

Mathematical Thinking for GCSE

Work Group Information Sheet

NCP 19-17



Overview

Teachers or departments keen to address the reasoning and problem-solving challenges of the mathematics curriculum and its assessment at GCSE are encouraged to take part in this project. Work Groups will explore professional development activities focusing on practical and accessible classroom-based approaches. The activities themselves also offer a model for wider departmental engagement with professional development processes, and hence could provide the basis of an effective departmental improvement programme in this area.

Who is this for?

All secondary maths departments and teachers wishing to begin or continue a programme of professional development to address the reasoning and problem-solving challenges of the mathematics GCSE. The approaches attempt to address not only the longer development of these skills across all teaching, but also the needs of current KS4 students as they approach GCSE.

In order to maximise the wider impact of the professional development across the department, it is suggested, where possible, that each school sends two members of department, at least one of whom is experienced and has some leadership responsibility within the department.

What is involved?

This Work Group is comprised of four one day sessions.

- **Session 1:** Tuesday 12th November 2019 (9:30 - 16:00)
- **Session 2:** Tuesday 14th January 2020 (9:30 - 16:00)
- **Session 3:** Monday 23rd March 2020 (9:30 - 16:00)
- **Session 4:** Friday 26th June 2020 (9:30 - 16:00)

These sessions will take place at:

[Harris Federation Head Office](#), 4th Floor Norfolk House, Wellesley Road, Croydon, CR0 1LH

Intended Outcomes

Participant teachers, and their departments will:

- Acquire a deeper understanding of the role of reasoning and problem-solving in the maths curriculum, and how these skills are tested at GCSE.
- Broaden their repertoire of classroom approaches to support the development of students' mathematical reasoning and problem-solving skills in all lessons.
- Understand how to plan for further improvement to embed and sustain progress in this area.
- Begin to see students demonstrate increased confidence in reasoning and problem-solving, while deepening their understanding of the maths content itself.

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The wider context

This national collaborative project focusses on one of the national maths education priority areas relating to '*supporting schools and colleges to address the challenges of teaching GCSE Mathematics.*'

Each Maths Hub participating in a national project runs a local Work Group, where teachers come together over a period of time to work on areas defined by the project. All Work Groups are subject to a common evaluation process, which collectively provide a body of evidence on the project's outcomes. So, your participation in this Work Group will contribute to your own professional learning, and that of your school colleagues, as well as making a contribution to the improvement of maths education at a national level.

Expectations of participants and their schools

In general, participants should:

- ✓ Ensure they have support of their school and attend **all** the workshops.
- ✓ Engage in pre-work group materials and surveys.
- ✓ Engage fully and professionally in the workshop activities.
- ✓ Be mindful to maintain the trust and confidence of the Work Group, understanding the different contexts of each individual participant.
- ✓ Participate in the gap tasks.
- ✓ Maintain the learning journal/reflective log where required.
- ✓ Complete the evaluations required by the Work Group.

Funding

There is no charge for teachers and schools to take part in this Work Group.

Who is leading the Work Group?

Eileen Coan. After running a large mathematics department in Hounslow Eileen spent several years as the Mathematics Adviser for Bromley, then Croydon. She was a Senior Adviser with the secondary National Strategies mathematics team. She currently works as a Curriculum Adviser for the Standards and Testing Authority and is a NCETM PD lead.

If you're interested, what next?

To book your place please visit:

<https://www.londonhamesmathshub.com/secondary>

For more information please contact:

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