

Educator Solutions Mathematics Professional Development and Learning

	Knowing Mathematics	Teaching Mathematics
Central Training and In-School Training	<ul style="list-style-type: none"> • Number Sense • Introduction to Fractions • Calculating with Fractions • Introduction to Algebra • Proportion and Ratio 	<ul style="list-style-type: none"> • Introduction to Mastery • Mastery in the Classroom • Mathematical Mindsets • Using Arithmetic and Reasoning to Problem Solve • Importance of Manipulatives in a Mastery Classroom • Using the Bar Model to Support Problem Solving
In-School Training	<ul style="list-style-type: none"> • Four Operations • Properties of Shapes and Angles • Statistics • Quadratic Algebra • Pythagoras and Trigonometry • Introduction to Numicon 	<ul style="list-style-type: none"> • Numicon KS2+ • Fluency, Reasoning and Problem Solving
Central Training	<ul style="list-style-type: none"> • Mathematics for EYFS • Supporting Mathematics Learning for Teaching Assistants <ul style="list-style-type: none"> • Getting it Right: Assessing KS1 Mathematics • Getting it Right: Collaborative KS1 Mathematics Moderation 	
Programmes	<ul style="list-style-type: none"> • Mathematics Expertise Programme: <ul style="list-style-type: none"> - EYFS and Key Stage One - Key Stage Two - Key Stage Three • Numicon: Breaking Barriers • Numicon Intervention Programme • Mathematics Knowledge for NQTs and NQT+1 	
Leading Mathematics		
Central Training and Programmes	<ul style="list-style-type: none"> • Mathematics Professional Networks <ul style="list-style-type: none"> - Primary - Secondary 	<ul style="list-style-type: none"> • Learning to Lead Primary Mathematics
Consultancy	<ul style="list-style-type: none"> • Mathematics Review • Supporting the Leading of Mathematics in Your School 	<ul style="list-style-type: none"> • Supporting the Planning of Mathematics in Your School • Supporting the Teaching of Mathematics in Your School
Annual Mathematics Conference		

For more information

www.educatorsolutions.org.uk or call 01603 307710

Mathematics Professional Development and Learning

Educator Solutions' Mathematics Advisers fuse research with practice to provide high quality training and consultancy. We have strong experience of inspiring change in mathematics teaching and learning whilst strengthening subject leadership.

We offer stimulating, high quality mathematics training courses, programmes, conferences, in-school training and consultancy. We take pride in ensuring our support matches the needs of all schools and academies and their teachers, teaching assistants and mathematics leaders across phases from EYFS to KS4.

We believe:

- All students can achieve in mathematics, with the support of an effective teacher of mathematics.
- All teachers can become effective teachers of mathematics, with the support of high quality professional development.

“ Educator Solutions Mathematics holds the National Centre for Excellence in the Teaching of Mathematics ”

(NCETM) CPD standard.

Mastery in Mathematics

Educator Solutions' Mathematics Team believe that mastery is a description of the process of mastering particular aspects of learning, and has less to do with specific mathematical content. It is about understanding the underlying structure that promotes flexibility of application and a synthesis of ideas, combined with the determination and confidence to tackle the unfamiliar.

In recognition of the current drive towards a mastery curriculum, we have ensured all our training considers the most appropriate and pertinent elements of this pedagogical approach.

Educator Solutions Mathematics Professional Development and Learning

We have designed our professional learning for mathematics into three strands:

<p>Knowing Mathematics</p> <p>Our knowledge training sessions aim to enhance the mathematical subject specific knowledge of teachers and teaching assistants.</p>	<p>Teaching Mathematics</p> <p>Our teaching mathematics training sessions aim to develop the theory and practice of mathematics teaching for teachers and teaching assistants.</p>	<p>Leading Mathematics</p> <p>Our leading mathematics training sessions aim to strengthen the leadership of mathematics.</p>
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Sessions can be combined to create bespoke training programmes for a school, cluster or multi academy trust.

We understand that it can be difficult to prioritise specific mathematical needs, particularly as there is no current guidance to support these choices. To help schools and teachers our programme highlights what we consider to be the most important areas within these three strands. Bespoke, tailored CPD&L is also available.

We also welcome the opportunity to work with and support other CPD providers of mathematics.

Knowing Mathematics

An effective teacher of mathematics will:

- Have secure conceptual understanding and procedural and factual knowledge.
- Have the ability to reason, solve and pose problems.
- Know the underlying structure of mathematics, and the connections between different areas.
- Know how mathematical ideas build upon and lead to others.
- Know ways of modelling and representing mathematical ideas.
- Use specific and consistent mathematical language and notation.
- Consider the way mathematics is used within other subjects and beyond the classroom.
- Be aware of the history of mathematics and its role in society.

Teaching Mathematics

An effective teacher of mathematics will:

- Use effective ways of explaining, representing and exemplifying mathematics.
- Know how to use particular resources, equipment and tools to support the learning of mathematics.
- Know mathematical tasks and activities to use with learners.
- Encourage mathematical discussion and the use of mathematical language.
- Design mathematical journeys that build on learners prior knowledge and understanding.
- Know how to motivate and respond to learners of mathematics.
- Know the common difficulties learners can face and the common errors and misconceptions they make in mathematics.
- Know how to continually assess learners and to adapt questioning to support this.
- Understand the structure, sequence and assessment of their mathematics curriculum.
- Know how and when mathematics is used in other areas of the curriculum.
- Know how the mathematics curriculum is developed and the influences on it.

Leading Mathematics

An effective teacher of mathematics will:

- Develop a school vision of mathematics.
- Organise the structure and sequencing of a school scheme of work, including connections to other subjects.
- Support the improvement in the teaching of mathematics through coaching and/or mentoring.
- Monitor, evaluate and action plan the quality of mathematics teaching in the school.
- Scrutinise summative assessment to inform mathematics teaching.
- Guide effective teaching of mathematics through Professional Development.
- Analyse national, local and school data to inform school improvement.
- Plan, manage and organise intervention.
- Remain up to date and informed about developments and research in mathematics education.
- Report to other stakeholders on the progress of mathematics across the school.
- Be a mathematical role model to others.

Table 1 Collated with support from 'Professional learning for all teachers of mathematics' ACME (December 2016)