able to have these in the classroom to allow them to be referred to during teaching.” (Other representative or interest group)

## **Question 11**

Do you have any suggestions for alternative approaches that could reduce burden and costs?

There were 1,918 responses to this question. Many respondents suggested ways to reduce the number of printed copies of the formulae and equation sheets. These suggestions included laminating the sheets so they could be reused, displaying the relevant formulae or equations on a screen in exam halls, or incorporating them into the exam papers.

“The equation sheet could be projected on to a screen (wall) instead of being printed off.” (Teacher – responding in a personal capacity)

“To reduce the burden and costs associated with providing formulae and equation sheets for GCSE exams, several alternative approaches could be considered. One effective strategy is to offer digital access to these sheets through student portals, eliminating the need for printing and distribution costs. Additionally, incorporating the necessary formulae directly within the exam papers would streamline the process and save on material expenses.” (Student)

“An alternative approach to reduce burden and costs would be to incorporate the formulae sheet into the examination booklet itself, so either on the inside front cover or on the back cover would seem most sensible.” (Awarding body or exam board)

Several respondents mentioned the importance of clarifying the position on formulae and equations sheets promptly, to reduce the burden on all stakeholders. Some respondents also indicated that this change should be made permanent.

“Make a final decision, not just for the next 3 years. (School or college)

“No, maintaining the established and known sheets for students and teachers feels the fairest approach to reduce costs and burden. To alter these could increase the burden on teachers to adapt previous materials to match new sheets, increases the risk of students being prepared with the wrong sheets and could increase costs to print new materials for exam preparation.” (Awarding body or exam board)

“Make it a permanent change.” (Parent or carer)

Several respondents made comments about whether formulae and equations sheets should be provided. These reflect the details set out in earlier sections and have not been repeated here.

A number of respondents made comments that extended beyond the scope of the consultation. These included making significant changes to the examination system, providing extra support for other subjects, and more general references to exam boards and disruption to education due to the pandemic. Some respondents also commented on the potential impact on grade boundaries.

## **Annex A: List of organisational respondents**

When completing the consultation questionnaire, respondents were asked to indicate whether they were responding as an individual or on behalf of an organisation.

These are the organisations that submitted a non-confidential response:

- Access Education NW
- Acle Academy
- Airedale Academy
- Al-Aqsa Schools Trust
- Alcester Academy
- Alder Grange School
- Alderley Edge School for Girls
- Alec Reed Academy
- All Hallows Catholic College
- All Hallows RC High School
- Allerton Grange School
- Allerton High School
- Ambition Education Trust

- Anthony Gell School
- Applemore College
- AQA
- Aquinas College
- Aragon Industries
- Ardingly College
- Armfield Academy
- Arthur Mellows Village College
- Arthur Terry School
- Ash Manor School
- Ashby School
- Ashfield School
- Ashington Academy
- Ashlyns
- Ashmole Trust
- Ashton Park School
- Ashville
- Assessment Experience Special Interest Group (AESIG) at the Manchester Institute of Education at the University of Manchester
- Aston Manor Academy
- Athena Learning Trust
- Avanti Fields School
- Ballakermeen High School
- Bancroft's School
- Barnhill Community High School
- Barr Beacon School
- BATOD
- Beacon Academy
- Beaumont Leys School
- Beckfoot School
- Bede Academy
- Bedford Free School
- Beech House School
- Belle Vue Girls' Academy

- BET
- Beths Grammar School
- Biddenham International School and Sports College
- Birchwood High School
- Birkenhead Park School
- Bishop Heber High School
- Bishop Stopford School
- Bitterne Park School
- Blessed Carlo Acutis
- Bohunt Education Trust
- Bohunt School Wokingham
- Boldon School
- Bosworth Academy
- Bottisham village college
- Bourne End Academy
- Bournemouth School for Girls
- Brayton Academy
- Brentwood School
- Bristol Hospital Education Service
- British Dyslexia Association
- Brockhill Park Performing Arts College
- Brookfield Community school
- Broughton High School
- Brychall high
- Byrchall High School
- Cabot Learning Federation
- Cantell
- Cardinal Newman School
- Cardinal Vaughan Memorial School
- Carlton Academy Trust
- Carshalton High school for girls
- Carterton Community College
- Cartmel Priory CofE School
- Castle School

- Chace Community School
- Chailey School
- Chapel-en-le-Frith High School
- Charnwood College
- Charters School
- Cheam High School
- Chesterton Community College
- Chestnut Grove Academy
- Church Stretton School
- Churchdown School Academy
- Cirencester Deer Park School
- Clacton County High School
- Cloughside College
- Colne Community School and College
- Consilium Academies
- Conyers School
- Co-op Academies Trust
- Coop Academy Bebington
- Coppice School, Wolverhampton
- Cornwallis Academy
- Court Fields School
- Court Moor School
- Cove Junior School
- Crispin School
- Culcheth High School
- Culford School
- Da Vinci Academy
- Darwen Vale High School
- Dauntsey's School
- de Stafford School
- Delta Academies Trust
- Denmark Road High School
- Devizes School
- Ditcham Park School

- Dixons Fazakerely Academy
- Dixons Trinity Chapeltown
- DMAT
- Dormston School
- Dorothy Stringer School
- Dover Grammar School for Boys
- Dover Grammar School for Girls
- Droitwich Spa High School
- Dunraven
- EdAct and Edmonton County School
- Eden Girls Manchester
- Edgbarrow School
- Education Village Trust
- Eltham Hill school
- Elthorne Park High School
- Emmanuel Schools Foundation
- Emmaus School
- Ernulf Academy
- ESF
- ESTA
- Ethos College
- Exim Solutions
- Fairfax Multi Academy Trust
- Falinge Park High Park
- Faringdon Community College
- Farnborough Hill School
- Farnborough Spencer Academy
- Felixstowe International College
- Felixstowe School
- Finham Park 2
- Five Acres High School
- Fleetwood high school
- Folkestone School for Girls
- Fowey River Academy

- Foxford Community School
- Francis Holland School
- Frederick Gough School
- Freman College
- Furze platt senior school
- Garstang Community Academy
- George Abbot School
- Glebelands School
- Glenmoor and Winton Academies
- Goffs Academy
- Goldington Academy
- Gosford Hill School
- Great Wyrley Academy
- Guilsborough Academy Trust
- Guiseley School
- Haberdashers' Academies Trust South
- Haileybury Turnford
- Halliford School
- Hamble School
- Harris Academy Sutton
- Harrogate Ladies' College
- Harrow Beijing
- Hartland International School
- Harton Academy
- Hasmonean High School for Boys
- Hastings High School
- Hathershaw College
- Hazelwick School
- Heathside
- Henlow Academy
- Hermitage Academy
- Herschel Grammar School
- Hessle High School
- Heston Community School



- Heworth Grange School
- High Grange School
- Highfields School
- Highworth Grammar School
- Hills Road Sixth Form College
- Hillside High School
- Hitchin Boys' School
- Hodgson Academy
- Hollingworth Academy
- Holy Family High School
- Hope Tree School Ltd
- Horizon Community College
- Horndean Technology college
- Hounslow School
- Ilkley Grammar School
- Institute of Mathematics and its Applications
- Institute of Physics
- Institution of Mechanical Engineers
- Ivybridge Community College
- JanCresswell EdServe
- John F Kennedy Catholic School
- John Hanson Community School
- John Masefield High School
- Kelvin Hall School
- Keping School
- King Edward VI Handsworth School for Girls
- King James's School Huddersfield
- Kings Academy
- Kings Academy Prospect
- Kings Norton Girls' School
- Kingsmead Academy
- Kingsthorpe College
- Kingston Grammar School
- Kingswood House School

- Kip McGrath Ashfield
- Kirkbie Kendal School
- Lacon Childe School
- Lady Margaret School
- Lakelands Academy
- Lampton Academy
- Lancashire County Council
- Langley School
- Launceston College
- Lavington school
- Leeds City College
- Leehurst Swan School
- Leigh House Education Unit
- Lichfield Cathedral School
- Lincoln Christs Hospital School
- Lincoln Minster School
- Linton Village College
- Little Heath School
- London Academy
- London Mathematical Society
- London Park Schools Clapham
- London Park Schools Mayfair
- Long Field Spencer Academy
- Lord Wandsworth College
- Loreto Grammar School
- Lynn Grove Academy
- M Cubed Tuition
- Magdalen College School, Oxford
- Making Momentum CIC
- Malmesbury School
- Manchester High School for Girls
- Mandy's Tutoring
- Manor High School
- Manor School

- Mark Hall Academy
- Marshalls Park Academy
- Marshland High School
- Mary Webb School
- Mathematical Association
- Matrix Academy Trust
- Medical Tuition Service
- Melbury College
- Millfield Science and Performing Arts College
- Millthorpe School
- Monkton Wood Academy
- Moreton Hall
- Mortimer Community College
- Mulberry Schools Trust
- Mulberry Stepney Green
- Mulberry UTC
- Myton
- NAHT
- Newfield Secondary School
- Newman Catholic College
- North Chadderton School
- Nottingham Girls' Academy
- Nottingham University
- Oaks Park High
- Oasis Academy John Williams
- Oasis Academy Mayfield
- Oasis Academy MediaCityUK
- Oasis Academy Silvertown
- Oasis Community Learning
- OCR
- Oriel High School
- Ormiston Endeavour Academy
- Ormiston Horizon Academy
- Ormiston SWB Academy

- Ormskirk School
- Oundle School
- Our Lady of the Magnificat
- Our Lady's RC High School
- Outwood Grange Academies Trust
- Park Community School
- Parklands High School
- Parrs Wood High School
- Pearson
- Pendle Vale College
- Penistone Grammar School
- Perins School
- Pinderfields Hospital PRU
- Pittville School
- Pix Brook Academy
- Plantsbrook School
- Plympton Academy
- Polfair School
- President Kennedy School
- Princes Risborough school
- Priory School
- Q3 Academy Langley
- QEGS
- QEHS
- Queen Anne's School
- Queen Elizabeth Grammar School Wakefield
- Queen Elizabeth's Grammar School Ashbourne
- Queen Elizabeth's Grammar School Derbyshire
- Queens' School
- Rainham School for Girls
- RAISE Education Trust
- Ralph Allen
- Reddam House
- Redland Green School

- Regent's Park
- RGS Dodderhill
- Richard Rose Central Academy
- Richard Taunton Sixth Form College
- Rickmansworth School
- River Tees Secondary
- Roedean
- Rossington All Saints Academy
- Roundwood Park
- Royal Masonic School for Girls
- Royal Statistical Society
- Rushden Academy
- Saint Aidan's CE High School
- Saint Benedict CVA
- Saint Olaves Grammar School
- Salesian College, Farnbrough
- Samworth Church Academy
- Sancton Wood School
- Sandhurst School
- Saracens High School
- Scared Heart Catholic Secondary
- Seaford Learning Trust
- Selston High School
- Sevenoaks School
- Sharples School
- Shaw Education Trust
- Sheringham High School
- Shevington High School
- Shipston High School
- Shotton Hall Academy
- Shuttleworth College
- Sidmouth College
- Sir William Borlase's Grammar School
- Smithdon High School

- Spalding Academy
- Springfield School, Portsmouth
- St Aidan's CofE High School
- St Albans Independent College
- St Anthony's Girls' Catholics Academy
- St Bede's Catholic High School
- St Benedict's Catholic College
- St Cecilia's RC High School
- St Cuthbert Mayne Society
- St Cuthbert's Catholic High School
- St Dunstan's College
- St Edmund Campion Catholic School
- St Cuthbert's RC High School
- St George's CofE Foundation School
- St George's School, Ascot
- St Helen's School
- St John the Baptist School
- St Joseph's Catholic Academy
- St Joseph's Catholic College
- St Mary's College
- St Paul's Catholic High School
- St Peter's Catholic High School
- St Richard Reynolds Catholic College
- St Teresa's Effingham
- St Thomas Aquinas Catholic School
- St Thomas More Catholic High School
- St Mary's College
- STARS - Sutton Tuition and Reintegration Service
- Stephen Perse Cambridge
- Steyning Grammar School
- Stowe School
- Stradbroke High School
- Stratford upon Avon School
- Stuart Bathurst Catholic High School

- Sutton Coldfield Grammar School for Girls
- Sybil Andrews Academy
- Tapton School
- Tarleton Academy
- Temple Moor High School
- Testbourne Community School
- Tewkesbury Academy
- The Arthur Terry School
- The Bishop of Hereford's Bluecoat school
- The Bourne Academy
- The British School in The Netherlands
- The Buckingham School
- The Catholic High School Chester
- The Cedars School
- The Cooper School
- The Crypt School
- The Dean Academy
- The Deanery CofE Academy
- The Deanery
- The Derby High School
- The Discovery Academy
- The Education Alliance
- The FitzWimarc School
- The Folkestone School for Girls
- The Forest School
- The Grammar School at Leeds
- The Grange Academy
- The Hamble School
- The Hollins
- The Manor Academy
- The Mary Erskine School
- The Nicholas Hamond Academy
- The Oaks Academy
- The Oldham Academy North

- The Orme Academy
- The Pedmore High School
- The Petersfield School
- The Portsmouth Academy
- The Redhill Academy
- The Roseland Multi Academy Trust
- The Ruth Gorse Academy
- The Sir John Colfox Academy
- The Stanway School
- The Tiffin Girls' School
- The Urswick School
- The Winston Churchill School
- Thomas Estley Community College
- Thornden School
- Thornleigh Salesian College
- Thrive Trust
- Toothill School
- Trinity Academy Bradford
- Trinity School
- Tute Education
- Two Counties Trust
- Twynham School
- Unity College
- University Academy Long Sutton
- University of Sheffield
- Upper Shirley High
- Uppingham Community College
- Waddesdon School
- Wade Deacon High School
- Walker Riverside Academy
- Walsall Studio School
- Walthamstow School for Girls
- Warden Park Secondary Academy
- Weatherhead High School



- Wellington School
- West Buckland School
- West Country School Trust
- West Hill School
- Westfield School
- Westhoughton High School
- Westlands Secondary School
- Westside School Gibraltar
- Weydon School
- Whalley Range High School
- Wheelers Lane Technology College
- Whitmore High School
- Wildern School
- William Brookes School
- William Edwards School
- Wilmslow High School
- Wiltshire Dyslexia Association
- Winton Community Academy
- WJEC
- WLTC
- Woking College
- Wolgarston High School
- Wood Green Academy
- Wymondham College

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1. “Academy chain” is used in this analysis document as it was the description offered to respondents completing the online survey. It covers those responding on behalf of individual academies and groups of academies, where these form part of an Academy Trust. [↩](#)

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