

Joint statement on Core Maths qualifications

## The importance of promoting Core Maths as practical and valuable qualifications

### The value of mathematical skills in the 21st century

Core Maths are fully approved post-16 qualifications that focus on understanding mathematics\* and data in the real-world and on equipping students for their post-16 studies and for employment.

The ability to manipulate and reason using numbers is increasingly important for young people wishing to progress into employment or higher education in many different fields. Mathematical skills are crucial for making sense of the increasingly data-rich and technical world we inhabit. They also empower us in our daily lives to make decisions about how to understand and interpret data presented in the news, and to make informed financial decisions.

Our previous research has shown these skills are central to achieving two of the Government's major policy priorities: making the UK a science superpower and 'levelling up' – they enhance workforce capabilities and support research in universities and industry<sup>1</sup>.

However, there is a substantial unmet demand from UK employers for quantitatively skilled people from all disciplines – arts, humanities, sciences and social sciences. This unmet demand, in a range of roles and sectors<sup>2</sup>, is for knowledge and skills at a higher level than can be gained through qualifications taken at the age of 15 – 16.

### The national need

England is unusual among world-leading economies in that the study of mathematics is not universal for all students beyond age 16<sup>3</sup>. Approximately 80% of students in England with a grade 4 (formerly grade C) or above in GCSE Mathematics choose not to study mathematics after age 16 (equivalent to at least 271,000 individuals in 2015/16)<sup>4</sup>.

However, many of these students will progress to further study and employment where mathematics is highly relevant. It is therefore crucial that more young people study mathematics beyond age 16.

\* Mathematics is interpreted here in its broadest sense to include quantitative skills, statistics and data analysis.

1. British Academy 2015 Count us in: quantitative skills for a new generation. London: British Academy. See <https://www.thebritishacademy.ac.uk/publications/quantitative-skills-count-us-in/> (accessed on 14 January 2022).
2. British Academy 2020 Qualified for the future: quantifying demand for arts, humanities and social science skills. London: British Academy. See <https://www.thebritishacademy.ac.uk/publications/skills-qualified-future-quantifying-demand-arts-humanities-social-science/> (accessed on 14 January 2022).
3. Hodgen, J, Pepper, D, Sturman, L & Ruddock, G 2012 Is the UK an outlier? An international comparison of upper secondary mathematics education. London: Nuffield Foundation. See <https://www.nuffieldfoundation.org/project/is-the-uk-an-outlier-in-upper-secondary-maths-education> (accessed on 14 January 2022).
4. Smith, A 2017 Report of Professor Sir Adrian Smith's review of post-16 mathematics. London: Department for Education. See [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/630488/AS\\_review\\_report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/630488/AS_review_report.pdf) (accessed on 14 January 2022).

### Meeting the need

Core Maths has a key role to play in achieving the ambition for a ‘high skills, high wage’ workforce and a thriving economy. These qualifications have been designed specifically to meet this national need.

They have significant value for students. They raise skill levels in using and applying mathematics through developing problem-solving skills in realistic contexts. These skills are valuable whatever further study, training or employment students progress to.

All students should in future have the opportunity to study Core Maths in addition to other post-16 courses.

### Our support for Core Maths qualifications

The Royal Society and the British Academy strongly support Core Maths qualifications. These are equivalent to an AS level and are suitable for all students who have at least a grade 4 in GCSE Mathematics.

We believe that there is an overwhelmingly strong case for increasing the mathematical and quantitative problem-solving skills of young people and that learners should continue some form of mathematics until age 18<sup>5</sup>.

### Conditions for increased uptake

The Academies believe that the following conditions must be met for the potential of Core Maths qualifications to be realised:

1. Government should provide additional funding to ensure all schools and colleges can offer Core Maths and that teachers receive the professional development required to teach it with confidence.
2. Universities should encourage and incentivise prospective undergraduates to take Core Maths by including it as part of alternative entry requirements for subjects that have a mathematical component but do not require an A level in the subject.
3. Sector Skills Councils and the Department for Business, Energy and Industrial Strategy (BEIS), among others, should endorse Core Maths and promote its value to employers as a mechanism for meeting their unmet needs for a mathematically skilled workforce.
4. Employers should consider offering Core Maths as a professional development opportunity for employees.

### The future

The Academies will work with stakeholders to ensure these conditions are met. This will deliver immense benefits for individuals and is vital for the success of the UK economy and a thriving society.

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5. Royal Society 2020 Signalling the value of studying mathematics post-16: time for a concerted and sustained boost. London: Royal Society. See <https://royalsociety.org/topics-policy/education-skills/mathematics-education/royal-society-acme/signalling/> (accessed 14 January 2022).