Title	Specialist knowledge for teaching mathematics (Primary Teacher) programme		
Phase	Primary	**Work Group Code**	NCP 20 - 24

Project summary

The purpose of the programmes in this project is to support primary teachers in developing specialist knowledge for teaching mathematics, thus enabling them to understand, teach and support pupils in the maths classroom.

This is a continuation of NCP 19-24 where core materials were shared, trialled and evaluated.

The programme is based on four core primary modules:

- Number sense
- Additive reasoning
- Multiplicative reasoning
- Fractions

These modules are each designed to be delivered over three hours. This year an additional module has been developed as an introduction (two hours), which sets the scene for the current maths teaching landscape.

Rationale

It has long been recognised that maths teaching is enhanced when the teachers are confident about the subject matter. Seabourne's work over the period of 2004-06 found that Subject Knowledge Enhancement (SKE) courses led to 'improvements in subject knowledge, attitude, understanding and confidence'. Gibson, O'Toole, Dennison & Oliver's (2013) report on SKE courses across all subjects in which SKE is offered finds that levels of subject knowledge and confidence in the subject are dramatically enhanced on completion of SKE course.

Intended outcomes

Professional learning

- Teachers will enhance their maths subject knowledge with an emphasis on the key structures in each mathematical area covered e.g.
- Understand the key elements that form number sense, including precise language, structures and representations

- Understand the forms of addition and subtraction, including precise language, structures and representations

- Understand the forms of multiplication and division, including precise language, structures and representations

- Understand the forms of fractions, including precise language, structures and representations.

Practice development

- Teachers will review their practice as a result of the sessions and make specific adaptations to impact on pupil outcomes.

Pupil outcomes
Pupils will: • have greater exposure to mathematical representations and structures and will start to be seen to use these independently in their work • be able to explain their maths and their mathematical thinking using appropriate language demonstrate a positive attitude towards maths, beingwilling to have a go, persevere, and share their mathematical ideas
Intended participants
These programmes are designed for teachers who would like to further develop their specialist knowledge for teaching maths. They will be particularly relevant for NQTs/RQTs, teachers that have moved phases or teachers that have not received maths-specific training.
Features of the work group
There are a core set of units and materials for these programmes.