Mastery with *Inspire Maths*

How does *Inspire Maths* help you ensure mastery of skills?
What do we mean by mastery?

There are generally four ways in which the term mastery is being used in the current debate about raising standards in mathematics:

**Achieving mastery**
Mastery of particular topics and areas of mathematics, which involves knowing ‘why’ as well as knowing ‘that’ and knowing ‘how’.

**Teaching to mastery**
A set of pedagogic practices that keep the class working together on the same topic, whilst at the same time addressing the need for all pupils to master the curriculum and for some to gain greater depth of proficiency and understanding.

**A mastery curriculum**
One set of mathematical concepts and big ideas for all. All pupils need access to these concepts and ideas and to the rich connections between them.

**A mastery approach**
A set of principles and belief. This includes a belief that all pupils are capable of understanding and doing mathematics, given sufficient time.

The National Centre for Excellence in the Teaching of Mathematics (NCETM) has published guidance on key features of the mastery approach.

Find out more about these features found in Inspire Maths.
Curriculum design

‘Effective mastery curricula in mathematics are designed in relatively small carefully sequenced steps, which must each be mastered before pupils move to the next stage’

Inspire Maths builds knowledge and skills cumulatively so pupils build on prior knowledge when new concepts are introduced.

Concepts are broken down into small steps for pupils to follow. These steps are consistently introduced using the Concrete Pictorial Abstract approach.

These steps are explicitly laid out in each unit, so pupils can refer back to these for clarification as they progress through the books.
Teaching resources

‘Concrete and pictorial representations of mathematics are chosen carefully to help build procedural and conceptual knowledge together. Exercises are structured with great care to build deep conceptual knowledge alongside developing procedural fluency’

The Concrete Pictorial Abstract (CPA) approach underpins Inspire Maths. These representations are used consistently throughout the Pupil Textbooks and Practice Books to present mathematical concepts.

Carefully constructed concrete and pictorial representations are shown alongside abstract representations to make the underlying structures highly visible for pupils.

There are numerous opportunities for pupils to develop fluency, deepen their conceptual understanding and apply their knowledge and understanding to unfamiliar problems through questions and activities in the Pupil Textbooks and Practice Books.

Mastery with INSPIRE MATHS
Lesson design

‘Lesson designs set out in detail well-tested methods to teach a given mathematical topic... and also set out related teacher explanations and questions to pupils’

*Inspire Maths* is built on *My Pals are Here!,* used by 100% of Singapore’s state schools. The methods are well-tested with almost 30 years of efficacy in Singapore primary schools.

Each teacher’s guide provides a step by step teaching sequence outlining the key mathematical ideas, common misconceptions and examples of questions to ask.

Precise questioning in class allows teachers to test conceptual and procedural knowledge.

**Mastery with INSPIRE MATHS**
Teaching methods

‘Pupils work on the same tasks and engage in common discussions. Concepts are often explored together to make mathematical relationships explicit’

The Pupil Textbooks provide guided practice activities, promote discussion and exploration in pairs or small groups.

Games and Let’s Explore activities also in the Pupil Textbooks offer further opportunities for group work to reinforce skills, concepts and problem solving strategies.

By working collaboratively, children also develop their mathematical language and reasoning skills.
Pupil support and differentiation

‘Taking a mastery approach, differentiation occurs in the support and intervention provided to pupils, not in the topics taught, particularly at earlier stages’

*Inspire Maths* builds deep mathematical understanding through whole-class teaching and learning, as well as collaborative group/partner work, rather than moving children quickly through new topics.

*Inspire Maths* Teacher’s Guides provide a clear pathway to quickly identify gaps for immediate intervention and opportunities for further practice or enrichment.

Teachers using *Inspire Maths* tell us that mixed ability groupings encourage mathematical discussion, improve children’s confidence using mathematical vocabulary and children’s verbal reasoning.

Mastery with *INSPIRE MATHS*
Productivity and practice

‘Fluency comes from deep knowledge and practice’

The Practice Books provide a wealth of questions and activities for pupils to develop fluency, build mathematical confidence and lead towards mastery.

Variation is used in these questions so pupils meet the same concept but in different ways. Within each practice section, there are challenging questions and problems.

The Pupil Textbooks include guided practice activities for children to work through collaboratively, developing the deep understanding required for mastery.

Mastery with INSPIRE MATHS
Professional development and training of teachers

Inspire Maths provides essential 5 day face-to-face professional development to ensure successful implementation of the mastery approach. This professional development:

- Introduces the key principles of the Singapore approach
- Builds confidence in teaching to mastery
- Plans for sustained implementation to transform the teaching and learning of mathematics

Find out more about Inspire Maths School Improvement

Mastery with INSPIRE MATHS

Further mastery support from Oxford University Press
Further mastery support from Oxford University Press

Teaching for Mastery:
QUESTIONS, TASKS AND ACTIVITIES TO SUPPORT ASSESSMENT

- Written by the NCETM in conjunction with the Maths Hubs programme
- Provides assessment support for mastery in maths for Years 1 to 6
- Draws on both UK and international research to allow teachers to assess their pupils’ depth of understanding.
- Download from Oxford Owl. You’ll need to be registered – it’s free!

Mastery with INSPIRE MATHS
Further mastery support from Oxford University Press

Mastering Mathematics

- Professional development handbook from Dr. Helen Drury.
- Explains the key elements of the mastery approach, drawing on international research and real UK examples.
- Complete with key questions for individual reflection, and an action plan for maths leaders.
- **Watch videos** from Dr. Helen Drury on Oxford Owl. You’ll need to be registered – it’s free!

Mastery with *INSPIRE MATHS*
Further mastery support from Oxford University Press

Mastering Mathematics Pathway

- Find everything you need to implement mastery, with the help of our Mastering Mathematics Pathway, developed by experts Professor Mike Askew and Dr. Helen Drury.

- Pathways helps leaders follow a four-step process to deliver effective school improvement, with editable tools and resources:
  1. Audit
  2. Strategic Planning
  3. Take Action
  4. Evaluate Impact

- Subscribe to School Improvement Pathways to get started with the Mastering Mathematics Pathway. You’ll also get access to 20 other Pathways and all of our Professional Development & Best Practice videos.

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Find out more about *Inspire Maths*

Contact your local sales representative