

# Challenging topics in the new GCSE: developing updated teaching approaches to match the new landscape

NCP17-12



## Overview

Work Groups in this national project, across the Maths Hubs Network in England, aim to gather evidence from teachers' early experiences with the new maths GCSE, with particular emphasis on how a new mix of challenging topics (for students and teachers) has emerged. Informed by this experience, Work Groups will develop new, or re-shaped, teaching approaches that match the new challenges and that, once embedded, will help students succeed, at both Higher and Foundation level.

### Who is this for?

The Work Group will largely consist of pairs of teachers from up to half a dozen secondary schools. Ideally each pair will comprise one teacher with a curriculum responsibility within their department and one other teacher, perhaps a non-specialist.

### What is involved?

- Three half-day Work Group sessions: 19<sup>th</sup> April / 17<sup>th</sup> May / 21<sup>st</sup> June
- Participants will agree to focus on one challenging topics: Quadratic Equations
- Work Groups will develop and share teaching activities and approaches designed to have immediate impact with KS4 students
- Work Groups will also develop and share teaching activities for KS3 students which better prepare them for the chosen topic
- Participants will evaluate the success of the activities and approaches

## Intended Outcomes

- Participant teachers develop deeper understanding of why certain topics are challenging (for both students and teachers) including factors associated with student experiences in KS3
- Maths departments in participant schools, through collaboration and experimentation, develop new and shared ways of preparing for, and teaching, challenging topics
- Pupils become more confident in their own skills and abilities, developing a deeper and more connected understanding of prior content thus enabling them to better tackle the challenging topics.

## The wider context

The changes to GCSE Mathematics, with new and deeper content moving into both Higher and Foundation areas, have created challenges for both students and teachers. At both tiers, teachers have found themselves teaching 'new' topics, and perhaps topics that challenge their own subject knowledge. At the same time, at both tiers, students have been confronted by topics that, based on their prior attainment, have stretched them significantly. To address this changed landscape, it is helpful to stand back, take stock from the first year's experience of teaching and exam-sitting, and explore ways to adjust teaching approaches to maximise the chances of future cohorts of KS4 students being taught these new topic areas more effectively. A fruitful way of doing this is for teachers from different schools to compare notes, share current and previous experiences, and collaborate to develop effective models both of individual teacher professional development and of departmental working.

## Expectations of participants and their schools

Participating teachers will be expected to:

- Share ideas and activities with others
- Reflect critically upon their own teaching approaches
- Trial a range of approaches, strategies and activities agreed upon by the Work Group

Maths departments in participating schools will be expected to:

- Support the participants by allowing them to trial activities and to disseminate findings at departmental meetings

## Funding

There is no charge for teachers and schools to take part in this Work Group. All costs are met by Maths Hub funds. Supply cover funding can be paid for the first 8 teachers who book a place on this course. This is paid to the delegate's School at £100 / session.

## Who is leading the Work Group?

**Sinead McKeever** has worked as a Mathematics teacher for 5 years. She currently works at Wycombe High School and holds the role of Key Stage Four Leader in Mathematics.

## If I'm interested, what next?

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