

Primary Teachers

Specialist Knowledge
for the Teaching of
Mathematics programme

Spatial Reasoning

Maths Hub Network
Collaboration Projects
23/24

NCP23-26

Outline

This programme is designed to support primary teachers who would like to develop their specialist knowledge for teaching maths, thus enabling them to further understand, teach and support pupils in maths in the classroom. The programme is suitable for all teachers and will be particularly relevant for teachers that have moved phases, teachers that have not recently received maths-specific training and teachers who previously participated in the multiplicative reasoning SKTM programme.

Details

What is involved?

The model for this programme is four PD days with in-school work between these days plus a short introductory session. Schools are encouraged to engage two participants in a group, where possible, to maximise learning and impact. This programme will run online to allow access across the hub region.

Participants will be supported to:

- Make carefully considered changes to their practice
- Observe and analyse the impact of these changes on learners (in particular, focus learners)
- Reflect on the implications
- Share thinking and findings

What are the benefits?

Participants will:

- ✓ Actively explore the research question 'How can we support learners to develop and apply an understanding of spatial reasoning?'
- ✓ Enhance their maths subject knowledge with an emphasis on spatial reasoning
- ✓ Understand progression in key elements of spatial reasoning and how understanding can be supported, including attending to language, relationships, and representations
- ✓ Review their practice, as a result of the sessions, and make specific adaptations to have an impact on pupil outcomes.

The wider context

Spatial reasoning can be overlooked and treated as a less important area of mathematics, yet it underpins several key aspects of work in number as well as measures and geometry and has been shown to have an impact on overall mathematical attainment including underserved pupils. This programme will consider what is effective in the learning and teaching of mathematics, with a focus on spatial reasoning, specifically:

- The importance of spatial reasoning
- Shape and space
- Area and perimeter
- Spatial reasoning and number

Expectations of participants and their schools

Schools must be able to commit to the full programme. This involves a total of one short introductory session and four full days as well as classroom and school-based activity. The days and school-based activity include interaction as a group working on maths together; reading articles; collaborative planning of teaching sessions in trios; teaching of planned sessions with groups of focus learners; videoing learning; and sharing reflections. Participants should also be supported by their school leadership to explore outcomes from the project with other colleagues in their school. Head teachers and subject leaders are invited to a presentation session on the final day where participants will share the impact of their work and learning in the group.

Workshop details

Workshops will be online and led by Louise Freir and Andy Tynemouth

Workshop 1: 12th December 15:00-16:00 Introduction / Launch

Workshop 2: 9th January 09:00-15:30

Workshop 3: 6th February 09:00-15:30

Workshop 4: 5th March 09:00-15:30

Workshop 5: 23rd April 09:00-15:30

Link to registration form [here](#).

Fully funded by the Maths Hubs Programme so is free to participating schools.