

# Today's Teaching for Tomorrow's Learning

## London Thames Maths Hub Conference 2017

Successful Progression through Key Stages 1 - 5 in maths

Keynote speaker Andrew Day, Author of 'The Numberverse'

Also on the day Robert Wilne 'LTMH' & Andrew Taylor 'AQA'

Lots of exciting maths workshops taking place!

Register now! Limited spaces available!



Friday 10<sup>th</sup> February 2017

Harris Academy Falconwood

8.30am Registration & breakfast... 9.00am start, Introduction & Keynote

  
**MathsHUBS**  
London Thames

Working with

National Centre  
for Excellence in the  
Teaching of Mathematics



**Available workshops: Session 1 (10.30am – 11.40am)**

Name of Workshop	Aim of the workshop
<p><b>'T4M' Using TRG as a model for effective CPD</b></p> <p align="center"><b>KS1 – 4 Leads</b></p> <p align="center">(Louise Pike)</p>	<p><b>'TRG – effective CPD'</b></p> <ul style="list-style-type: none"> <li>• What is a Teacher Research Group?</li> <li>• How can features of a TRG be used to develop a teaching for mastery approach?</li> </ul>
<p><b>Using Singapore maths textbooks in KS1</b></p> <p align="center"><b>Primary</b></p> <p align="center">(Grace Harold / Carol Samme)</p>	<p><b>'Shanghai Textbooks'</b></p> <ul style="list-style-type: none"> <li>• Using textbooks to support a teaching for mastery approach</li> <li>• What is the role of conceptual and procedural variation in textbooks?</li> </ul>
<p align="center"><b>Shanghai</b></p> <p><b>The visit to Shanghai and what we learnt</b></p> <p align="center"><b>KS1 – 3</b></p> <p align="center">(Phil Jones)</p>	<p><b>'Shanghai – The visit'</b></p> <ul style="list-style-type: none"> <li>• How is the teaching in Shanghai different to England?</li> <li>• What are some of the similarities and differences between the teaching in England compared to Shanghai?</li> <li>• Teaching for mastery strategies used in Shanghai that can be easily implemented into English classroom</li> </ul>
<p><b>Bar Modelling</b></p> <p align="center"><b>KS1 – 2</b></p> <p align="center"><b>Justin Dodd</b></p> <p align="center">(Janine Allen)</p>	<p><b>'Primary Visualisations'</b></p> <p>Concrete, Pictorial, Abstract is at the heart of Teaching for Mastery. In this workshop we look at visualisations (including the Bar Model) that enable students to develop deeper understanding of concepts and provide consistent approaches that can be used throughout KS1 and KS2.</p> <p>This workshop is aimed at KS1/2 teachers and primary maths coordinators.</p>
<p><b>Maths No Problem</b></p> <p align="center">(Judy Hornigold)</p>	<p><b>'Effective Teaching for Mastery'</b></p> <p>It will focus on what teaching for mastery is and the trainer, Judy Hornigold, will demonstrate how teachers could use resources and pose questions so that children could deepen their understanding of the topic.</p>
<p><b>Numberverses</b></p> <p align="center">(Andrew Day)</p>	<p><b>'Mathematical enquiry in action'</b></p> <p>Get a taste for how the pupils feel when they develop their own ideas through dialogue and collective reasoning. The philosophical approach to enquiry uses activities that are 'low threshold, high ceiling'. In other words, you can ask the same question to six-year-olds or adults.</p>
<p><b>Teaching for Mastery - Secondary</b></p> <p align="center"><b>KS3</b></p> <p align="center">(Valbona Baci)</p>	<p><b>'Maths Mastery'</b></p> <p>In this session we will look at what is mastery and how it looks in a classroom. Our focus is on implementing these ideas with KS3. We will also focus on how to create or edit tasks to make them focus on students mastering a particular topic.</p>

**Available workshops: Session 1 (10.30am – 11.40am)**

Name of Workshop	Aim of the workshop
<p align="center"><b>Changes to A Level</b></p> <p align="center"><b>Brix Learning</b></p> <p align="center">(Anda Chisster)</p>	<p><b>‘A level Reforms: Practical Tips on How to Prepare’</b></p> <p>There is an overwhelming amount of information available about the new Maths A level syllabus. Everyone is talking about the “overarching themes”, the “change in focus” and the “emphasis on problem solving”. But what does that actually mean? At Brix Learning’s workshop, we want to talk about practicalities.</p>
<p><b>Session for new teachers of maths e.g. NQTs / School Direct / Teach First / Overseas trained</b></p> <p align="center">(Claudia Abayaateye)</p>	<p><b>‘Teaching GCSE Mathematics in the new curriculum’</b></p> <p><b>Who:</b> Teachers new to the profession, NQTs, Teach First, Schools Direct and overseas trained.</p> <p><b>Aim:</b> To improve GCSE Mathematics subject knowledge by looking at the changes to the curriculum and focusing on how to teach problem solving effectively in lessons.</p>
<p><b>The Golden Ratio - a journey of discovery from KS2 – 5</b></p> <p align="center">(Chris Reilly)</p>	<p><b>The Golden Ratio: a journey of discovery from KS2 – KS5</b></p> <p>Year on year learners embark a journey of solving problems that all lead to the Golden ratio, deepening their conceptual understanding at every step whilst simultaneously inspiring their ambition of continuing their education of Mathematics in further study.</p>
<p><b>Lesson Study - Research Lesson on Problem Solving in Y11</b></p> <p>(Please note you will need to attend both sessions – see session 2)</p> <p align="center">David freeman</p>	<p><b>‘Problem Solving’</b></p> <p>A live lesson study looking at how students solve a problem in an unfamiliar context.</p> <p align="center">Part 1 of 2</p>
<p><b>Strategies for developing fluency in multiplication and division</b></p> <p align="center"><b>KS1 – 3</b></p> <p align="center"><b>Jessica</b></p>	<p><b>Fluency X division</b></p> <ul style="list-style-type: none"> <li>• What is fluency?</li> <li>• Strategies to support pupils in becoming fluent</li> </ul>
<p><b>New Calculator training</b></p> <p align="center"><b>Secondary</b></p> <p align="center">‘Godfrey Almeida’</p>	<p>The new AS and A-level specifications from 2017 require students to engage with appropriate technologies in mathematics. This session will investigate the use of the CASIO CLASSWIZZ calculators for the new A level, with a focus on Statistics.</p>

**Available workshops: Session 2 (12.40pm – 13.40pm)**

Name of Workshop	Aim of the workshop
<p><b>Strategy's for developing fluency in addition and subtraction</b></p> <p><b>KS1 – 3</b></p> <p>(John Anderson)</p>	<p><b>'Achieving a deeper understanding of fractions'</b></p> <p>In this practical session participants will explore how teaching underpinned by the core principles of mastery – including variation between concrete, pictorial and abstract representations – enables KS1 and KS2 pupils to develop greater fluency, reasoning and problem solving skills when working with fractions.</p>
<p><b>'T4M' Using TRG as a model for effective CPD</b></p> <p><b>KS1 – 4 Leads</b></p> <p>(Louise Pike)</p>	<p align="center">Repeat of session 1</p>
<p><b>Mechanics for the New curriculum</b></p> <p><b>(Existing A Level Mechanics teachers)</b></p> <p>(MEI)</p>	<p><b>'Mechanics B: Teaching variable acceleration'</b></p> <p>This session aims to develop and strengthen an understanding of modelling motion with variable acceleration, beginning with motion in a straight line and extending this to cover motion in two dimensions. Effective teaching ideas will be discussed, including making links to pure mathematics topics.</p>
<p><b>Shanghai</b></p> <p><b>The visit to Shanghai and what we learnt</b></p> <p><b>KS1 – 3</b></p> <p>(Phil Jones)</p>	<p align="center">Repeat of session 1</p>
<p><b>Bar Modelling</b></p> <p><b>KS1 – 2</b></p> <p>(Janine Allen)</p>	<p align="center">Repeat of session 1</p>
<p><b>Numbervers</b></p> <p>(Andrew Day)</p>	<p align="center">Repeat of session 1</p>
<p><b>Teaching for Mastery - Secondary</b></p> <p><b>KS3</b></p> <p>(Valbona Baci)</p>	<p align="center">Repeat of session 1</p>
<p><b>Y5 - 8 Transition KS2 – 3</b></p> <p>(Robert Wilne)</p>	<p align="center">Repeat of session 1</p>
<p><b>Mathematical Reasoning</b></p> <p><b>KS3 – 4</b></p> <p>(Sam Dowsett)</p>	<p>A chance to see evidence of some of the research-based CPD carried out by the KS3 Reasoning Work Groups. Teachers across four different schools are currently working together to improve the teaching of Mathematical Reasoning in their context. This workshop will suit anyone who has an interest in helping their pupils tackle this challenging part of the new Maths GCSE 9-1 Curriculum, by preparing them in KS3. A focus on Mathematical Reasoning and Action Research based Professional Development will improve your satisfaction in your teaching and pupil's confidence to explore and enjoy Mathematics.</p>

**Available workshops: Session 2 (12.40pm – 13.40pm)**

<b>Name of Workshop</b>	<b>Aim of the workshop</b>
<p style="text-align: center;"><b>The Golden Ratio - a journey of discovery from KS2 – 5</b> (Chris Reilly)</p>	<p style="color: red;">Repeat of session 1</p>
<p style="text-align: center;"><b>Lesson Study - Post Lesson discussion</b> (Only select this workshop if you attended session 1) David freeman</p>	<p style="color: red;">Part 2 of 2</p>
<p style="text-align: center;"><b>Core Maths Secondary</b> (Derek Huby)</p>	<p><b>An introduction to Core Maths</b></p> <p>Core Maths is an exciting new Level 3 mathematics course, designed to increase participation in post-16 mathematics. The course focuses on practical mathematical problem solving and is aimed at students who would normally drop mathematics completely after GCSE.</p> <p>Derek Huby, from the Core Maths Support Programme, will be introducing the course and explaining the advantages it can offer your students.</p>
<p><b>AQA</b></p>	Looking at the approach to problem solving questions in GCSEs from a teaching and learning perspective AQA.

Available workshops: Session 3 (13.50pm – 14.50pm)	
Name of Workshop	Aim of the workshop
<p><b>Strategy's for developing fluency in addition and subtraction</b></p> <p><b>KS1 – 3</b></p> <p>(John Anderson)</p>	Repeat of session 2
<p><b>Using Singapore maths textbooks in KS1</b></p> <p><b>Primary</b></p> <p>(Grace Harold / Carol Samme)</p>	Repeat of session 1
<p><b>Shanghai</b></p> <p><b>The visit to Shanghai and what we learnt</b></p> <p><b>KS1 – 3</b></p> <p>(Phil Jones)</p>	Repeat of session 1 & 2
<p><b>Bar Modelling</b></p> <p><b>KS2 – 4</b></p> <p>(Justin Dodd)</p>	<p><b>'Secondary Visualisations'</b></p> <p>Concrete, Pictorial, Abstract is at the heart of Teaching for Mastery. In this workshop we look at variety of visualisations (including the Bar Model) and see how they can be applied to concepts in KS3 and KS4. We will look at how the increased complexity of ratio and proportion problems in the new GCSE can be tackled by visualisations.</p> <p>This workshop is aimed at KS3/4 teachers and heads of secondary maths.</p>
<p><b>Maths No Problem</b></p> <p>(Judy Hornigold)</p>	Repeat of session 1
<p><b>EYFS</b></p> <p><b>Transition from EY to KS1</b></p> <p><b>Primary</b></p> <p>(Emily Smith / Robert Wilne)</p>	<p>The Maths Hub is running a research project for EYFS and Y1 teachers who want develop and enrich their practice with the principles of teaching for mastery, in order to give their pupils, the very best start in mathematics. In this workshop, the two project leaders will share their finding so far, and suggest ideas that will be simple to implement but should have a long-lasting and far-reaching impact on your pupils' learning and understanding.</p>
<p><b>AQA Problem solving</b></p> <p>Andrew Taylor</p>	<p><b>'Approaches to problem solving questions in GCSE and A level maths'</b></p> <p>In this session, Andrew Taylor will:</p> <ul style="list-style-type: none"> <li>• Look at the different strands of the problem solving assessment objective (AO3) and the kind of questions that may be asked in the new GCSE</li> <li>• Look at the way these questions will be marked and the key features we are looking for in student response</li> <li>• Give delegates an opportunity to mark some examples and to understand the detail in mark schemes</li> <li>• Look briefly at the way we are approaching the marking of problem solving and reasoning in the new A level maths</li> </ul>
<p><b>Mathematical Reasoning</b></p> <p><b>KS3 – 4</b></p> <p>(Sam Dowsett)</p>	Repeat of session 2

**Available workshops: Session 3 (13.40pm – 14.40pm)**

Name of Workshop	Aim of the workshop
<p align="center"><b>Aspiring LP's</b> (Claudia Abayaateye)</p>	<p><b>'Lead Practitioner'</b></p> <p><b>Who:</b> Aspiring and current lead practitioners. <b>Aim:</b> There will be a focus on understanding the new mathematics curriculum and being able to improve teaching and learning across the department. We will look at the key roles of a Lead Practitioner and develop leadership practices.</p>
<p align="center"><b>The Golden Ratio - a journey of discovery from KS2 – 5</b> (Chris Reilly)</p>	<p align="center">Repeat of session 1 &amp; 2</p>
<p align="center"><b>KS4-5 Transition</b> (Ben Leadbetter)</p>	<p><b>'Looking at the 1-step, 2-step number problem from Underground Mathematics'</b></p> <p>I use it as my opening lesson for new year 12s every year. It's a great transition lesson because students can get stuck in to core of the problem without necessarily needing good algebra or prior knowledge. The solution is rather nice but not trivial. It's essentially an informal inductive argument resulting in the Fibonacci numbers. There is a rich scope for extension activities too.</p>
<p align="center"><b>Mechanics for Teachers new to A Level</b> (James Adair)</p>	<p><b>An introduction to Mechanics at A level.</b></p> <p>This session aims to highlight some of the key concepts involved in A level mechanics and is aimed at teachers who are looking to teach the new A' Level curriculum but have not taught the Mechanics module before.</p>