CPD

MEI is currently running a series of CPD courses entitled “Underground Mathematics: Resources to address the requirements of the new A level”. These courses are designed to maximise the impact of our resources in the classroom, and are free of charge to A level mathematics teachers from state-funded schools and colleges in England.

More information can be found on the MEI website at www.mei.org.uk/underground-mathematics.

Underground Mathematics community

Our half-termly newsletter will keep you up-to-date with the latest news and developments at Underground Mathematics, such as new resources, teachers’ descriptions of using resources with their students, and details of any forthcoming events. To sign up for the newsletter, visit undergroundmathematics.org and create a login for the site.

This login will also allow you to join the discussion about using our resources. We are actively seeking feedback from teachers, especially based on their experiences of using our resources with students. Share these with other teachers and the Underground Mathematics team by using the Discuss link that you will find at the top of each resource on the website.

Please contact info@undergroundmathematics.org with any enquiries.

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@UndergroundMath

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underground mathematics

Rich resources for teaching A level mathematics

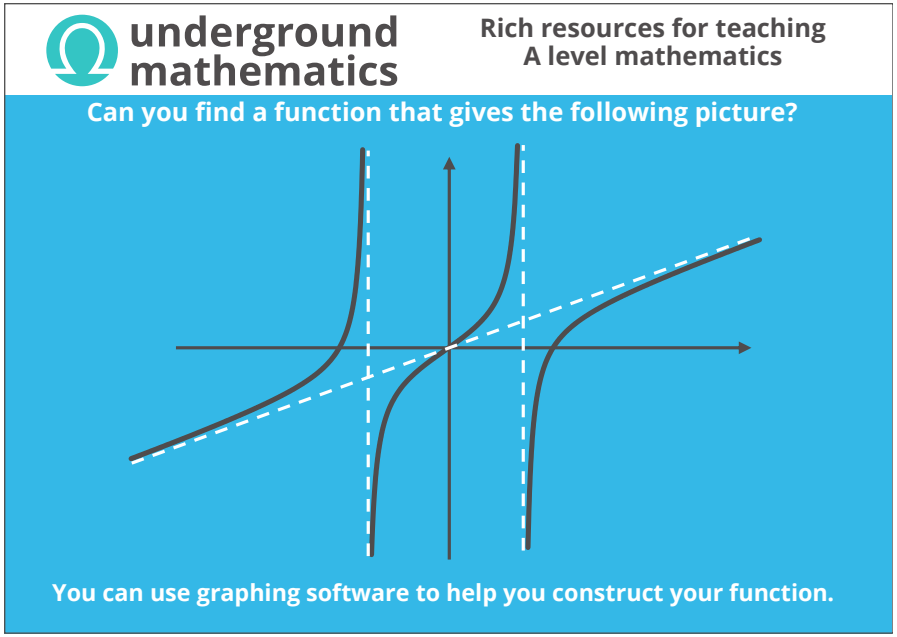
Enabling all students to explore the connections that underpin mathematics

Underground Mathematics (undergroundmathematics.org) offers free web-based resources that support the teaching and learning of post-16 mathematics and is funded by a grant from the UK Department for Education. Underground Mathematics started in 2012 as the Cambridge Mathematics Education Project (CMEP). We provide creative resources that help to make Key Stage 5 mathematics a richer, more coherent and more stimulating experience for students and teachers alike.

Partner schools from across England have been recruited to work closely with the project team. Workshops in Cambridge provided an opportunity for the Underground Mathematics team and teachers from partner schools to work together over three or four consecutive days. Teachers gave detailed feedback on the pilot website, shared their experiences of using the resources and engaged with wider aspects of the project.

UNIVERSITY OF CAMBRIDGE

Department for Education



The Underground Mathematics team believes that everyone should have the opportunity to be mathematical and to succeed mathematically. Intelligence and ability are not fixed: we can all develop our skills and understanding in many ways. A key activity is to grapple with problems that one does not yet know how to solve and exchanging questions and ideas is a valuable aspect of working mathematically.

We have developed resources, many of which are low threshold, high ceiling, combining solving problems, mathematical reasoning and fluency. We believe that it is important that all students should work on resources of this type, not just those who already achieve highly or who may be planning to study mathematics at higher levels.

Our resources support teachers in the classroom. They help students build firm foundations for mathematical understanding by connecting ideas and developing techniques. They are designed to stimulate students' curiosity and elicit the discovery of ideas, encouraging students to pose questions, reflect and collaborate, deepening their individual understanding.

undergroundmathematics.org

The structure of our website reflects our perspective that mathematics is a coherent and connected enterprise. The mathematics content has been organised along a system of thematic tube lines. Alongside lie 'pervasive ideas', mathematical ideas that permeate topics throughout Key Stage 5 mathematics, such as transformations, symmetry and averages. We want to build awareness of these ideas so that it can lead to insight and opportunities to make connections.

Each station on our tubemap features an overarching question. In addition, there are key questions that students should be able to answer by the time they leave the station. At each station, you will find a range of teaching resources, often with teacher notes to support their use in the classroom. Within a resource we may provide additional insight into the problem, suggest alternative approaches or highlight links to other areas of mathematics. When appropriate resources are selected, students should benefit from tasks that provide the opportunity for deeper understanding to develop.