

Debate Pack

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By Hannah Burnett,
Joe Lewis,
Alpesh Maisuria,
Nerys Roberts

The contribution of maths to the UK

1	Background	2
2	Parliamentary materials	6
3	Press and stakeholder materials	9
4	Press releases and government publications	11

Summary

A debate is taking place in Westminster Hall on Thursday 5 June 2025, on the contribution of maths to the UK. The debate is being led by Ian Sollom (Liberal Democrat, St Neots and Mid Cambridgeshire).

1

Background

1.1

Maths education

Education is devolved in the UK.

The approach of the previous Conservative government to supporting maths provision in education up to age 18 is covered in the Commons Library research briefing ['Maths to 18' in England](#). Some of these policies, for example the [Advanced British Standard](#), which would have seen all students study some level of maths at age 16 to 18, have been dropped by the current Labour government.

Schools

In July 2014, [Maths Hubs were launched across England](#) by the Coalition Government. The current network of 40 Maths Hubs supports all state-funded schools and colleges to improve maths education. It is coordinated by the [National Centre for Excellence in the Teaching of Mathematics](#).

The approach to maths across Maths Hubs is ‘teaching for mastery’. There are [several principles that underpin this](#) approach, including ensuring teachers can continually develop their specialist knowledge for teaching maths and designing a curriculum with coherent and detailed content that supports sustained progression over time.

Maths attainment

In summer 2024, [73% of pupils at the end of primary education in England \(key stage two\) met the government’s expected standard in maths](#) – the same proportion as in the previous year. However, pupils who were eligible for pupil premium funding (disadvantaged pupils) were less likely to meet the expected standard (59%) than their non-disadvantaged peers (79%).¹

At GCSE level, in summer 2024, 65% of all pupils achieved a standard pass (grade 4 or above) in English and Maths. Again, disadvantaged pupils were less likely to meet this threshold (43%) than their non-disadvantaged peers (73%).²

¹ Department for Education, [Academic year 2023/24, Key stage 2 attainment](#), 27 February 2025, [custom table](#)

² Department for Education, Academic year 2023/24, Key stage 4 performance 27 February 2025, [custom table](#)

Further education

Current post-16 options for studying maths in England include:

- A Levels in maths, further maths, and statistics
- Core maths qualifications, which are level 3 courses equivalent to an AS Level. They are studied alongside other level 3 qualifications and are designed to prepare students for the mathematical demands of university study, employment, and life by strengthening students' existing skills with a focus on using and applying maths.
- International Baccalaureate Diploma Programme (IBDP) maths certificate

Maths has been the most popular A Level subject for several years. In summer 2024, [there were around 100,000 entries for A Level maths and just over 17,000 for further maths in England](#), across all types of schools and colleges. Entries in maths A Level made up 12.2% of all A Level entries (11.3% in 2023). Both maths and further maths are majority male entry subjects – only 37% of maths A Level entries, and 27% of further maths entries were from females.³

Government policy in England requires full-time students aged 16 to 18 who have not achieved grade 4 or higher in GCSE Mathematics to continue studying the subject. This is a [condition of school and college funding for students aged 16 to 19](#). As an alternative to resitting GCSE maths, or alongside an apprenticeship, some pupils will take a [functional maths qualification](#), which aims to teach the numeracy skills needed in daily life and the workplace.

The [advanced mathematics support programme](#) (AMSP) provides resources and support to improve the teaching of post-16 maths and increase participation among under-represented groups, especially female pupils.

Since the 2024/25 academic year, there has been a [core maths premium of £900](#) to support participation in programmes with core mathematics qualifications. Schools and colleges may also receive the [advanced maths premium](#) for students undertaking an A Level in maths or other eligible level 3 qualification.

The [Multiply programme](#) was a £560 million initiative that ran from 2022 to 2025. It offered free numeracy courses to adults over the age of 19 who didn't have a grade four or above in GCSE maths. Its aim was to improve functional maths skills for daily life, home, and work. The [programme officially closed on 31 March 2025](#).

³ Joint Council for Qualifications, [GCE AS and A Level Results Summer 2024](#), Thursday 15 August 2024, published 15 August 2024, p17

Higher education

A report on maths in UK higher education, [published in 2024 for the London Mathematical Society](#) (PDF), found:

- The proportion of total first-year first-degree enrolments in maths fell from 34 in every 1,000 full-time equivalent first-degree students in 2012/13 to 29 in every 1,000 by 2021/22.
- There has been a “striking shift” of maths first-degree first-year enrolments towards high tariff universities, which require a high number of UCAS points for entry, and away from low and medium tariff institutions. In 2021/22, 58% of maths first-year undergraduate enrolments were in the research-intensive Russell Group universities. This contrasts with the distribution of students across all subjects, where the majority are in post-1992 universities.
- Relative to the overall higher education market, maths students are more likely to be men, of Chinese and Indian ethnicity, younger in age, and from advantaged socioeconomic backgrounds.

Higher education providers are independent, autonomous institutions free to determine which courses they run and how they are taught. In 2023/24, [there were just over 45,000 students enrolled on mathematical sciences courses in the UK](#). There were a further 436,000 students enrolled on courses related to maths, including computing (192,140), engineering and technology (179,015), and physical sciences (65,100).⁴

Higher education students training to be teachers in England can choose to specialise in maths teaching, which may make them eligible for bursaries and scholarships in addition to the standard student support available. [For 2025 to 2026, the Department for Education is offering:](#)

- A bursary of £29,000 or scholarship of £31,000 for postgraduate courses in maths. Scholarships have additional benefits and are awarded based on merit.
- A bursary of £9,000 for undergraduate courses in secondary maths.

UKRI’s [Engineering & Physical Sciences Research Council funding is between £25-30million](#) per annum per annum for grants, fellowships, and studentships for mathematical sciences.

⁴ Higher Education Statistics Authority, [What do HE students study?](#), 3 April 2025

1.2

Campaigning and commentary on mathematics

Value of maths to the UK economy

In October 2024, the Academy of Mathematical Sciences estimated that [mathematical sciences contributed £495 billion to the UK economy in 2023](#)—about 20% of the total UK Gross Value Added (GVA).

Campaign for Mathematical Sciences

The [Campaign for Mathematical Sciences \(CaMS\)](#), which is managed by the London Mathematical Society, “aims to advance the mathematical sciences for discovery, innovation and the economy... by supporting engagement and providing specialist advice in maths policy.” The campaign has argued that advanced maths skills boost productivity and command a significant wage premium. It has [called for the government to adopt a five-step plan to maximise the value maths skills bring to the UK](#):

- Create a National Mathematics Strategy to boost UK leadership across teaching, research, and innovation.
- Increase mathematical sciences research funding to support early/mid-career researchers and grow the talent pipeline.
- Support universities to prioritise maths teaching, preventing course closures and ensuring widespread provision.
- Invest in recruiting and retaining maths teachers, making it a top priority in the government’s strategy to recruit 6,500 new teachers.
- Foster academia-industry collaboration to accelerate R&D and maximize the UK’s mathematical potential.

In June 2025, CaMS highlights the contribution that mathematical sciences research is currently making to innovations in [artificial intelligence, cyber security, and defence](#).

2

Parliamentary materials

2.1

Parliamentary questions

Mathematics

20 May 2025 | UIN 51581

Asked by: Ian Sollom

To ask the Secretary of State for Education, what changes her Department has made to the Advanced Maths Support Programme.

Answering member: Catherine McKinnell | Department for Education

From September 2025, the focus of the Advanced Mathematics Support Programme (AMSP) will be tilted towards the following areas: supporting schools with low girls' progression to level 3 mathematics to implement evidence-driven strategies to encourage more girls into post-16 mathematics, supporting high-attaining KS2 disadvantaged students to progress to higher grades at GCSE and into level 3 mathematics, and courses to improve knowledge and skills on the key mathematical concepts and skills needed for artificial intelligence advancement and machine learning.

The AMSP will continue to deliver teacher professional development in level 3 mathematics (core maths, A level Maths and A level Further Maths) and higher-level problem solving and university entrance tests, and deliver online student tuition in A level Further Maths for 16-19 students in institutions that cannot offer the qualification.

Mathematics: Secondary Education

11 March 2025 | UIN 33285

Asked by: Connor Naismith

To ask the Secretary of State for Education, what steps she is taking to ensure students who would have benefitted from the Advanced Mathematics Support Programme are still provided with the same opportunities they may have otherwise had.

Answering member: Catherine McKinnell | Department for Education

The department is committed to ensuring all children and young people have a strong foundation in mathematics, both so they can thrive in the modern economy, and also so that they can understand and participate in modern society to the greatest extent, regardless of background and socioeconomic status. Additionally, advanced mathematics underpins the development of cutting edge artificial intelligence, which my right hon. Friend, the Prime

Minister has set out as a key driver in the Plan for Change, helping to turbocharge growth and boost living standards.

The Advanced Maths Support programme (AMSP) is a government funded programme that has a positive impact on mathematics education across England. The department is currently examining additional and alternative options which would support provision for advanced mathematics.

The department continues to work closely with the AMSP supplier, Mathematics in Education and Industry, to ensure high quality professional development and support remains available to schools and colleges so that all students, regardless of background, can access high-quality level 3 mathematics education. This includes improving level 3 mathematics teaching and providing alternative tuition for level 3 further mathematics students, to increase participation and attainment in advanced mathematics and removing barriers of social injustice.

Higher Education: Mathematics

11 February 2025 | UIN 28208

Asked by: Ian Sollom

To ask the Secretary of State for Education, what recent discussions she has had with universities on the importance maintaining the provision of maths.

Answering member: Janet Daby | Department for Education

My right hon. Friend, the Secretary of State for Education, recognises the critical importance of mathematics provision at universities. English universities are independent, autonomous institutions and are therefore free to choose which courses they run. The quality of these courses is assessed by the Office for Students, the regulator of higher education providers in England. The government acknowledges that robust mathematics education is essential for developing the skills needed in various sectors and for maintaining the UK's competitive edge in science, technology, engineering, and mathematics fields.

The government is committed to ensuring the provision of high-quality mathematics education across universities of all tariff levels. Measures include financial incentives to attract talented individuals into teaching key shortage subjects, such as mathematics.

2.2

Select committee inquiries

Maths Education

Select Committee oral evidence

4 March 2025 | Science and Technology Committee | House of Lords

Government plans for Maths to 18 and Schools Funding

Select Committee oral evidence

18 July 2023 | Education Committee | HC 1745 2022-23

3

Press and stakeholder materials

The following is a selection of news and media articles relevant to this debate. **Please note: the Library is not responsible for either the views or the accuracy of external content.**

[How England Should Reform Maths Education for the Age of AI](#)

Maths Horizons

2 June 2025

[UK government to encourage more girls to study maths for AI-related careers](#)

National Technology News

6 May 2025

[English and maths rule scrapped for adult apprentices, DfE confirms](#)

FE Week

11 February 2025

[Boys in England significantly outperforming girls in maths and science](#)

University College London

10 March 2025

[Cuts to advanced maths scheme ‘short-sighted’](#)

Schools Week

30 January 2025

[GCSE English and maths reform: what are the options?](#)

Association of Colleges

16 January 2025

[Maths homework doesn’t have to end in tears: There is another way](#)

British Education Research Association

10 January 2025

[Labour scraps UK’s planned national academy for mathematics](#)

Times Higher Education

26 September 2024

[The Royal Society calls for a radical reform of maths education](#)

The Royal Society

3 September 2024

[Maths degrees are becoming less accessible – and this is a problem for business, government and innovation](#)

The Conversation

2 May 2024

[UK pupils' science and maths scores lowest since 2006 in international tests](#)

The Guardian

5 December 2023

[9 key findings from Ofsted's maths subject report](#)

Schools Week

13 July 2023

4

Press releases and government publications

[More girls to study maths under plans to improve pathway into AI careers](#)

Department for Education

6 May 2025

[International comparisons of education](#)

Department for Education

17 January 2025

[Engagement with the Maths Hubs Programme](#)

Department for Education

4 December 2024

[Coordinating mathematical success: the mathematics subject report](#)

Ofsted

13 July 2023

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