

# Specialist Knowledge for Teaching Mathematics Programmes (Y5 & Y6)

## Proportionality Problems - Primary



### Overview

This Work Group aims to help primary teachers improve their understanding of proportionality in the primary mathematics curriculum, alongside developing appropriate pedagogic knowledge to help teach pupils well. Sessions will have an emphasis on different aspects of proportionality (including fractions and ratio), with the opportunity to explore strategies for solving problems requiring proportional thinking. The Work Group will look at both supporting children to develop a secure understanding of proportionality concepts and structures, and promoting the three aims of the National Curriculum. Pedagogical approaches explored during the Work Group will be consistent with 'teaching for mastery' and teachers will be supported in continuing to develop a mastery approach in the classroom. There will also be time for teachers to reflect on their own practice and work collaboratively with colleagues.

#### Who is this for?

**Applications are welcome from teachers in Y5 or Y6.**

Teachers should be keen to develop their own specialist knowledge for teaching problems involving proportional thinking and understanding. They should also be able to lead developments back in school. This Work Group may be particularly helpful for teachers who have recently moved into Y5 or Y6

#### What is involved?

- Four workshops (half days), working with teachers from other schools in the Work Group, with a focus on improving subject and pedagogical knowledge in relation to key aspects of proportional thinking.
- School-based development tasks and independent study to develop classroom practice, integrated with and supported by the work done in the workshops. These tasks could include pupil interviews, lesson study or work scrutiny.
- Sharing research and evidence more widely in school and contributing to an NCETM on-line community.
- The completion of evaluations and post-workgroup reports / case studies to aid the wider dissemination of findings.

### Intended Outcomes

Teachers will enhance their specialist subject knowledge, with a particular emphasis on mathematical structures in proportionality contexts. This will include the understanding of the role that certain representations, models and manipulatives can play in development of pupils' understanding of proportionality.

Teachers will develop their pedagogical knowledge about the teaching of maths, being aware of how pupils learn and how to teach the content effectively, in line with the principles of 'teaching for mastery'.

Classroom practice will develop through participants' engagement with school-based tasks between meetings, trying out activities with pupils to promote understanding, reasoning and fluency.

Pupils will benefit from increased opportunities to deepen their understanding of the mathematical ideas they are taught so that they fully meet the aims of the National Curriculum, and are able to tackle more complex proportionality problems.

## The wider context

The Maths Hubs Network, across England, works on national projects by running local collaborative Work Groups of teachers around national maths education priority areas. One such priority is to improve the subject knowledge of all adults in maths classrooms.

This is a continuation of NCP17-14 and NCP18-20/21 and the Early Years pilot project. This year, the developed resources will be trialled across the Maths Hubs Network with the aim of refining the materials to create a standardised modular programme which can be designed to address local needs.

Work Groups use a common evaluation process, which collectively provides a body of evidence on the project's outcomes. Your participation in this Work Group will contribute to your own professional learning and that of your colleagues, as well as contributing to the improvement of maths education at a national level.

## Expectations of participants and their schools

- Participants will be expected to attend the four workshops over the academic year.
- Participants will be expected to complete school-based development tasks between workshop sessions, including independent study, planning with colleagues and collating evidence to demonstrate pupils' progress.
- Participants will be expected to keep a reflective log over the duration of the Work Group.
- Participants will be required to contribute to both the online community and the evaluation process.
- Schools will be expected to release participating teachers for the four workshops and provide appropriate support to enable them to complete the school-based development tasks.
- Schools will need to provide teachers with the opportunity to lead on developing an aspect of Mathematics back in school.

## Funding

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

All costs are met by Maths Hub funds and refreshments will be provided.

## Who is leading the Work Group?

Vicki Giffard, Primary Mathematics Consultant

## Dates and Venue

Sessions will be held at **Hallam Fields Primary School**, Long Meadow Way, Birstall, LE4 3LL

Tuesday 5th November, 2019	9:15 - 12:00
Wednesday 8th January, 2020	1:15 - 4:00
Wednesday 26th February, 2020	9:15 - 12:00
Monday 30th March, 2020	1:15 - 4:00

## If you're interested, what next?

Please download and complete the application form.

Return to [lisa.dale@emsmathshub.org.uk](mailto:lisa.dale@emsmathshub.org.uk) by Friday 25<sup>th</sup> October, 2019.

