MATHSHUBS
NORTH WEST THREE

September 2020

Autumn Newsletter

North West Three Maths Hub

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

Adapted provision for spring/summer term 2019-20

As with all schools Maths Hubs found themselves having to quickly adapt provision to ensure maths support continued for ALL schools working within the Maths Hubs network. All programmes adapted to ensure teachers continued to be supported via a range of online platforms. Maths specialists and Work Group leads ensured they were flexible, some juggling an increased amount of home commitments and full-time school commitments. All staff worked incredibly hard to adapt to the new norm! As a result, Maths Hub work continued in many forms with schools benefitting. I am exceptionally grateful to all Work Group Leads, Teaching for Mastery Specialists and all staff working on behalf of NW3.

I would also like to take this opportunity to express my thanks to all school staff, including school leaders and teachers that continued to commit to the programmes. As a result this ensured staff benefitted from the expertise and resources available to support pupils/students throughout the lockdown period, and in preparation for September. Continued involvement ensured all schools could effectively adapt provision for the autumn term and beyond to ensure all pupils needs are met.

Inspire Support Achieve
Working together to...
North West Learning Partnership

The Three Saints Academy Trust

Continuing Professional Development Standard
National Centre for Excellence in the Teaching of Mathematics

NW3 Maths Hub continues to serve **ALL schools in Sefton, Liverpool, Knowsley, Wigan and St Helens. All programmes are FREE of Charge.** The Work Groups and resources are all of high quality, based on research and are nationally accredited.

Mathematics Recovery Curriculum

NCETM/Maths Hubs are pleased to announce that a 'Ready to Progress Criteria' document has been written. This document is a well researched, evidence based (John Hattie) resource for Primary teachers focusing on key concepts to aid recovery and build firm foundations for pupils in Years 1-6. This document will help to level the playing field and provide very clear guidance on what and how to teach the most important concepts.

https://www.gov.uk/government/publications/teaching-mathematics-in-primary-schools

All Maths Hubs Work groups will support teachers and leaders in using this document effectively to ensure the children continue to have a deep understanding of Mathematics whist focusing on the key concepts.

The NCETM's Director, Charlie Stripp, has warned of the dangers of putting pressure on pupils to 'catch-up'. Read the blog here:

https://bit.ly/3kanakM

Exemplification of Ready-To-Progress Criteria: GET THE RESOURCES NOW!

The NCETM have provided training materials to help primary teachers understand the new DfE Primary Mathematics Guidance. These are available now: **https://bit.ly/35xIaOq**

The PowerPoints provide ready-to-use training sessions ideal for Autumn term insets/staff PD.

A suite of 79 Powerpoint sides, each one focusing on one of the ready-to-progress criteria in the new DfE Primary mathematics national curriculum guidance for KS1 and KS2.

Covid Recovery

The school year 2020/21 will be substantially affected by the impact of the coronavirus outbreak. The knock-on effects on school life and teachers' working lives can't be predicted with any certainty. So, all Maths Hubs work will be flexible and adapt to changing realities. There's likely to be more live online collaboration, often including use of video, for example. In addition, Work Group content will be adjusted to address schools' recovery from coronavirus-related disruption alongside work on the central maths subject matter of each project. The majority of Work Groups will begin to run after the October half term break. With the vast majority of face to face sessions starting in January 2021 (with exception of some meetings that greatly benefit from 'real life' conversation!). Please see the additional COVID statement by following this link: http://nwmathshub3.co.uk/index.php/covid-recovery

Primary and EYFS National and Local Projects

Building Firm Foundations – EYFS Programme (previously Developing Mathematical Fluency Programme)

This Work Group is aimed at schools who are currently developing mastery across their school. Work Groups in this project aim to secure Early Years' best practice and build firm foundations for all children by the end of Reception year. Practitioners and senior leaders will develop their understanding as to how Early Years Best Practice feeds into a teaching for mastery approach and supports progression through the school.

Work Group participants will consider how to build clear progression in mathematical concepts and how to make these accessible to young children. Attention will be given to appropriate pedagogy, in particular the nature of direct teaching within an Early Years context. It aims to support schools (EYFS teachers and school leadership teams) in providing a consistent message about high quality maths provision in the Early Years and how this provision supports progression into the next phase of learning. Schools will develop an understanding of how to link teaching in EYFS and the TfM (The 5 big ideas) in Year 1.

The autumn term recruitment round is now FULL however if you are interested in joining this Work Group in the future please contact:

Lisa Bradshaw - lisa.bradshaw@three-saints.org.uk

Primary Mastery Readiness Programme – Whole School Years 1-6 (YEAR 1 of the Teaching for Mastery Journey)

100% of the survey respondents said that they would recommend the Mastery Readiness Programme to colleagues in other schools.

The programme, led by a Mastery Readiness Lead, Claire Martin, began in summer 2018.

Overview

The maths lead and another teacher will attend training events throughout the year, averaging out at two per term.
There will be two visits per term from the Mastery Readiness Lead to offer tailored advice and support.

Benefits

- The training includes an introduction to mastery, how to prepare a school to be ready to implement teaching for mastery, initial steps, both in leadership and in classroom teaching, and strategies to overcome potential barriers.
- Support for the head teacher in addressing leadership issues related to mathematics and contributing to raising standards.
- Opportunity to work closely with other schools also developing mastery readiness.
- Automatic acceptance onto the fully funded National Teaching for Mastery Programme after the initial 12 months.

Schools feedback:

Teacher's commented *'It has made me realise the importance of breaking down concepts and increased opportunities for daily practise of key mathematical skills.'*

Teachers commented: '*Utilising our basic skills time more effectively, using counting and games to support. Rewriting our calculation policy so staff are clear on expectations in each year group. Use of concrete pictorial and abstract representations.'*

Bespoke school CPD sessions led by the Mastery Readiness Lead has ensured that all staff, both teachers and teaching assistants, have been part of the developments within school, not just the maths lead and participant teachers who attended the CPD days.

Maths subject leaders commented '*It has honestly been one of the* ***most beneficial CPD I have ever attended****. It has definitely shaped me as a teacher and given me a better understanding of how to share the information with staff.'*

A key focus was to ***develop consistency across each school****, this could be in use of concrete and visual representations, consistent approaches to planning, consistent lesson structure across school, consistent use of key resources to support planning and teaching.*

Pupils have commented on mixed ability groupings "*I like to work with different people because it helps me to see how they learn things."*

OFSTED comments about the programme:

One school's recent OFSTED report stated, '*The changes leaders have made to the way mathematics is taught are beginning to improve progress for current pupils.' 'Mathematics is taught systematically across the school, with opportunities for pupils to*

develop an understanding of number systems, build fluency and solve problems with increasing accuracy. This has led to improving progress for current pupils, particularly in key stage 2.' 'In mathematics, attainment is beginning to improve, including for disadvantaged pupils, particularly in key stage 2, because of improvements in the quality of teaching.'

In 2019-20; 3 Knowsley, 13 Liverpool, 8 Sefton, 15 Wigan and 14 St Helens schools took part in the Mastery Readiness Programme. These schools will continue their Mastery Journey onto the Teaching for Mastery Development Programme in September 2020.

Applications are now being taken - please follow the link to apply: http://bit.ly/2uLm2jh

PRIORITY will be given to Liverpool schools in 2020-21

This Work Group is FREE of Charge

Primary Teaching for Mastery Development Programme - Whole school Years 1-6 (YEAR 2 of the Teaching for Mastery Journey)

Schools that have completed the Mastery Readiness Year will automatically move into this phase of development.

For teaching for mastery to develop from individual enthusiasms to long term, sustainable, whole-school developments there is a need to engage teachers and subject leaders in practice-based professional development activity and (together with the headteacher) consideration of leadership and management issues and the development of whole-school systems.

A key aim of these Work Groups is to develop groups of schools where strong curriculum, teaching and professional development practices that reflect a teaching for mastery approach are developed.

Each school will be led by a nationally qualified Teaching for Mastery Specialist.

Professional learning

Lead teachers will:

- report improved mathematical knowledge
- report increased knowledge of what progression in maths looks like
- develop a deep understanding of the principles of Teaching for Mastery and its associated pedagogies

Lead teachers and headteachers will:

- Report a commitment to the importance of embedded, collaborative professional development structures in the school to support deep and sustainable professional learning and practice

Practice development

Lead teachers will:

- Develop the ability to plan effective maths lessons that reflect a Teaching for Mastery approach.

Some teachers in the participant school will:

- Improve their ability to plan effective maths lessons that reflect a Teaching for Mastery approach.

School leaders will:

- Ensure professional development practices are in place so that the cycle of change can be implemented.

Whole school/departmental policies and approaches

Schools will:

- Create a clear set of principles, policies, practices and systems (including curriculum and staffing/ timetable developments) which embody a mastery curriculum and a teaching for mastery approach.
- Establish systems to support ongoing professional learning.

Pupil outcomes

- Using schools' internal data and reflections by teachers, lead teachers can demonstrate that improved pupil learning is taking place.
- All pupils show a positive attitude towards maths, enjoy learning the subject and demonstrate a growth mindset.

The CPD programme is free, with a £1,000 grant to subsidise supply cover when teachers attend local workshops run by trained Mastery Specialists. Applications are welcome from groups of schools, for example in MATs, as well as individual schools.

NW Maths Hub 3 have recruited 67 schools from across Wigan, Sefton, Liverpool, St Helen's, and Knowsley to begin the programme in 2020-21.

These schools will attend a launch on Monday 5th October.

This Work Group is FREE of Charge.

The programme is now FULL for 2020-21 however if you would like to express and interest for future groups or to find out more please follow this link: https://bit.ly/35o0b1z

Primary Teaching for Mastery Embedding Programme Whole school Years 1-6 (YEAR 3 of the TFM Journey)

Schools that have completed the Teaching for Mastery Development Year will automatically move into this Embedding phase.

A NEW addition to this programme is that each group will be led by a Teaching for Mastery nationally accredited specialist.

Essential Criteria:

Each work group has an identified coordinator who ensures that:

- The group has an action plan
- The plan has to have agreed outcomes which includes clear identification of the mathematics or pedagogy to be covered
- All those in the group are responsible for reporting on the impact in their own school
- There is a point of contact with the hub
- There is a focus on leadership embedding TfM within their schools
- There is engagement with head teachers that leads to schools having structures that ensure that teaching for mastery can be developed throughout the school
- There are opportunities for head teachers to network with each other
- There are gap tasks for schools to do that are about embedding TfM across the school
- If teachers cannot attend the TRG, they will send another teacher in their place. There must be a representative.
- There will be some TRG events that include observation of lessons

Desirable Criteria

- There are opportunities for collaborative planning
- The Teaching for Mastery Lead or a Mastery Specialist may attend a group event-not leading but observing
- There is a launch meeting to explain the purpose of the programme and for the work groups to write their action plans
- Include research informed approach in classroom practice, share research or read relevant articles

Overarching goals:

- To further develop and embed Teaching for Mastery pedagogy in the classrooms of Work Group participants
- To further develop and embed Teaching for Mastery pedagogy in the classrooms of all (or specific year group) teachers
- To further develop and embed Teaching for Mastery pedagogy through strategic, organisational and systematic changes

In 2020-21 64 schools will be engaged in the Embedding stage of the Teaching for Mastery programme.

These schools will attend a launch on **Wednesday 30th September.**

This Work Group is FREE of Charge.

Primary Teaching for Mastery Sustaining Programme Whole school Years 1-6 (YEAR 4 of the TFM Journey) This is a NEW programme for 2020-21

Schools that have completed the Teaching for Mastery Embedding Year will automatically move into this Sustaining phase.

Schools that have previously worked with Maths Hubs can re-engage at this stage as required. For more information about this route please contact: Sarah McIlroy or Lisa Bradshaw

In 2020-21, 76 schools will be engaged in the Sustaining stage of the Teaching for Mastery programme.

These schools will attend a launch on Thursday 8th October and Thursday 13th October.

This project brings together all the Work Groups across the network that are working on helping primary schools to sustain their Teaching for Mastery approach for mathematics.

Each school will have a lead participant in the Work Group, normally the subject leader for maths responsible for leading and sustaining developments in maths. They are likely to have played a lead role in previous years. At different points in the year other teachers will participate in aspects of the Work Group workshops, either when hosting a TRG session or participating in a collaborative planning session. **All activity will be supported by a Teaching for Mastery Specialist.**

The workshops are hosted in different schools during the year with the first workshop being held in the Mastery Specialist's school. In order to maximise the benefit of each workshop session, an afternoon model is proposed so that a twilight meeting can take place afterwards to allow additional teachers to join. There will be the following elements:

Leadership focus: During the year the Work Group will discuss and reflect on practice associated with the pedagogical/policy issues identified as priorities in the opening workshop. In any session, the group would seek to support the leaders to work through their current context, how they might implement change, and later in the year reflect on the impact of the change. All schools will write an action plan which will be refined and adjusted over the year.

Collaborative planning focus: teachers from the participant schools plan together and create sequences of lessons. The teachers will continue to plan collaboratively within school and across schools both face to face and online – reflecting on their practice, observing each other and refining plans as a result of feedback and discussion.

Subject knowledge development: the planning will provide a vehicle for teachers to develop their subject knowledge through using the Primary PD Materials; the leaders will create the right culture for this to be a regular feature of the professional development offer in their schools.

This Work Group is FREE of Charge.

Teaching for Mastery Specialist Teachers

15 Mastery specialist teachers are currently working on behalf of NW Maths Hub 3 supporting 207 schools on their Mastery Journey via the National TFM programme. Cohort 6 Mastery specialists will begin their training in September 2020.

Primary Mastery Specialist Recruitment Cohort 6

Congratulations to the following teachers who will begin their Mastery Specialists National Training and development in September 2020 working on behalf of NW Maths Hub 3:

Phil Moss - Liverpool

Andrew Brooks – Knowsley

Robert Burns – Sefton

Jacqueline Fildes – St Helens

We look forward to having them as part of our successful, dedicated team!

Mastery with Greater Depth

Write all the 2-digit numbers greater than 40 using these digits.

2	4	6	6

How do you know you have them all? Prove it.

NCETM Assessing Mastery Y2

Maths Hubs - the overall aim:

Maths Hubs work together to support primary through to post 16 practitioners to have the chance to change/influence maths education across the country.

Excellent Maths Teacher Programme - Primary

We have now trained 180 teachers/Maths leads from across the NW in supporting them to build leadership capacity within their own school and beyond. Learning from the programme has been used to develop the participant and other teachers within their context ultimately impacting positively on them as a leader, staff in the school and pupil outcomes and attitudes to maths. The programme has proven to have significant impact for the staff receiving the training in terms of personally and professionally and has ultimately impacted on improving the provision for pupils that they teach.

This is an extremely popular programme and there are only limited places available. Please email Lisa Bradshaw if you or a member of your staff is interested in being part of this to begin in September 2020. **The first session will take place on Thursday 17th September at Yew Tree Farm, Knowsley.**

The overall aim of the programme is to share and develop effective mathematics practice across the NW providing a school led approach to improving teaching and leadership of mathematics.

For further details about booking on the programme for 2020-21 see here: **https://bit.ly/3ha2SGb**

Limited places are available. To book a place, please contact Paula Foster: paula.foster@three-saints.org.uk

Specialist Knowledge for Teaching Mathematics (SKTM) Primary Teachers Programmes NEW for 2020-21

The purpose of this programme is to support primary teachers in developing specialist knowledge for teaching mathematics, thus enabling them to understand, teach and support pupils in the maths classroom.

The programme is based on four core primary modules:

- Number sense
- Additive reasoning
- Multiplicative reasoning
- Fractions

Who is it for?

This programme is designed for teachers who would like to further develop their specialist knowledge for teaching mathematics. It will be particularly relevant for NQTs/RQTs, teachers that have moved phases or teachers that have not received maths-specific training.

Professional learning:

- Teachers will enhance their mathematics subject knowledge with an emphasis on the key structures in each mathematical area covered.
- Understand the key elements that form number sense, including precise language, structures and representations.
- Understand the forms of addition, subtraction, multiplication and division including precise language, structures and representations.
- Understand the forms of fractions, including precise language, structures and representations.
- Teachers will review their practice as a result of the sessions and make specific adaptations to impact on pupil outcomes.

Pupils will:

- have greater exposure to mathematical representations and structures and will start to be seen to use these independently in their work.
- be able to explain their mathematics and their mathematical thinking using appropriate language.
- demonstrate a positive attitude towards mathematics, be willing to have a go, persevere and share their mathematical ideas.

Expectations of participants and their schools:

Teachers will be required to attend 3 CPD training days across two terms. They will complete gap tasks between each training day and reflect on their classroom practice.

This programme is FREE of Charge. There is no application form.
To express and interest in joining the programme please contact:
Paula Foster - paula.foster@three-saints.org.uk

Specialist Knowledge for Teaching Mathematics (SKTM) Teaching Assistant Programmes - NEW for 2020-21

Overview:

Teaching Assistants will take part in a 3-day programme delivered across the year (online & face to face) to develop the subject knowledge and pedagogical knowledge for the teaching and supporting the learning of mathematics.

Who is it for?

Specialist knowledge for teaching mathematics programme is designed for Teaching Assistants who are supporting maths, and who would like to develop their specialist knowledge for teaching maths. This may be particularly relevant for new Teaching Assistants or Teaching Assistants that have not received maths-specific training.

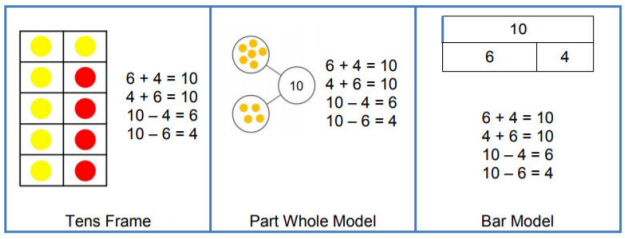
Participating in the programme will provide the following benefits to participants:

Participants will enhance their mathematics subject knowledge with an emphasis on the key structures in each mathematical area covered e.g. key elements that form number sense, addition, subtraction, multiplication, division and fractions.

Participants will review their practice as a result of the sessions and make specific adaptations to impact on pupil outcomes.

Pupils will have greater exposure to mathematical representations and structures and will start to be seen to use these independently in their own work.

This programme is FREE of Charge. There is no application form. To Express and interest in joining the programme please contact: Paula Foster- paula.foster@three-saints.org.uk



EYFS Progression Charts

There are six key areas of early mathematics learning, which collectively provide a platform for everything children will encounter as they progress through their maths learning at primary school, and beyond:

https://www.ncetm.org.uk/in-the-classroom/early-years/

Numberblocks Support Materials

NCETM have been expanding their support materials for the CBeebies programme Numberblocks, which now cover all of Series One. They've also added two documents giving an overview of each series, the storylines, and the mathematics addressed.

To view the resources: https://www.ncetm.org.uk/classroom-resources/ey-numberblocks-support-materials/

Primary Professional Development Materials from NCETM

Our popular mastery professional development resources for primary teachers have now been enhanced for number: addition, subtraction, muliplication and division so that there's something for every year group. The materials cover the whole school year for every year group. **To view the resources: https://www.ncetm.org.uk/teaching-for-mastery/mastery-materials/primary-mastery-professional-development/**

Primary Maths Subject Leader meetings

Friday 2nd October 2020 9am-3.30pm

Mercure St Helens Hotel, Linkway West, WA10 1NG

Implications for the most important teaching year in decades

A spotlight on Shape

Facilitator: Tara Loughran

Further details: https://bit.ly/35sw6xG

About our work

As a Maths Hub we provide support to all schools in the area and the NW, across all areas of maths education, including:

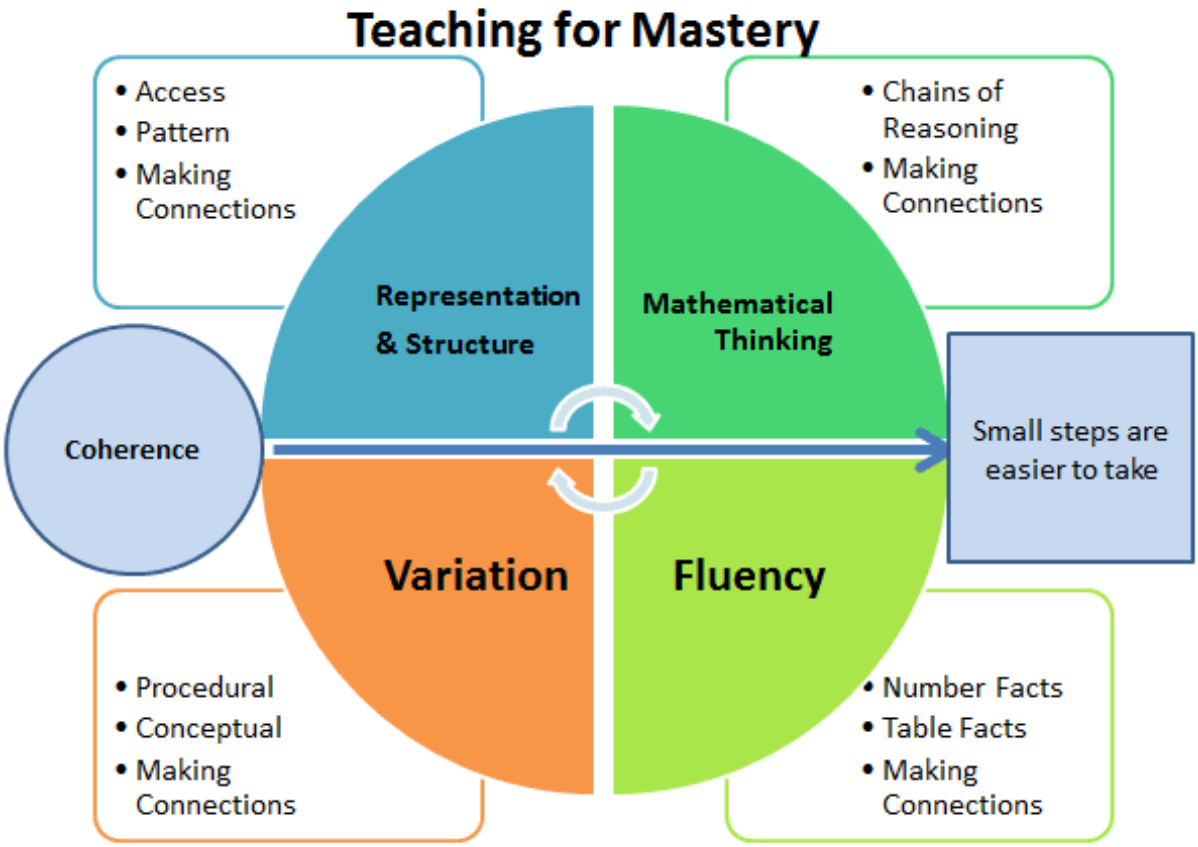
Recruitment of maths specialists into teaching.

Initial training of maths teachers and converting existing teachers into maths.

Co-ordinating and delivering a wide range of maths continuing professional development (CPD) and school-to-school support.

Ensuring maths leadership is developed, e.g. running a programme for aspiring heads of maths departments.

Helping maths enrichment programmes to reach a large number of pupils from primary school onwards.



Useful links include:

NCETM: https://www.ncetm.org.uk/

North West 3 Maths Hub website: http://www.nwmathshub3.co.uk/

Nrich: http://nrich.maths.org

Maths No Problem: http://www.mathsnoproblem.co.uk/

Maths Associations: http://www.nwmathshub3.co.uk/associations.html

CMSP: http://www.core-maths.org

MEI: http://www.mei.org.uk/

Power Maths: https://www.pearsonschoolsandfecolleges.co.uk/Primary/Mathematics/AllMathematicsresources/Power-Maths/Power-Maths.aspx

AMSP: http://furthermaths.org.uk/amsp

Teaching Schools Council: https://www.tscouncil.org.uk/

ACME: http://www.acme-uk.org/home

Ofsted: http://www.ofsted.gov.uk

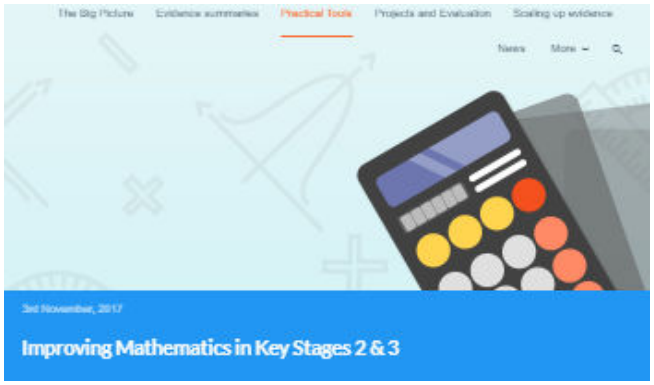
Y5-Y8 Continuity Programme

This programme includes: 3 face-to-face training days and 2 school visits. The programme is aimed at Y5, 6, 7 and 8 practitioners.

Sessions include:

- Sharing of work samples- cross phase moderation/standardisation- expectations explored
- Learning walks- school based focused visits
- Agreeing common, precise mathematical language
- CPD opportunities for the development of teacher subject knowledge and activity ideas around the four areas of calculation, algebra and fractions
- Teaching for Mastery- how to incorporate the 5 big ideas- exemplification and expectation
- CPA models used and scaffolds explored to ensure appropriate support and challenge is being provided across the two key stages
- Identifying gaps and next steps.

KEY RESOURCE - to support the EEF Improving Maths in Key Stages 2 & 3 guidance report, a Red Amber Green (RAG) self-assessment guide has been published. It sets out what 'ineffective', 'improving' & 'exemplary' practice can look like for each recommendation: https://bit.ly/2Mv4rUJ
This will be used as part of the project.



To express and interest in joining the Work Group please contact:

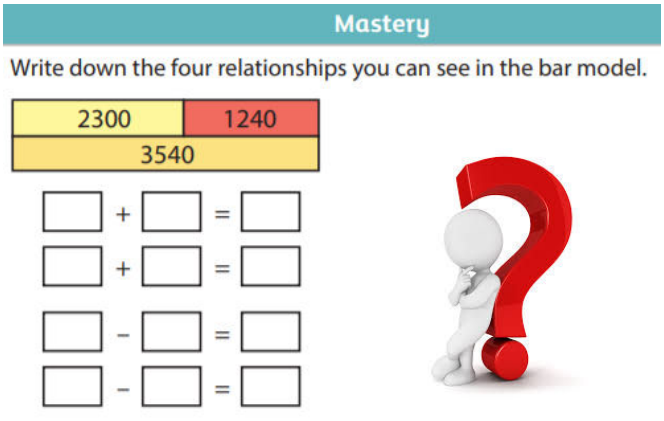
Lisa Bradshaw - lisa.bradshaw@ three-saints.org.uk

Paula Foster- paula.foster@three-saints.org.uk

This Work Group is free of charge.

This work group will run again in 2020-21 with a focus on Wigan, St Helens, Knowsley, Liverpool and Sefton areas.

Teaching for mastery favours building firm foundations based on deep understanding, not rushing through more content in less time. Join a funded Maths Hubs Work Group for sustained CPD and bespoke in-school support.



NCETM Assessing Mastery Y4

Mathematics is not about numbers, equations, computations or algorithms; it's about understanding.

William Thurston

Secondary National and Innovation Projects

The Secondary Teaching for Mastery Programme – An Overview

There is a national target for half of the secondary schools in England to engage with the Teaching for Mastery Programme.

To meet this target, it is vital, not only that individual teachers develop teaching for mastery approaches, but also that the department as a whole has systems, policies and ways of working which are compatible with teaching for mastery and allow for the collaborative professional development structures which are needed in order to develop and embed these approaches and to sustain them in the long term.

The **NCETM Teaching for Mastery Programme** aims to do this through two overlapping and connected programmes:

- The Secondary Mastery Specialist (SMS) Programme
- The 'Develop/Embed/Sustain' Programme

The Secondary Mastery Specialist (SMS) Programme

This is a three-year programme which aims to develop teachers of mathematics who are interested in:

- learning about teaching for mastery approaches and building these approaches into their practice
- supporting other colleagues in their own department to build TfM approaches into their practice
- leading their own departmental in the development of systems which support TfM approaches
- supporting other schools to develop their classroom and departmental practice

Year 1: Specialists working on their own classroom practice

Year 2: Working with their own department and participating in the NCETM PD Lead Development and Accreditation Programme (PDLDAP)

Year 3: Working intensively with two other departments

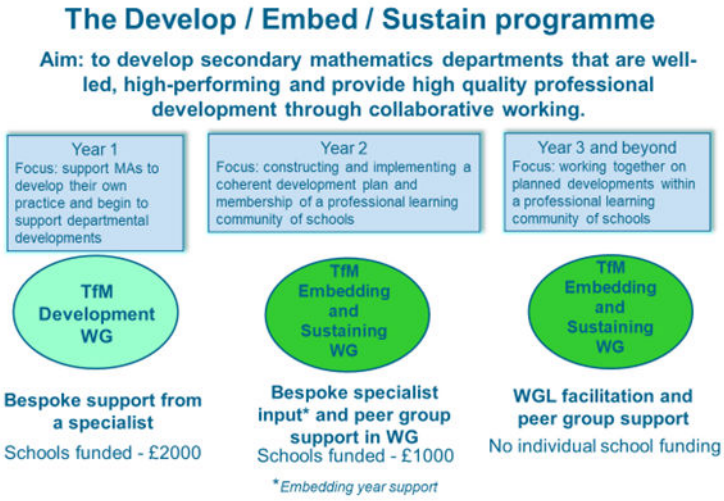
This central programme is complemented by local support and development provided by a Secondary Teaching for Mastery Lead.

The Develop/Embed/Sustain Programme

In the 3rd year of the SMS programme, specialists support schools in the Teaching for Mastery Development Work Group to develop their own practice and systems. In subsequent years, these schools join the Embedding and Sustaining Work Groups.

All schools are committing to a programme which aims to:

- Support the construction of a coherent and ambitious departmental action plan focusing on the need of their pupils and teachers
- Put in place a structure for professional development based around collaborative working which supports sustainable and long-lasting development
- Further support departments by offering the opportunity to join a professional learning network of schools all working on their classroom and departmental practice



Year 1: Support for Mastery Advocates to develop their own thinking and practice and to help them begin to support departmental developments (Developing WG)

Year 2: Support for constructing and implementing a coherent development plan and an opportunity to share ideas and network through membership of a professional learning community (Embedding and a Sustaining WG + Embedding Year support)

Year 3 (and beyond): working together in a professional community of schools to support sustained development (Embedding and Sustaining Work Group)

The following schools will be involved in the **Development programme for 2020-21**: Lord Derby (Knowsley), Fred Longworth (Wigan), St Cuthberts (St Helens), Haydock (St Helens), Kings Hawthornes (Liverpool), Newbridge Learning (Wigan), Alt Bridge (Knowsley), Woolton (Liverpool), Presfield (Sefton), Savio Salesian (Sefton), Hillside (Liverpool), SFX (Liverpool) and St Michaels (Sefton).

The following schools will be involved in the **Embedding programme for 2020-21**: Cansfield (Wigan), St Julies (Liverpool), Sutton (StHelens), Cardinal Heenan (Liverpool), St Francis of Assisi (Liverpool) and Cardinal Newman (Liverpool)

Useful Secondary Resources

Free and nationally accredited resources

Teaching and curriculum guidance for secondary teachers as schools fully re-open - **https://www.ncetm.org.uk/in-the-classroom/support-for-schools-addressing-ongoing-coronavirus-impact/support-for-secondary-teachers/**

Secondary PD materials - **https://www.ncetm.org.uk/teaching-for-mastery/mastery-materials/secondary-mastery-professional-development/**

Secondary assessment materials - https://www.ncetm.org.uk/classroom-resources/assessment-materials-secondary/

NCETM link to Mastery section (Primary and Secondary - applications and resources) - https://www.ncetm.org.uk/teaching-for-mastery/

Congratulations to the new Cohort 5 Secondary Teaching for Mastery Specialists:

Jenni Ward, St Helens

Melanie Gilbert, Liverpool

Danny Henderson, Knowsley

Liz Nuttall, Liverpool

John Wilkinson, Wigan

Brendan Rigby- Beckett, Liverpool

Mastery

There were fifty-six men and sixteen women on a bus, so the ratio of men to women is 7:2.

At the last stop ten women and three men got on the bus. Eight men and two women got off. What was the ratio of women to men after this stop?

Explain your answer.

NCETM Assessing Mastery KS3

Challenging Topics at GCSE

What are the strategic goals of the Maths Hub for this project?

To support schools and colleges to address the challenge of teaching the 9-1 GCSE. In particular to explore approaches to teaching a chosen topic that proved challenging in the new GCSE, and also improve department professional development processes for doing this.

Through this we will explore and evaluate at these levels:

- What approaches work well in the classroom?
- What approaches work well in supporting department PD?
- What strategies are effective at Work Group level?

The aim will be for teachers to:

- appreciate the importance of looking further back in the locus of teaching rather than 'fire-fighting' in KS4
- to analyse and unpick teaching issues underpinning some of the challenging topics and gain a deeper understanding of the pre-requirements for teaching them including the importance of pedagogical approaches
- understand and consider the implications for addressing these issues both in the immediate teaching of pupils demonstrating those difficulties but also the longer-term development of those skills across the curriculum
- plan and teach more effective lessons that identify and address pupils' difficulties in relation to certain challenging topics
- consider and implement changes to teaching across KS3 into KS4 so that pupils develop a more secure and deep understanding of those particular challenging topics
- work collaboratively with colleagues both within school and outside to address these issues

This Work Group is FREE of Charge to all schools.

Schools chosen to participate in the Work Group will commit to the following expectations:

- Participating teachers will attend 4 half day workshops
- Teachers will fully engage in all tasks and development activities in between meetings
- Teachers will contribute experiences, ideas and resources to develop pedagogy around the chosen challenging topic

Expressions of Interest are now being taken.

Please contact:
Lisa Bradshaw - lisa.bradshaw@three-saints.org.uk or Lindsay Porter - lindsay.porter@three-saints.org.uk

Secondary Heads of Department Meetings

Throughout 2020-21 we are pleased to be able to offer termly Head of Maths network meetings for schools across the NW3 region – St Helens, Wigan, Knowlsey, Sefton and Liverpool.

Lindsay Porter (AQA associate and Secondary Maths lead) will continue to deliver this network. This is an opportunity for all Heads of department to come together to review and share approaches to current national and local initiatives.

Thursday 15th October 2020 3.30-4.45pm
Online via Zoom

This is an opportunity for all Heads of Department to come together to review and share approaches to current national and local initiatives.

PRU/Special Schools - Wednesday 7th October 2020, Oakfield High School, Long Ln, Hindley Green, Wigan WN2 4XA
Further details: https://bit.ly/33leMIz
This network is free of charge.

Mathematical thinking for the GCSE

This Work Group offers teachers and their departments nationally coordinated support to address the reasoning and problem-solving challenges of the mathematics curriculum and its assessment in the new GCSE. Many departments will be considering not only the long-term development of these skills across KS3 and into KS4, but also the immediate needs of current KS4 pupils facing the challenges of the new GCSE. This Work Group aims to support both these aspects through professional development activities focusing on practical and accessible classroom-based approaches. Participation also offers the opportunity to develop departmental professional development processes and produce longer-term improvement plans.

Who is this for? All secondary schools wishing to begin or continue a programme of professional development to address the teaching and learning implications of the new curriculum and GCSE. Ideally, each school will send two members of department (at least one of whom is experienced and has some leadership responsibility) to maximise the impact of the professional development within the department.

What is involved? 4 x half day workshops focused on developing reasoning and problem-solving skills in all lessons .

Gap tasks between the workshops will include Lesson Study, allowing wider department participation in the professional development.
There will be an evaluation process focusing on the impact of activities on pupils and the wider department.

Recruitment rounds for this project are open now. We would particularly welcome applicants from Liverpool, Wigan, Sefton, St Helens and Knowsley.

This Work Group is FREE of Charge.

To express an interest in this proagramme, contact:
Lisa Bradshaw - lisa.bradshaw@three-saints.org.uk or Lindsay Porter - lindsay.porter@three-saints.org.uk

Supporting Post-16 GCSE resit

There is now a large and growing number of Post-16 GCSE Resit students, predominantly in FE colleges. GCSE Mathematics is still unfamiliar to many teachers in FE Colleges and Sixth Form Colleges and with a timeframe for resit delivery over 8 months rather than two (or more) years, centres are faced with a number of substantial difficulties.

Intended outcomes: participating teachers and their departments will:

- Develop teaching and learning approaches/pedagogy to promote student engagement with the revised curriculum
- Develop teachers' confidence and competence in teaching the new GCSE as a resit in Post-16 (often limited to an 8 -month course)
- Share practice and resources which are effective with this group of students (e.g. through SoW, CPD, collaborative planning), so that these approaches become embedded as departmental practice
- Increase localised support and collaboration with local schools and FE institutions
- Use gap tasks/ TRG style meetings to model and disseminate research and practice

Who should attend? Teachers of GCSE maths resit students in 11-18 centres and FE institutions.

What is involved? Four half day workshops (1-4pm).

Dates and venue TBC

This Work Group is FREE of Charge.

To express an interest in this proagramme, contact:
Lisa Bradshaw - lisa.bradshaw@three-saints.org.uk or Lindsay Porter - lindsay.porter@three-saints.org.uk

Secondary Excellent Maths Teacher Programme (Innovation)

Who is it for?

These sessions are aimed at excellent maths teachers who have the potential and drive to achieve excellence in maths practice and the ability to develop others.

4 full day sessions to include:

What does outstanding maths practice look like?

- Understanding how practice has changed at Key Stage 2 and the need to build on this at Key Stage 3
- Developing problem solving, reasoning and fluency throughout Key Stages 3/4
- Effective monitoring to determine impact
- Tracking of progress and skills to inform action planning and next steps
- Exploring and developing assessment
- Providing effective feedback
- Lesson structures, planning and questioning

Delegates will be involved in 3 'Gap tasks' linked to practice in their own schools.

This programme is free of charge

This programme was extremely well received in 2019-20. 18 Secondary Maths teachers took part in this programme.

Participant feedback:

Just wanted to pass on my thanks to you for the running of what has been an outstanding 4-day course. The course has genuinely changed the way I plan a number of lessons and has more than sparked my interest in 'mastery'. Your knowledge is second to none and your enthusiasm is contagious! Both of which made the course a great success.

Expressions of Interest for this programme are now being taken for 2020-21.

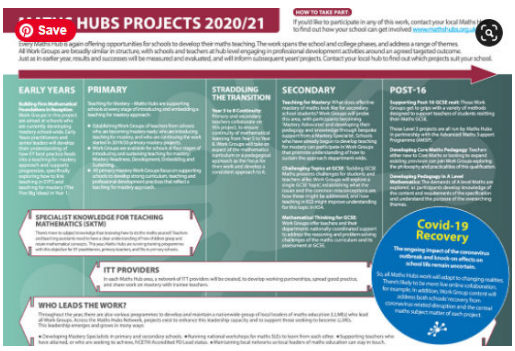
To express an interest in this proagramme, contact:
Lisa Bradshaw - lisa.bradshaw@three-saints.org.uk or Lindsay Porter - lindsay.porter@three-saints.org.uk

See here for further information: https://bit.ly/3lXWKEy

Secondary Maths CPD Network (Whole school department opportunity)

As a result of extremely positive feedback from the previous 4 years, the Secondary Maths CPD network will continue in 2020-21. Whole Secondary Maths departments meet on a half termly basis to explore key mathematical themes. All themes have been selected based on need. Secondary Maths departments from across the NW have had the opportunity to engage in high quality CPD from experts in their field. It has provided an opportunity to network and share good practice. This network has been a huge success with over 25 secondary maths departments attending on a regular basis.

Full programme details will be published soon. All sessions will resume in Spring 2021.



MATHS HUBS OPPORTUNITIES FOR 2020/21 NOW AVAILABLE

New projects offer something for your own professional development or to develop maths teaching across your department or school.

https://www.ncetm.org.uk/news/maths-hubs-opportunities-for-2020-21-now-available/

Early Career Development Programme (Innovation)

A key aim of this work group is to support teachers new to the profession to ensure they are providing a strong curriculum, teaching and professional development practices that can be shared amongst the departments they are working in and across the Hub region. This Work Group has run successfully for the past two years and we intend to review and evaluate this programme on an annual basis to ensure we are continuing to meet the needs of all Maths Secondary NQTs and RQTs across the patch.

Trainees will:

- Become more confident when planning and organising effective mathematical opportunities
- Have the opportunity to network with colleagues that are new to the progression
- Learn how to manage a smoothly run maths classroom, ensuring all learners are engaged
- Improve progressional understanding
- Have an improved understanding of what depth looks like leading to mastery
- Create and share good quality maths resources
- Motivate pupils to enjoy maths
- Learn to embed problem solving and develop reasoning opportunities in every lesson
- Reflect and evaluate practice ready to start their RQT year

This programme is being offered again in 2020-21.

This Work Group is free of charge

Details: **https://bit.ly/3m1U9tq**

To express an interest in this Work Group, contact:
Lisa Bradshaw - lisa.bradshaw@three-saints.org.uk or Lindsay Porter - lindsay.porter@three-saints.org.uk

Secondary Mastery Readiness Programme (Innovation)

Teaching mathematics for mastery at primary school has been developing for a number of years and secondary schools need to be equipped to ensure that the children coming through are taught with a focus on the same five big ideas. Using the successful primary mastery readiness programme as a model, this has been adapted for secondary schools and is aimed to give teachers an in depth look at two of the five big ideas.

Who should attend? Teachers of secondary maths departments that are interested in learning more about teaching for mastery, collaborative planning and observing mastery in action.

What is involved? 6 afternoon half termly meetings with gap task activities between each workshop

Autumn 1- focus on variation linked to addition of fractions
Autumn 2- variation linked to teaching averages
Spring 1- variation linked to teaching indices
Spring 2- representation linked to FDP equivalence
Summer 1- Representation linked to Area
Summer 2- Representation linked to Simultaneous equations

Each session will be followed by a 'gap task' for teachers to lead/deliver a session to students linked to the theme. They will be expected to disseminate ideas/concepts with colleagues within their department and return to the following session with evidence of findings to review/reflect and evaluate learning to develop practice further. All sessions will model and exemplify mathematical content via a big idea across the two key stages thus showing how it can be easily adapted and adopted. Participants will receive national updates ensuring their practice remains current/relevant to ensure students are getting the best possible opportunities.

Dates and venue TBC

This Work Group is free of charge

Full programme details: **https://bit.ly/2Rc5Y1F**

To express an interest in this Work Group, contact:
Lisa Bradshaw - lisa.bradshaw@three-saints.org.uk or Lindsay Porter - lindsay.porter@three-saints.org.uk

Secondary Maths and SEND (Innovation) – NEW for 2020-21:

Overview

Secondary schools have made a significant commitment to teaching for mastery in their curriculum planning. This Work Group will consider the nature of Teaching for Mastery pedagogy as it relates to pupils with SEND.

Participants will consider how teaching for mastery approaches can be applied to supporting pupils with SEND in secondary settings, particularly the use of representation & structure and planning for coherence. Materials specific to needs will be developed and trialled to be shared across the hub region.

Who is it for?

Secondary Mathematics teachers (a Teaching assistant working with the Mathematics teacher is also welcome). The teacher attending the Work Group should have some experience and expertise in teaching for mastery and be able to disseminate. It is recommended that schools have participated in a TRG Teaching for Mastery Work Group, but this is not essential.

Intended outcomes

Participating in the programme will provide the following benefits:

- Teachers will gain a better understanding of the nature of teaching for mastery pedagogy as it relates to pupils with SEND and develop their knowledge of how to support pupils with SEND
- Schools will examine and evaluate their own school practice in relation to the pupils with SEND in their own setting
- Materials specific to particular needs will be developed and trialled to be shared across the hub region
- Pupils will be able to access the curriculum and improve understanding and achievement alongside their peers
- Greater confidence and self-worth developed from achievement can be established in these vulnerable pupils

Expectations of participants and their schools

Teachers will be required to attend 3 workshops across the year. They will complete intersessional tasks between each workshop session and reflect on their classroom practice.

This Work Group is FREE of Charge. There is no application form.

To express an interest in this Work Group, contact:
Lisa Bradshaw - lisa.bradshaw@three-saints.org.uk

Mastery with Greater Depth

Match up expressions on the left with their corresponding description in words on the right.

$4 + 2x$	Four less than x
$x - 4$	Four times the number that is two more than x
$2x - 4$	Two less than one quarter of x
$(x + 2) \div 4$	Four more than twice x
$4(x + 2)$	One quarter of the number which is two more than x

One expression on the left and one description on the right can't be matched.

Can you write a description for the expression that isn't matched?

Can you write an expression for the description that isn't matched?

Post-16 National and Innovation Projects

Post-16 institutions (including 11-18 schools) priorities for 2020-21:

Maths Hubs support teachers and leaders in post-16 schools and colleges to increase participation in Level 3 mathematics education, and enhance the quality of teaching at all levels, so that all students studying mathematics post-16 make good progress and are well-prepared for their future education and career pathways. Maths Hubs carry out this work by working closely with the funded programmes for post-16 mathematics (the Advanced Maths Support, FE Centres for Excellence and the Maths Schools Programmes) and activity is coordinated in conjunction with these programmes.

Work Group activity will include:

- To develop a Core maths network of teachers to meet to share resources.
- To Strengthen partnerships with all Teacher Training Providers in our region and set up half day workshops for student teachers to get training on all Level 3 maths options open to students.
- Developing A level Pedagogy.
- KS5 Practitioner network (across 5 locations) – NEW for 2020-21

Further details to follow.

For more information please contact Sarah Boyle: sarah.boyle@calderstones.co.uk

Supporting Core Maths - AMSP collaboration

This Work Group gives teachers opportunities, through collaboration and experimentation, to develop improved teaching approaches that support the open-ended problem-solving skills Core Maths students need and share these with departmental colleagues. Participant departments will support the role of Core Maths in promoting contextualised problem-solving and links to teaching in other subject areas. It involves a direct working partnership between the Maths Hubs Network and the Advanced Mathematics Support Programme (AMSP).

What are the intended outcomes of the Work Groups in this NCP?

Professional learning

- Participants, and where appropriate colleagues in their department, will understand the philosophy of Core Maths, with its approach to maths through contextualised problem-solving
- Participants will develop their understanding by exploring a range of common Core Maths approaches and topics (e.g. Fermi problems, critical analysis of numbers in the media) and their use of pre-release materials

Practice development

- Participants will share approaches to planning and delivery of the Core Maths curriculum
- Participants will teach effectively some mathematical concepts and processes through contextualised problem-solving
- Participants will identify and make effective use of existing Core Maths resources
- Participants may develop and trial contextualised problem-solving resources with Key Stage 4 students

Whole school/departmental policies and approaches

- Where appropriate, participants will disseminate information or lead professional development about Core Maths with their departments
- Participants will, where appropriate, support their school/college in developing clear ways of communicating and promoting its Core Maths offer
- Participants will support senior leadership in understanding the benefits of Core Maths
- Participants will support the role of Core Maths in promoting problem solving within GCSE Maths

Student outcomes

- Students will have raised awareness of the use of maths and statistics in everyday life
- Students will have increased their confidence in using maths
- Key Stage 4 students may experience Core Maths contextualised problem-solving questions to support links to their GCSE but also to highlight the support Core Maths can give to Year 12/13 students who are studying other subjects (maths in psychology, geography etc)

Who is it for?

The target group for lead participants in these Work Groups is experienced, recent or - in exceptional cases - potential teachers of Core Maths. These may be teachers in post-16 settings whose main subject is maths or whose main subject is not maths. Lead participants will be expected, where appropriate, to work with colleagues in their own department.

This programme is FREE of Charge. There is no application form. To express an interest in joining the programme please contact: Paula Foster- paula.foster@three-saints.org.uk or Sarah Boyle (L3 Lead)- sarah.boyle@calderstones.co.uk

Developing A Level Pedagogy (including Use of Technology)

This Work Group provides national support for the effective development of pedagogy in the teaching of A level Mathematics to enhance the quality of teaching and the conceptual understanding of students.

The Work Group aims to develop and sustain regional communities of practice involving collaboration between teachers in developing pedagogy in their teaching of A level Mathematics.

The focus of this NCP is on developing pedagogy in A level Maths teaching and development of participants as leaders of A level teaching professional development in their own school or college.

It involves a direct working partnership between the Maths Hubs Network and the Advanced Mathematics Support Programme (AMSP).

What are the intended outcomes of the Work Groups in this NCP?

Professional learning

Participants will:

- know the content and requirements of the linear A -Level Mathematics
- understand the purpose of the over-arching themes and their impact on teaching and learning in A Level Mathematics, including use of technology
- be confident to teach aspects of the content (particularly mechanics and statistics)

Practice development

Participants will:

- plan sequences of lessons which meet the requirements of the linear A Level, including addressing the overarching themes and use of technology
- support colleagues in their own school / colleges in embedding themes from the Work Group in their delivery of the linear A Level

Whole school/departmental policies and approaches

Schools/colleges will

- have improved the capacity of staff to deliver A Level Mathematics
- departments will be better able to prepare lessons that meet the requirements of the linear A Level including the overarching themes and the use of technology

Student outcomes

Students will:

- be able to demonstrate/communicate the links between mathematical topics within the linear A Level content
- have increased confidence in the reasoning / proof, problem-solving, modelling and use of calculator elements of assessment

Who is it for?

The target group of schools/colleges/departments are those which want to develop one or more aspects of their A level pedagogy.

This programme is FREE of Charge. There is no application form. To express and interest in joining the programme please contact:

Paula Foster - paula.foster@three-saints.org.uk or Sarah Boyle (L3 Lead)- sarah.boyle@calderstones.co.uk

KS5 Practitioner network – NEW for 2020-21 (Innovation)

The networks will run on a termly basis at 5 different locations, across the NW3 patch- St Helens, Knowsley, Sefton, Wigan and Liverpool. The networks will provide a balance of sharing good practice, responding to local and national agendas. NW3 Maths Hub will facilitate the meetings and will invite local and national experts in their field. **This network is FREE of CHARGE.**

Further details to follow
To find out more please contact: Lisa Bradshaw - lisa.bradshaw@three-saints.org.uk or Sarah Boyle (L3 Lead) - sarah.boyle@calderstones.co.uk

In-School 'Core Mathematics Roadshow' - Enrichment Opportunities for Y10 students

FREE 1-hour enrichment sessions held in your school, targeting Y10 students working towards GCSE grades 4 – 6. Focus on practical and real-world mathematics applications. For schools who are considering offering the Level 3 'Core Maths' qualification post-16.

- To help develop students' practical and real-world problem-solving skills.
- To help explain to schools the benefits of post-16 mathematics study, especially the Level 3 Core Mathematics qualification: https://www.stem.org.uk/core-maths

Further details:

Alongside the enrichment session with students, we would welcome the opportunity to spend some time with HoD / members of dept / SLT to discuss whether offering the Core Maths qualification in your school might be an option [Note: we DON'T promote the qualification directly to students]

Booking a visit: please contact Sarah Boyle: sarah.boyle@calderstones.co.uk (Post-16 lead for NW Maths Hub 3), or Martin Bamber m.bamber@liverpool.ac.uk (AMSP Area Co-ordinator, NW)

All Post 16 provision complements PD led by AMSP. The regional leads work together to create all offers so these complement each other.

To find out more about what AMSP offer please follow the link: https://amsp.org.uk/

Want to keep up with everything that's happening in North West 3 Maths Hub?

Sign up for our mailing list here:
http://eepurl.com/du2lnn

Work Group to strengthen partnerships with ITT providers

North West 3 Maths Hub are delighted to be working in partnership with local ITT providers to support the effective recruitment, preparation and development of teachers of mathematics.

The following universities are committed to being engaged in the work group in 2020-21:

Edge Hill University, Liverpool Hope University and Liverpool John Moores

Professional learning linked to this work stream:

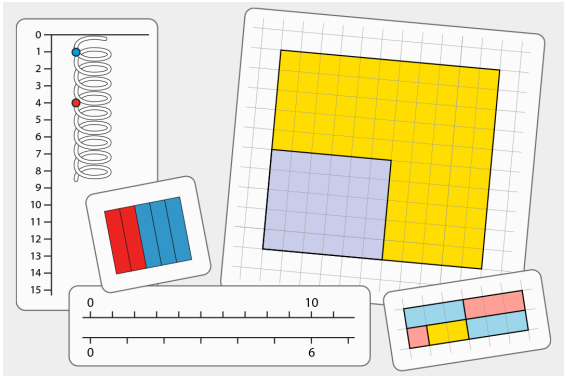
For ITT providers: an understanding of the work of their local Maths Hub and the National Maths Hubs Network, including Teaching for Mastery (TfM), and the potential impact on their trainees.

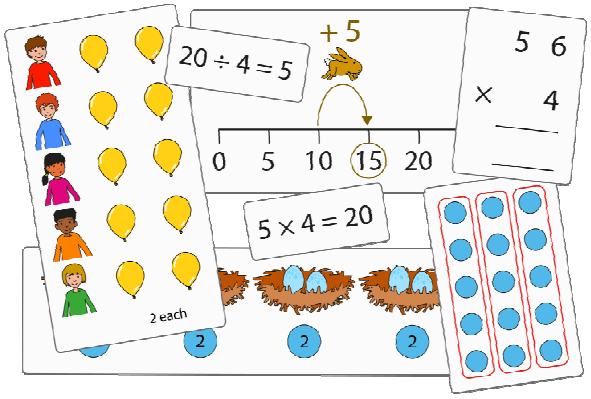
For Maths Hubs: to ensure that there is the opportunity for collaboration and professional discussion of practices across ITT providers

For ITT trainees: some input on the principles of TfM will impact on their subject knowledge and understanding of the connections in mathematics. In particular, the application of the theory of variation to intelligent practice in the classroom and the importance of carefully crafting lessons based on small steps in key learning.

For further information please contact Lisa Bradshaw

This Work Group is FREE of Charge





For further information in relation to National and Local work streams that North West 3 Maths is involved in please visit:

http://www.nwmathshub3.co.uk

Alternatively, please don't hesitate to contact:

Lisa Bradshaw (Maths Hub Lead) lisa.bradshaw@three-saints.org.uk

Sarah McIlroy (Primary Mastery Lead) sarah.mcilroy@three-saints.org.uk

Lindsay Porter (Secondary Mastery Lead) lindsay.porter@three-saints.org.uk

Sarah Boyle (Post-16 Lead) sarah.boyle@calderstones.co.uk

Sarah Makin (Admin) sarah.makin@three-saints.org.uk

Debs Ayerst (Online Services Admin) debsayerst@nwmathshub3.co.uk

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