

Bespoke

NEWS from the Maths Hubs Programme

January 2021 | Issue No. 20

Welcome to the latest issue of Bespoke, as we approach the mid-point of another school year. But what a school year! In this edition we try to capture how Maths Hubs' work is adapting to the unique circumstances we've all got used to, while continuing the activity that remains as important as ever: working together to make improvements to maths teaching and learning.



All Maths Hubs' work for this academic year is now underway, albeit via video conferencing rather than face-to-face meetings. But, although the background in many schools and homes remains difficult, the benefits of working together, with colleagues from different schools exchanging ideas and experiences, are as clear as ever.

In fact, the growing exploitation of the technology—screen-sharing, break-out rooms, use of online interactive tools and recording of meetings—has in some ways enhanced the experience of participating in a Maths Hubs project.

So, despite the absence of the valuable, informal, unplanned exchanges that take place around the margins of face-to-face events, there's plenty of evidence of maths-specific professional development thriving in the online environment.



fantastic first session with @NCETM this afternoon, so many great discussions on how to compare fractions.

@alcmaths, a Secondary Mastery Specialist at the outset of her training.

Great #TRG session today! Even online it was great to explore representation and structure.



@k_lewis6891 after a Primary Teaching for Mastery Work Group meeting (TRG).

Winning hearts and minds of primary heads

All Maths Hubs have now taken on a serving primary headteacher, or a couple sharing the role, to join the leadership team, and try to strengthen the impact of teaching for mastery in primary schools across their area.

The role is called Headteacher Advocate and those filling it will use their local knowledge and contacts to target fellow headteachers, offering advice and encouragement.

Each hub will benefit from 20 days a year of Headteacher Advocate time. One of the new recruits is Sarah Bishop, Executive Headteacher at Ridgeway Primary Academy and Great Bowden Academy in Market Harborough, part of the Learn Academies Trust. She moved there last September, having successfully led, as head for five years, the establishment of teaching for mastery at her previous school, Parkland Primary School, near Leicester. Sarah says she's looking forward to the new role:

Having been actively involved with the Maths Hubs Programme since it began, I hope I'll be able to use my experience to help continue to drive teaching for mastery across schools in my local area, and beyond. It's particularly important that the Headteacher Advocate is passionate about mathematics and teaching for mastery and can give real-life examples to other leaders of the positive impact it has on children's learning, as well as share strategies for supporting its development in school. //

Follow Sarah [@slbishop73](https://twitter.com/slbishop73)



NCETM
NATIONAL CENTRE FOR EXCELLENCE
IN THE TEACHING OF MATHEMATICS

Secondary resources

from the Maths Hubs' Specialists

Planning to teach secondary maths

Since schools reopened fully in September, teachers have been keen to welcome back their students, albeit facing the challenges of many new and different teaching and learning experiences. To support maths teachers, Secondary Mastery Specialists from across England have been producing resources for key topics at KS3.

This ongoing project is now providing videos, PowerPoint slides and supporting documents for new and experienced teachers planning to teach place value, fractions, directed numbers and a whole range of topics. All the resources are created by experienced teachers and cover key learning points, assessing prerequisite knowledge, key questions, language, representations, and common misconceptions and pitfalls. They also include lesson ideas and activities for students.



Yuvraj Singh Nirwal
Secondary Mastery Specialist with London Central and West Maths Hub

“I think the videos are useful as they offer prompts and starting points for planning. They are tried and tested ideas, and teachers can then modify them for their own context.”

I found making my video incredibly useful as it forced me to make explicit some of the things I do when planning. I also really focused on my explanations, which helped me in my own classroom. //

What numbers are represented here?

How did you work them out?
How would the number 60 be represented?

ncetm.org.uk

Part 2 – Prerequisites

$\frac{1}{4}$

How many counters are there in total?
How many counters are blue?
What fraction of the counters are blue?
What happened to the total number of counters?
What happened to the number of blue counters?
Can you show another array of counters with the same proportion of blue counters?

$\frac{2}{8} = \frac{1}{4}$

Which of the following are true?
 p^2qr^3 and pq^2r^2

Which of the following are true?:

- p is a factor of both numbers
- p^2 is a factor of both numbers
- pq is a factor of both numbers
- pq^2 is a factor of both numbers
- pqr is a factor of both numbers
- pq^2r^2 is a factor of both numbers
- pq^2r^2 is the largest common factor

Support for teaching secondary maths

Planning to teach place value

Primary resources

created by Mastery Specialists used across all primary projects

Support with 2020 DfE guidance

All primary Maths Hubs' activity this year is benefiting from work done by a team of Maths Hubs Mastery Specialists last summer. Together with the NCETM's Primary Team, the specialists created new materials that explained and complemented new guidance on teaching primary maths, brought out by the DfE in July.

At the heart of this guidance are 79 Ready-to-Progress criteria. These describe, at each stage as they go through primary school maths, what pupils need to understand and do, to be able to move on.

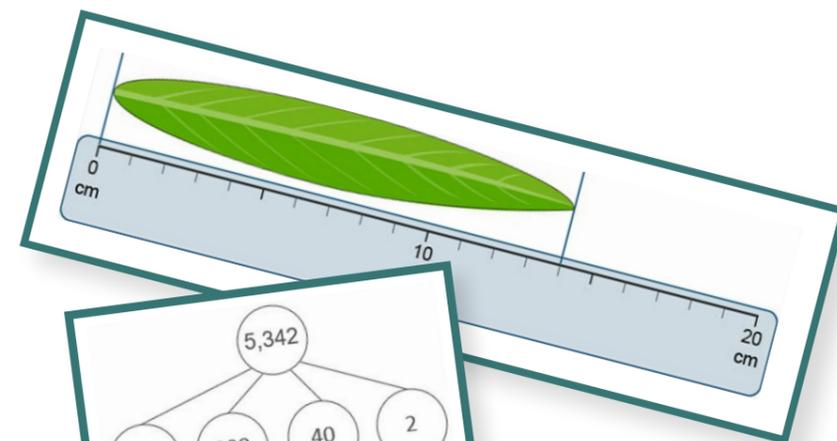
For each one of these criteria, a comprehensive PowerPoint presentation was produced, which unpicked the mathematical understanding required for the maths topic and stage in question. Each presentation includes slides and animated images for use in the classroom, and advice for teachers and anyone leading collaborative planning.

Most of the images come from the Primary Mastery Professional Development Materials, which came out in 2018.

The materials were well received when they came out in the summer.



Such a great set of resources to accompany the maths guidance. The @NCETM website is the place to be to help with the teaching of maths.



5,342

57



Sue Evans
Primary Mastery Specialist with ShaW Maths Hub

And they are now part of the toolkit of resources used by Work Groups in all the primary Maths Hubs projects. All projects are balancing the need to help schools and teachers cope with the unique conditions caused by the pandemic with the business-as-usual task of supporting ongoing maths-specific professional and school development.

One of the Mastery Specialists involved in the project was Sue Evans:

“Ensuring that children are secure in key elements of learning is essential to enable them to make progress in the long term; working with NCETM made me think deeply about how to address this challenge in my own practice. //

5G-2 Compare and calculate areas

1 cm²

4 cm² 4 cm² 4 cm²

- The purple, red and yellow shapes above are drawn on centimetre squared paper. The blue square shows each square has an area of 1 cm². How does this help to know that the area of each shape is 4 cm²?

It is possible to count four squares inside the red and purple shapes. It is possible to count two whole squares and visualize another two made from the four triangles inside the yellow shape.

ncetm.org.uk

Maths Hub Coordinators

the unsung heroes

Behind the scenes in the Maths Hubs Network, there are people making sure the programme runs smoothly, and thousands of teachers and schools can benefit from maths professional development.

Coordinators, administrators, project managers – they go by many names, but they are all responsible for ensuring the work of the hub, be it online or face-to-face, can take place.

Five coordinators tell us what they do, and why they love it!

// I lead the promotion, coordination and administration of the hub, and I'm the first point of contact for the 600+ schools and colleges in our area.

I love promoting our projects and events creatively, designing flyers and brochures, and writing web and social media content. I particularly enjoyed building our website from scratch; having a strong online presence has been key this year. //



Holly Quillin, Project Manager at Abacus NW Maths Hub since 2019



// My role is very varied, from supporting the Hub Lead through our outreach work and recruitment planning, to ensuring we meet reporting deadlines, communicate effectively, promote all our Work Groups and keep records of our engagement.

The role is so diverse and challenging. It gives me the opportunity to learn new skills, think strategically, and support our motivated and inspiring Work Group Leads and Mastery Specialists. //

Helen Mason-Smith, Project Manager at Matrix Herts Maths Hub since 2016

// I work closely with the Hub Lead and wider leadership team to shape our hub offer and put Work Group plans into practice. This involves communicating with Work Group Leads to organise sessions, and promoting each opportunity.

I work with a great team of people. My favourite thing is seeing hub work in action – being able to attend Work Group sessions, meetings and conferences to see the impact hub work is having. //



Helen Burton, Hub Coordinator at Central Maths Hub since 2015



// I coordinate hub activities and events and line manage the hub administrator. In addition, I contribute to our team objectives and strategic goals in terms of communication, engagement and recruitment, and also financial and data management.

Although I've been in the role for a few years now, I'm always learning something new. I find it both challenging and rewarding and I've had the opportunity to meet and work with a lot of amazing people along the way. //

Matthew Bent, Curriculum Project Coordinator at London Thames Maths Hub since 2015

// I support the leadership team and our Local Leaders of Maths Education (LLME). A typical day includes marketing, organising events, financial matters, and speaking to schools across the region.

I love the diversity of my role – no day is like another! The hub team all share the same vision – to develop and share best practice for teachers and their pupils. It's satisfying knowing I am part of a national vision helping others reach their goals. //



Tara Webster, Coordinator at South Yorkshire Maths Hub since 2017