MATHSHUBS
BUCKS, BERKS AND OXON

Autumn Term 2021

Newsletter 1 September 2021

All of our Work Groups are free

News from our Maths Hub Lead, Abha Miller:

Great to be back and a warm welcome from the BBO Maths team. This term we started looking at the Ofsted handbook, in applying the Education Inspection Framework to the teaching of mathematics. I was pleased to see that it tied together the well planned and sequenced curriculum, quality first teaching and effective assessment. I have copied the relevant extracts below and look forward to discussing these further in our workgroups and mathematical community meetings.

Take care and remain safe. *Abha Miller*

345. When inspectors look at mathematics, they will evaluate the quality of a school's mathematics education through lesson visits, discussions with pupils and scrutiny of their work, reviewing curriculum plans, discussions with curriculum leaders, and examining any published data. This will include understanding how mathematics is taught remotely, where applicable.

346. Inspectors will consider what steps the school has taken to ensure that:

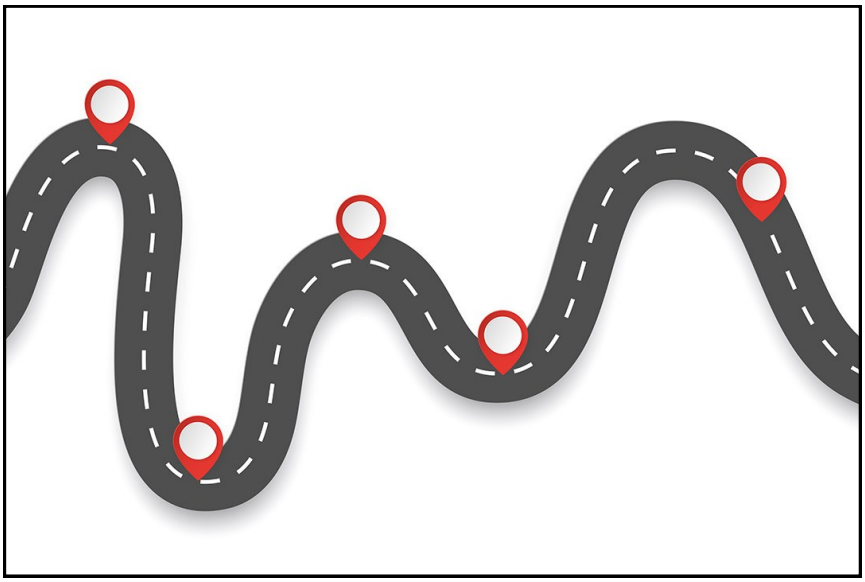
- pupils understand and remember the mathematical knowledge, concepts and procedures appropriate for their starting points, including knowledge of efficient algorithms. This should also ensure that pupils are ready for the next stage, whether that is the next lesson, unit of work, year or key stage, including post-16 mathematics
- the school's curriculum planning for mathematics carefully sequences knowledge, concepts and procedures to build mathematical knowledge and skills systematically and, over time, the curriculum draws connections across different ways of looking at mathematical ideas
- the curriculum divides new material into manageable steps lesson by lesson
- the school's curriculum identifies opportunities when mathematical reasoning and solving problems will allow pupils to make useful connections between identified mathematical ideas or to anticipate practical problems they are likely to encounter in adult life. Pupils have sufficient understanding of, and unconscious competence in, prerequisite mathematical knowledge, concepts and procedures that are necessary to succeed in the specific tasks set
- within the curriculum, there are sufficient opportunities planned to revisit previously learned knowledge, concepts and procedures; this is to ensure that, once learned, mathematical knowledge becomes deeply embedded in pupils' memories. This then allows rapid and accurate recall and frees pupils' attention so they can work with increasing independence, apply their mathematical knowledge to more complex concepts and procedures, and gain enjoyment through a growing self-confidence in their ability
- there is flexibility in curriculum planning so that the school can address identified gaps in pupils' mathematical knowledge that hinder their capacity to learn and apply new content. Those pupils behind age-related expectations are provided with the opportunities to learn the mathematical knowledge and skills necessary to catch up with their peers
- there are objective assessments that can identify when all pupils have gained the intended understanding and unconscious competence in knowledge, concepts and procedures necessary before they move on to new or more complex content
- teaching models new procedures and uses resources and approaches that enable pupils to understand the mathematics they are learning
- all teachers of mathematics, including non-specialist teachers of mathematics, have sufficient mathematical and teaching content knowledge to deliver topics effectively
- pupils' mathematical knowledge is developed and used, where appropriate, across the curriculum

Contents

Checkpoints (Year 7 Post Covid Materials)

If you have not already taken a look at these we can highly recommend them to you. They have been created by NCETM to support mathematics departments as they help their year 7's fill in any gaps they have from the last two years. They include materials to quickly assess a student's understanding, develop the areas they need and for those students who do already understand deepen their understanding to the full. The materials have been developed so that they could be used as a starter or as in a mentoring session. I have attended one of the seminars on how these could be used which are led by teachers explaining how they use them.

To find out more, download the materials as they are released and sign up for future training please see https://www.ncetm.org.uk/classroom-resources/checkpoints/ .



Hello and Welcome Back!

Jennie Forde, Assistant Maths Hub Lead— Primary

I am delighted to welcome you all back following the Summer break.

We are looking forward to some exciting new projects starting in 2021-22 and we can't wait to get going with our new Work Groups. Lots of work has been done over the summer break and in the last couple of weeks finalising programmes and Work Group Leads. If you have already signed up for a Mastery Readiness or Teaching for Mastery Development work group then you can expect to hear from your Work Group Lead within the next couple of weeks to get started on your journey with us at the BBO Hub.

If you missed out on applying back in July, we still have a limited number of spaces for our Mastery Readiness and Development Primary Teaching for Mastery programmes. You can use these links to download the application form and return them completed to us at info@bbomathshub.org.uk.

The deadline is the **27 September** so there is no time for delay! If you would like more information before applying, then please email or call us here at the Maths Hub on **01494 897331**.

There are many more opportunities to get involved with the Maths Hub and to benefit from the range of free professional development that we offer, including:

Specialist Knowledge for Teaching Mathematics:

EARLY YEARS TEACHERS: This Work Group may be particularly relevant for NQTs, teachers that have moved phases, or teachers that have not received maths-specific training who are teaching maths to children in the Early Years.

PRIMARY TEACHERS: For teachers who would like to further develop their specialist knowledge for teaching maths.

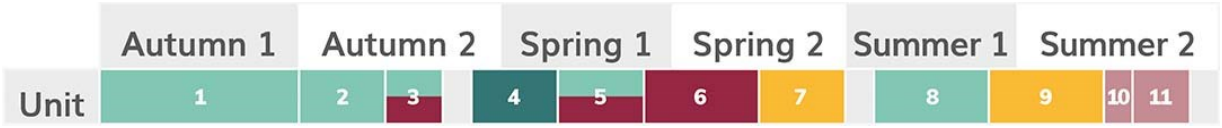
TEACHING ASSISTANTS: For primary teaching assistants who are supporting maths, and who would like to develop their specialist knowledge for teaching maths. It will be particularly relevant for new TAs or TAs that have not received maths-specific training.

EARLY CAREER TEACHERS: This project is designed to support primary early career teachers (teachers in their first two years of teaching) in developing specialist knowledge for teaching mathematics, thus enabling them to understand, teach and support pupils in maths in the classroom.

Years 5 –8 Continuity:

This work group brings together primary and secondary colleagues to explore smoothing the transition across these years particularly in light of the impact of the pandemic.

Curriculum Maps



The NCETM has recently published a substantial curriculum prioritisation resource for 2021/22, consisting of a curriculum map for each of Years 1-6 with accompanying downloadable PowerPoints. The curriculum maps are structured around the ready-to-progress criteria set out in the DfE 2020 guidance, and supported by classroom slides and associated pedagogy from the NCETM Primary Mastery Professional Development materials.

The resource design recognises the disruption faced by schools over the past two years, which may have resulted in areas of the curriculum that children have missed or learned less securely from home. Have a look at the resource here: Curriculum prioritisation in primary maths | NCETM.

Teaching a broad and balanced curriculum for education recovery

In June 2021 the DfE published the document, Teaching a broad and balanced curriculum for education recovery (publishing.service.gov.uk)

The document highlights the importance of curriculum sequencing in ensuring a coherent journey for all pupils through the mathematics curriculum, *"The sequence of teaching mathematical content is also very important: gaps need to be filled before new content is taught."* At Key Stage 1 & 2 the document recommends exploring the 'Ready-to-progress criteria: year 1 to year 6' that shows how the curriculum can be sequenced and prioritised effectively. Our Teaching for Mastery work groups will spend time exploring these documents and considering how best they can support you with curriculum planning, lesson design and developing teacher subject knowledge in your own settings.

Primary Round-Up

Have a look at this month's Primary Round-Up from NCETM which includes:

- Resources and CPD for the new school year
- Podcast - with a primary teacher who reviews and summarises maths education books
- Podcast about the making of Numberblocks - with NCETM Primary Director, Debbie Morgan.

We are looking forward to a productive year working with you.

Best Wishes,

Jennie Forde

Working with NCETM NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

Welcome Back

Jo Walker, Assistant Maths Hub Lead—Secondary

Welcome Back Everyone,

I hope that you have all had a good break and are raring to get going in this new academic year.

I am enjoying once again seeing the faces of the students that I teach and watching them work together on tasks at the boards, enabling me to use what they create to deepen the learning of the students in my classroom. I really hope that this is our new normal.

For secondary schools there is a lot on offer from the BBO Maths Hub this year and as always our training is free and led by PD Lead accredited classroom practitioners who are experienced teachers in the areas they are delivering. The majority of what we offer has been developed in line with the recent EIF report, EEF report and Ofsted mathematics inspection framework in mind.

You might find the following useful :

- Developing Teaching for Mastery develops a holistic approach covering most of the pedagogies involved
- Years 5 to 8 continuity looks at smoothing the transition across these years particularly in light of the impact of Covid
- Years 7 to 11 coherence looks at developing a coherent SoW, small step planning and resourcing of an area of maths from year 7 through to year 11
- The Early careers and non-specialist maths pedagogy development work groups now come under the remit of subject hubs rather than the teaching schools.
- For heads of department and maths leads in MATS we also have specialist leadership courses focusing on developing maths pedagogy and leadership in mathematics departments
- For Post 16 we have Core maths pedagogy for new and existing teacher as well as our A level pedagogy group.

To find out more about these opportunities please see the Secondary and Post 16 recruitment section of this newsletter. I hope that you find something that you find worthwhile to take part in. Some are ready for you to book now, others will follow shortly so please look out for future tweets and e-mails to let you know what is now available.

If you have any questions please do get in touch by contacting info@bbomathshub.org.uk.

I hope that you have a great year.

Best wishes

Jo Walker

Working with NCETM NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

Primary Opportunities and Work Groups

The Maths Hub Programme has PD opportunities for all teachers at all stages in their careers and across all phases. Below is a summary of the FREE development opportunities that are on offer for primary teachers in 2021/22. Follow the links for further details on the NCETM website or contact info@bbomathshub.org.uk to discuss the best programme for you and your department.

For primary Work Groups, we are currently asking for those interested in participating to fill in an expression of interest form on our website so that we can keep in touch with dates and booking details once these are released and made available.

All of our Work Groups are free.

Departmental Development Need	Professional Development Opportunity
Teachers of Mathematics	
Transition from Primary to Secondary	Years 5-8 Continuity Work Group
Developing Teaching for Mastery	Primary Teaching for Mastery – Development | NCETM
Developing subject knowledge for Early Years teachers	Specialist Knowledge for Teaching Mathematics – Early Years Teachers | NCETM
Developing subject knowledge for primary teachers	Specialist Knowledge for Teaching Mathematics – Primary Teachers | NCETM
Developing subject knowledge for primary teaching assistants	Specialist Knowledge for Teaching Mathematics – Primary Teaching Assistants | NCETM
Developing subject knowledge for primary early career teachers	Specialist Knowledge for Teaching Mathematics – Primary Early Career Teachers | NCETM
Heads of Department/MAT Leads/School Development Leads	
Developing Leadership	School Development Leads - This project aims to support mathematics leads whose role is to lead change in a school or group of schools other than their own.

Secondary and Post 16 Opportunities and Work Groups

The Maths Hub Programme has PD opportunities for all teachers at all stages in their careers and across all phases. Below is a summary of the FREE development opportunities that are on offer for Secondary and Post 16 teachers in 2021/22. Follow the links for further details on the NCETM website or contact jwalker@whs.bucks.sch.uk to discuss the best programme for you and your department.

For Secondary Work Groups, we are currently asking for those interested in participating to fill in an expression of interest form on our website so that we can keep in touch with dates and booking details once these are released and made available. Post 16 programmes are available to book via our website.

All of our Work Groups are free.

Departmental Development Need	Professional Development Opportunity	Resources to Support
Teachers of Mathematics		
Transition from Primary to Secondary (and Covid recovery support for year 7)	Checkpoint Online PD sessions (Year 7)	Checkpoints
	Years 5-8 Continuity Work Group	Multiplicative Reasoning resources
Developing Teaching for Mastery	Secondary Teaching for Mastery – Development | NCETM	NCETM PD Materials
Developing an area of the curriculum	Years 7-11 Coherence Work Group	Planning to teach secondary maths videos and resources
Developing an element of mathematics or an aspect of pedagogy	Years 7-11 Coherence Work Group	Planning to teach secondary maths videos and resources
	Mathematical Thinking for GCSE Work Group	Mathematical Prompts for Deeper Thinking
Supporting an Early Career Teacher	SKTM for Early Career Teachers	Planning to teach secondary maths videos and resources
Developing subject knowledge for a non-specialist teacher	SKTM for non-specialist teachers	

Departmental Development n Need	Professional Development Opportunity	Resources to Support
Heads of Department/MAT Leads/School Development Leads		
Developing Leadership	Secondary Subject Leadership Work Group	Departmental Workshops
	Secondary Maths MAT Leads: leading and developing mathematics teaching	
	School Development Leads - This project aims to support mathematics leads whose role is to lead change in a school or group of schools other than their own.	
Post 16 Teachers		
New to Teaching Core Maths	New to Teaching Core Maths	REGISTER NOW
Teaching Core Maths	Developing Core Maths Pedagogy	REGISTER NOW
Developing A level pedagogy	Developing A Level Pedagogy	REGISTER NOW

Cross Curricular Work Groups

Strengthening Partnerships with ITT Providers Work Groups

Providers and mentors from primary and secondary ITT routes are invited to participate in a Work Group at the BBO Hub. The first meeting will be online on **3 November**.

For most trainees, the best conversations they can have about mathematics during ITT are with their mentors. Mentors are central to the development of their mathematics teaching.

Often these conversations are limited to what is being taught next, but the conversations that will make most difference to their teaching will probe more deeply into mathematics and pedagogy.

What can mentors and trainees do together to enhance mathematics teaching?

This online work group is creating a mentor-led cross-phase resource about working with trainees on the principles of teaching mathematics. It will consist of tasks that can be done by mentor and trainee together that put mathematics at the heart of learning to teach it. The resource relates to parts of the Common Core Framework for ITT, principles of teaching for mastery and other pedagogic approaches, teacher subject knowledge, and also takes into account research about the development of novice teachers.

We are looking for mentors and providers to contribute to this work through joining this interactive work group. The commitment will be 4 or 5 after-school online meetings throughout the school year and some interim tasks. It may be possible to have some visits between schools.

As well as contributing to the resource, participants so far have found it beneficial for their own practice as mentors and teacher educators in mathematics.

We are inviting anyone who mentors mathematics to participate. Please contact us at info@bbomathshub.org.uk to register. Meetings will be online. For more information about this programme, please visit Strengthening Partnerships with ITT Providers | NCETM.

The programme will be led by **Anne Watson** (Emeritus Professor of Mathematics Education, University of Oxford)

Anne Watson is co-editor: Jaworski & Watson 'Mentoring in Mathematics Teaching' Falmer Press, 1994 and co-author of Watson & De Geest 'Communicating about Mathematics in School' e-book available from ATM.

Events / Network Meetings

NETWORK MEETINGS (IN ASSOCIATION WITH THE AMSP)

The following events are taking place over the coming weeks :

- Year 12 and 13 Problem Solving Workshops start soon, Year 13 on 20th September and Year 12 on 18th October. Both will take place at the Maths Institute, Oxford. They are aimed at schools who only have a small number of Further Maths students. To sign up and for more information go to :
  https://amsp.org.uk/events/details/8759 (Year 13)
  https://amsp.org.uk/events/details/8760 (Year 12)
- Network meeting, Thursday 7th October, 4.30pm to 6pm, online. Alexandra Hewitt will talk about Logic and Reasoning for University Admissions Tests.
  To sign up go to : https://amsp.org.uk/events/details/8820
- Complex Numbers Study Afternoon, Weds 6th October 13.30 to 16.30 at the Maths Institute, Oxford. This is for Year 12 students who are new to Complex Numbers, and are part of a small cohort of Further Maths students. Teachers are welcome to accompany their students for some free CPD.
  To sign up go to : https://amsp.org.uk/events/details/8667

Advanced Mathematics Support Programme®

Follow us on Twitter / Facebook to get updates as and when our Work Groups are finalised and opened up for booking on our website.