

Raising confidence delivering the harder GCSE topics

Work Group Information Sheet

WRK 926492

Overview:

The current GCSE Mathematics specification sees a number of topics that are taken to a much higher level than in previous years. The specification has also introduced an increased emphasis on problem solving and mathematical reasoning. These issues present further problems for inexperienced and non-specialist teachers of higher level GCSE maths.

Who should attend?

Teachers lacking confidence to teach the harder GCSE topics. These could be non-specialists, maths teachers that do not have a maths degree or maths teachers that have not taught the new Higher level GCSE.

What is involved?

6 x full day workshops with 5 lesson study style gap tasks.

Each workshop will focus on one area of the curriculum:

- Quadratics
- Trigonometry
- Indices & Surds
- Circles
- Probability
- Vectors

Participants will look at the GCSE specification for each topic area in detail. They will look at how the topic is assessed and how to effectively break down the topic into stages for progression in learning. The skills required for each topic will form the basis of the session, plus how to build in opportunities to problem solve with application questions. Participants will complete a gap task between each session which will involve collaboratively planning with a colleague in their department and delivering a lesson using a lesson study model.

Dates and venue TBC

Intended outcomes:

Professional Learning – teacher will

- spend time with likeminded colleagues developing their own subject knowledge, but more importantly their pedagogical subject knowledge.
- have a greater depth of understanding around the links between mathematical topics, how these can be assessed and how to use these links to provide opportunities for students to become mathematical thinkers
- be more confident in approaching areas of the curriculum that they have little or no experience of teaching
- be armed with the knowledge of how to further develop their own subject knowledge away from the sessions

Practice Development – teachers will

- have the confidence to take on classes that they may not otherwise have had the opportunity to teach
- have a good understanding of the mathematical content as so will be able to deliver better planned lessons to their students
- understand the progression through the harder GCSE topics and make links between other area of maths
- be more able to embed problem solving and reasoning opportunities into lessons
- be able to identify and use effective assessment techniques when delivering the harder GCSE topics

School Policy/Approaches – teachers will

- be confident to collaboratively plan units of work with colleagues in their department
- take part in lesson study style gap tasks to obtain quality feedback and PD from other members of their department
- be able to contribute effectively to shared resources and departmental schemes of work around the harder GCSE topics

Expectations of the participants and their schools:

- Schools will need to commit to the release of the same nominated teacher(s) for all six workshops and to support them in the gap tasks. This will include supporting wider staff and department engagement between each workshop.

Funding:

There is no charge for participating in this Work Group.

Who is leading the workgroup?

The workgroup will be lead by Lindsay Porter, NW3 Maths Hub's Secondary Lead. Lindsay is an experienced maths teacher, subject leader and NCETM PD Lead. She has worked with NW3 since 2015 leading national projects and local innovation work-steams.

How to get involved:

If you are interested in getting involved in this workgroup, please contact

Paula Foster at paula.foster@three-saints.org.uk to request an EOI (expression of interest) form quoting

Early Career Dev WRK 741911.