Newsletter

National Centre for Excellence in the Teaching of Mathematics

November 2019

Welcome to our Newsletter for November. We've published new materials to support those working in secondary initial teacher education to familiarise trainee teachers with teaching for mastery.

Also this month:

- Using visual and physical representations at Key Stage 3
- What is unitising, and why is it important?
- New podcast interview: Eugenia Cheng rethinks gender around maths
- Letters home from the Shanghai teacher exchange
- In brief.

Mastery materials supporting secondary maths teacher training

We have published a new selection of materials to support those working in secondary initial teacher education (ITE) to familiarise trainee teachers with teaching for mastery. The Secondary ITE Professional Development materials comprise five main units, each corresponding to one of the Five Big Ideas used by the NCETM to encapsulate the key elements of a teaching for mastery approach.

They are equally relevant for tutors working with students in a university-based education department, or those working with school-based trainees.

In parallel, we're holding a free conference for ITE tutors interested in exploring teaching for mastery approaches in secondary maths in London on 14 January 2020. Find out more and book your place.

Guidance for using manipulatives at Key Stage 3

Although manipulatives and representations are commonly used in primary maths classrooms, they can be equally valuable for revealing mathematical structures to secondary school students.

We have produced new guidance for some of the most useful representations for Key Stage 3 mathematics. Each guidance document details what they are, why they are important and how they might be used. In addition, a series of 'explainer' videos is now available, for algebra tiles and Cuisenaire® rods. Explore further.

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What is unitising, and why is it important?

How can you quickly work out the number of eggs contained in a stack of egg boxes? How would you calculate the total amount of money in a pile of 50p pieces? You'd probably count the boxes, or the coins, and then do a multiplication.

This is called unitising, and a new article demonstrates how the concept can be coherently sequenced through a primary maths curriculum, from Year 1 to Year 6. We use examples from the Primary Mastery Professional Development Materials, to help you get a feel for the materials as a whole and see how they might help your school. Read more.

New podcast interview: Eugenia Cheng rethinks gender around maths

Does gender influence our, and our pupils', attitude to maths? Research mathematician Eugenia Cheng thinks it does. And she has some thought-provoking theories behind this view, based on her experience both as a researcher and a teacher. Listen to the interview and see if you agree.

Reports back from the Shanghai teacher exchange

As in previous years, primary and secondary teachers from every Maths Hub have been spending a fortnight observing and teaching maths lessons in Shanghai, as part of the ongoing England-China Exchange Programme. Some of them have written blogposts reflecting on their experiences. Here is a selection:

- Enigma Maths Hub
- London South West Maths Hub
- North West Three Maths Hub
- Sussex Maths Hub
- West Yorkshire Maths Hub.

Their exchange partners will be travelling to England in February, and most Maths Hubs will be offering opportunities to observe the Chinese teachers in action. Contact your local Maths Hub to find out more and to book a place.

In brief

- The London Mathematical Society's Grants for Teacher CPD: Teaching and Learning in HE is a new scheme intended to provide partial support for one-day workshops disseminating good

practice in teaching undergraduate mathematics. Up to £500 is offered, and the application deadline is **30 November**

- Nesta's education team would like to speak to secondary maths and computer science teachers to seek their thoughts on Nesta's new teacher innovation fund. Sign up for a call back.

Please do contact us if you have any comments on this newsletter. View the newsletter archive.