

# OCTOBER 2019

# Newsletter



## Welcome to our second newsletter of 2019.

Another month has passed and we are nearly at the end of the Autumn Term. This term, some of our Work Groups including Secondary Teaching for Mastery, Primary Embedding, Teaching for Mastery

Readiness, Lesson Design and Intervention have hosted launch events and it has been lovely meeting all of the participants. As we move into Autumn 2, many of our Work Groups will host their first sessions and we are looking forward to welcoming many more participants from across our region.



October is of course the month of Halloween and in our Hub office, we have been enjoying the Maths in this Maths Halloween Starter activity. If you like this resource and use it in your class, please tweet us to let us know!

In our newsletter this month, Martyn Kelly writes about the way in which his school has been using the NCETM PD Spine Materials. If you are interested in learning about other ways that schools have been using these materials, there are a series of videos on the NCETM website which show teachers and how they have used the materials in their own schools and classrooms, and in collaborative development work with colleagues. To watch these videos follow this link. From our Secondary team, Helen Chambers shares how her Year 7 children have started the year with a focus on algebra and ensuring all pupils reach a deep understanding.

This month we are running a Halloween inspired competition. You can find details of this in the newsletter. Remember, you've got to be in it to win it!

### MEET OUR TEAM



This month, we would like to introduce you to Martyn Kelly, one of our Assistant Maths Hub leads. Martyn has been involved with the Great North Maths Hub since

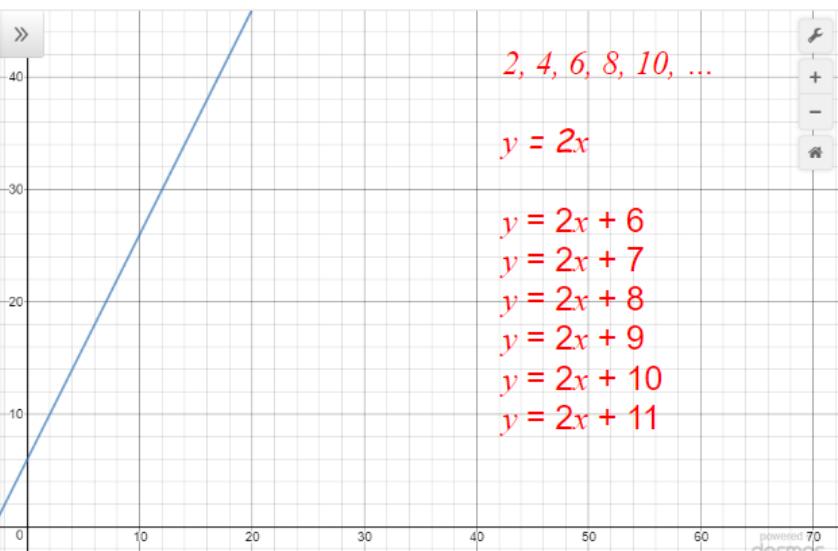
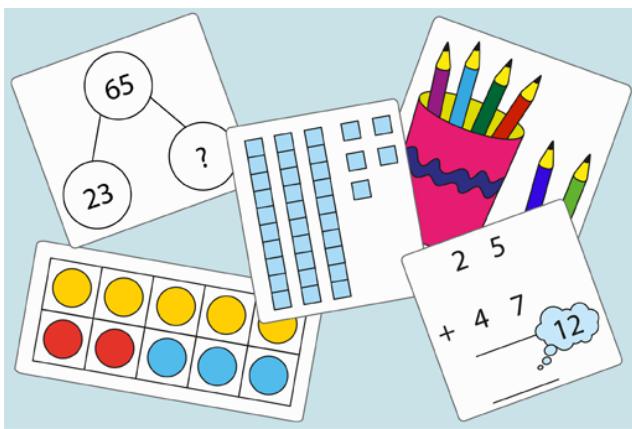
2015 as a participant in a Teacher Research Group (TRG). He subsequently joined the team in 2016 as a Cohort 3 Mastery Specialist and then in 2017 as one of the Assistant Maths Hub Leads. Martyn is a maths lead, an NCETM accredited PD lead and Deputy Head Teacher, working in Gateshead since 2003. Martyn is passionate about mastery maths and has seen a huge impact that the approach has upon children's confidence in maths, in addition to improved attainment and progress. In 2018, Martyn had the privilege of visiting China to observe teaching and learning and mastery maths in action. Since his return, Martyn's enthusiasm for mastery maths has grown and he has continued the drive to fully embed a mastery approach in his own school, whilst supporting other colleagues to become mastery experts themselves! This year, Martyn will be supporting 7 schools in his mastery specialist role, as well as working with colleagues from Gateshead and South Tyneside with projects based around 'The 5 Big Ideas of Mastery' and 'Curriculum Design: intent, implementation and impact.'

# Training Suite

## Spotlight on Secondary

It's hard to believe we are already well underway into Autumn Term; the fast pace of planning, teaching and reflecting has certainly focussed our minds onto our Teaching for Mastery journey. Our Year 7 teaching has started with a strong emphasis on algebra, playing particular attention to the structure of a linear or non-linear sequence. Pupils have been making connections by representing sequences in a variety of ways,

including the typical approach of numerically and pictorially, but also graphically. We have explored both arithmetic and geometric sequences by generating sequences, commenting on the total count of objects in each generation. In particular we observed the growth of this sequence, focussing on key language and structure. They have been confidently producing graphs using online plotters such as this one and identifying straight line graphs as both ascending and descending linear sequences and quadratic graphs as some manipulation of the squared number sequences. The interleaving of mathematical concepts, such as straight line graphs and numerical sequences, has certainly proven to deepen the understanding of the pupils. They have been through a sequenced learning journey affording them opportunities to spot patterns, make clear links, articulate their reasoning, all with mathematical accuracy. Our typical lesson content has included questioning followed by short tasks to focus on the learning point. Modelling by the teacher has been key to the success in order to reinforce correct key language, sentence stems and links to small steps. Something we have found more of a challenge is the use of intelligent questioning, however with the use of procedural fluency and conceptual understanding, aforementioned, we continue to develop our careful choice of questioning in order to maximise the opportunities for all pupils to succeed.



Helen Chambers, Secondary TfM Lead and Cohort 1 Secondary Teaching for Mastery Specialist

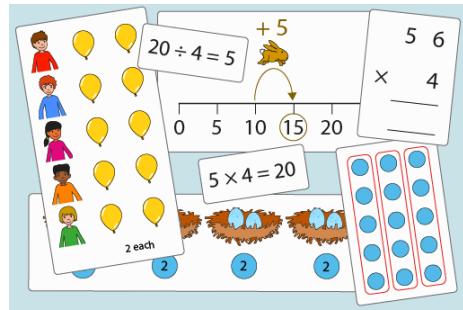
## Spotlight on Primary

The NCETM spine materials (or Primary Mastery PD materials) were something that was introduced to me as part of my Mastery Specialist training. At first, we

were shown how the materials included the ‘nuts and bolts’ of each topic. They had been carefully created to incorporate the 5 Big Ideas of Mastery and other ideas such as stem sentences, subject knowledge notes etc. The materials are extremely comprehensive and were introduced to us as a starting point; not a scheme of work, more a handbook of the main teaching points, that would need to be supplemented with: a CPA approach, additional tasks (carefully selected to match the key idea), stem sentences and maybe even more small steps.

At that time, the only available materials were for Addition and Subtraction (and in certain Year groups) – now, they have been completed (for all year groups) for the following areas and can be found [here](#).

- Addition and subtraction
- Multiplication and division
- Fractions



Each spine has an overview of key teaching points (these are the main ideas that children need to learn and understand). The teaching points are supplemented with notes. Some spines have videos that are perfect for supporting teacher subject knowledge in their teaching. The teaching points are broken down into smaller steps to reinforce the main ideas. Caution: each step is not a lesson and each smaller step is not a lesson. Teachers need to use their professional judgement as to how long the materials should be used for. Lessons may include one step covered in depth, or a series of smaller steps in short succession. There is an animated PowerPoint to support each teaching point.

My school has used the materials for our ‘basic skills fortnight’ at the beginning of the year. Teachers planned using the materials and we found that this helped with consolidating our ideas of place value and basic number sense - whilst at the same time addressing elements of addition and subtraction.

It is important to allow time for staff to first of all explore the materials; we had a staff meeting slot in July for this. Equally, it is important to revisit the spines at timely points within the curriculum, for example, teachers will now be moving onto four operations (or may have already done so). Teachers were guided through the materials: how to look for prior knowledge (so this may mean dipping back into ideas from the previous year), how to use the teaching notes and the animated PowerPoints.

Then, using workshop ideas from the Great North Maths Hub conference (in a session taught by Debbie Morgan), I looked at how the spines are progressive and have key teaching points. I helped teachers to look at other smaller steps that may be needed in between and how we would craft a lesson using these resources, schemes of work and our existing resources. We looked closely at the tasks and whether the materials were sufficient – or whether additional resourcing was necessary. We also looked at stem sentences. Some of the materials included stem sentences that may need some adaptation, others didn’t have any, and teachers chose to add these themselves. Teachers were enthusiastic about how the materials supported a ‘September gap – plugging’ approach. Moving further through the year, we will be working with the materials as we

look at multiplication and division and fractions. I have suggested that the materials are also used in terms of intervention for children too. There has been so much time and effort put into the making of the spine materials and they need to be shared and implemented in schools. This is definitely an area that my school will be pursuing further over the coming terms.

- My top tip for using the fantastic resources would be:
- Explore them as a subject lead before sharing with staff.
- Invest in clickers for your computer! This is a must!

Staff need to unpick the materials; therefore, they will need time to do this. It is not enough to deliver the materials as a scheme of work. Model how the materials can be used to craft a lesson or a sequence of lessons. If you are interested in using these materials, NCETM have produced a great video about getting started using the materials which can be found [here](#).

*Martyn Kelly, Assistant Maths Hub Lead, Primary Teaching for Mastery Specialist, Deputy Headteacher Front Street Primary School, Gateshead*

## NCETM UPDATES

National Centre  
for Excellence in the  
Teaching of Mathematics



NCETM have just published their Primary and Secondary Round Ups. They contain a range of resources including podcasts, videos and features. These resources are carefully selected from the NCETM website and are designed to support you in your role in the classroom. You can access the most recent Secondary Round Up by clicking [here](#) and the Primary Round Up [here](#). To register to receive these regularly via email, register on the NCETM website [here](#).

**Secondary**  
Round-up



Maths teaching news & updates from the NCETM

**Primary**  
& Early Years  
Round-up



Maths teaching news & updates from the NCETM

## COMPETITION TIME!

As we have said before, we are getting excited for Halloween in the office and we have become inspired by Maths inspired pumpkins like those below. This has made us want to design our own Maths pumpkin and also gave us the idea for this competition. Tweet pictures of your Maths pumpkins and tag us (@GNMH\_Maths Hubs) and the best pumpkin design will win a Great North Maths Hub goody bag including our coveted badges!

