

# Autumn Newsletter

## North West Three Maths Hub

December 2017



### Jane Jones HMI, National Lead for Mathematics

116 Head teachers and senior leads from across the NW attended a briefing in November 2017 delivered by Jane Jones. The focus of the session was the teaching for mastery approach, expectations, how HMI/OFSTED are using this knowledge/approach to inform inspections. Progress and lessons learnt from previous inspections. What is working well in schools based on recent visits under the updated schedule. Delegates found this extremely beneficial it gave them the opportunity to ask questions and to reflect on current practice and identify where they need to go next as a school on their 'mastery journey'.

Continuing Professional  
Development  
Standard

National Centre  
for Excellence in the  
Teaching of Mathematics



### Mike Askew conference

The conference which took place at the DW Stadium, Wigan in October 2017 was attended by 80 delegates- Headeachers and Maths Subject Leads from across the NW. The focus of the day-Teaching for Big Ideas in Mathematics. The session was sponsored by Oxford University Press and organised by North West Three Maths Hub. 85% of delegates rated the day as Outstanding with the remainder rating it as good overall.



#### Delegate comments included:

"excellent CPD session from a very ,very knowledgeable person!"

"my mind is blown! I've had my eyes opened to reasoning and I can't wait to get back in the classroom"

"Excellent day with plenty of info, ideas and skills to share with colleagues"

"excellent insight into true reasoning – not just problem solving"

" reinforced a lot of the principles of maths teaching that we have been working on"

"thank you for organising and to Mike for such a thought provoking day"

"Variation is the spice of life!"

HT comment : "content of talk combined with practical activities and opportunities to discuss, plus research references and challenging thinking activities were best things about day. Clearly a very knowledgeable speaker. Excellent"

# Primary and EYFS National and Local Projects

‘Teaching for Mastery’ – NW Maths Hub 3 supporting schools to develop an understanding of Mastery and working towards achieving this for all!

## China-England exchange - Autumn 2017



George Mounsdon and Andy Ash took part in the exchange on behalf of NW3 Maths Hub. Both Mastery Specialists from Cohort 2 visited Shanghai in September 2017.

George Mounsdon, Huyton with Roby CE Primary School (Knowsley), will take the lead and therefore be the host school for the return leg of the visit in January 2018. We look forward to inviting Mastery WG schools and larger groups to attend showcase events. Further details will be available in January 2018.

## Excellent Maths teacher programme

We have now trained 70 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.

40 new participants started the programme in September 2017. We are now taking EOI and will be recruiting an additional 40 teachers for 2018/19. Please email- Lisa Bradshaw if you or a member of your staff is interested in being part of this.

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.



## Maths Mastery Specialist Teachers

12 Mastery specialist teachers are currently working on behalf of NW Maths Hub 3 supporting 80 schools on their Mastery Journey via the National TFM programme. Cohort 3 Mastery specialists have just completed their residentials and will begin supporting their pilot schools in January 2018.

Further recruitment rounds will open again in December 2017.



## Recruitment of more primary schools to Teaching for Mastery Programme

The NCETM has announced details of the next round of recruitment of schools to the funded Teaching for Mastery Programme, run by Maths Hubs across England. This year, a total of 1700 primary schools are sought. Each Maths Hub is looking for



around 50 schools, for a year-long programme of professional development, led by trained Mastery Specialists. Each school will belong to a Maths Hub Work Group, consisting of six or seven primary

schools, and led by a Mastery Specialist from a nearby school.

As well as receiving this free training, the recruited schools will receive financial support to release teachers for workshops, and towards buying textbooks. **The next round of applications opens in December 2017**

## EYFS - Developing Mathematical fluency to raise expectation/number focus and progression (local project)

A briefing was held in March at The World of Glass in St Helens. This was attended by 129 HTs and EYFS leads from across 65 settings. As a result, 50 schools expressed an interest in being involved in the next wave of the roll out. Due to an overwhelming response and growing



capacity in delivering this programme we have decided to support 25 schools in Wave 3, starting in June 2017 and a further 25 in Wave 4 starting in autumn 2017.

Due to the success of the programme and high levels of demands we will hold another briefing in the Spring term 2018 to recruit additional schools. Further details to follow...



## I Can Calculate... EYFS to Y1 Focussed (local project)

Our aim in mathematics is for all children to develop fluency, to reason mathematically and to problem-solve to meet rigorous age-related expectations. However, children starting school with less mathematical experience often become reliant on using count-in-ones strategies when calculating, limiting their ability to reason and become fluent with early calculation.

This project aims to help key groups of children to progress from using counting-in-ones to calculating strategies in early mathematics. We will identify the 'number sense relationships' that children must build to be able to manipulate numbers later; we will also explore how different calculation strategies are introduced to children. By developing a strong number sense and learning to manipulate numbers, children will experience early maths as finding patterns, being creative and thinking deeply, laying the groundwork for their future mathematical success.

In 2016-17 10 schools completed the EYFS Developing number sense project. These schools are now taking part in the I Can Calculate programme as a progressional project to aid transition looking at supporting these members of staff to move from 'counting into calculating' when appropriate. FS and Y1 staff will all be involved in this project. If successful, this innovation WG will be extended and offered to all schools in spring 2018.

## Maths Mastery Programme (Northern Hub) working in association with NW Maths Hub 3

The following schools are in their pilot year:

Liverpool College (Liverpool), Holy Trinity Catholic Primary School (Liverpool), Banks Road Primary School (Liverpool), St Ambrose Catholic Primary School (Liverpool), Longton Lane Community Primary School (St. Helens), Oasis Academy Aspinall (Manchester), Dukesgate Academy (Salford), Marlborough Road Academy (Salford), Oasis Academy Harpur Mount (Manchester), Oasis Academy Limeside (Oldham), St James' Church of England Primary School (St. Helens), St Basil's Catholic Primary School (Halton), Spinney Avenue Church of England Voluntary Controlled Primary School (Halton).

The following schools will be moving into their 2<sup>nd</sup>/3<sup>rd</sup> year of the programme:

Monksdown Primary School (Liverpool), Greenbank Primary School (Liverpool), St Mary's and St Thomas' CofE Primary School (St. Helens), Queen's Park CofE URC Primary School (St. Helens) and Blackbrook St Mary's Catholic Primary School (St. Helens).

The following maths specialists have been recruited to join the NW Mastery team to deliver local training:

Sarah Lambert, Charlotte Foster, Sarah Platt and Lesley Plant.

They will become Mastery Professional Development leads delivering training and conducting school support visits.



# Mathematics Mastery

## Intervention in a Mastery Context in association with Edge Hill ECC Team (local project)

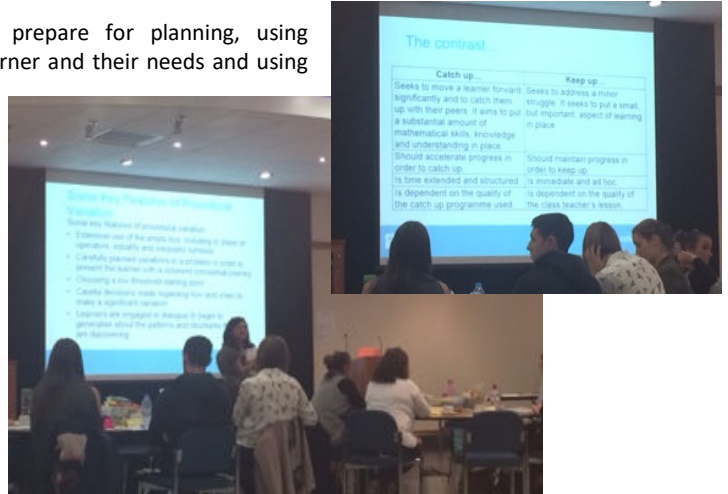
Intervention in a Mastery Context in association with Edge Hill ECC team- Teachers and TAs will develop their understanding and embed approaches to:

- **Mastery:-** teachers will develop their practice and principles ensuring that they plan for the 5 big ideas. They will meet the needs of all children and as a result of the activity outlined below will track children identified to ensure they make progress.
- Variation theory including: Three forms of procedural variation (same problem/ different method; same method/ different problem and varying examples) and Conceptual variation including different representations of mathematics; concept/ non-concept; the connective model
- Diagnostic assessment: using diagnostic assessment to prepare for planning, using diagnostic assessment to improve understanding of the learner and their needs and using diagnostic assessment to plan long term intervention.
- Managing intervention: Three levels of intervention: in class; immediate keep up and longer term catch up.

Immediate benefits of pupils: Gaps will be identified by the diagnostic assessments and targeted intervention will be applied.

So far 54 schools involving 154 participants, Teachers and TAs have been through the programme.

We will be holding a HT briefing to find out more on **Monday 4th December, 1.30-3.30pm at The World of Glass, St Helens.**



## KS2-3 Transition

This programme includes: 3 face-to-face training days and 2 school visits. The programme is aimed at Y5, 6, 7 and 8 practitioners. The sessions will be delivered at a central venue drawing on primary and secondary schools from across Wigan, St Helens, West Lancashire, Sefton, Wirral and Manchester. The programme is being facilitated by a highly experienced Secondary maths lead- Lindsay Porter and Primary Maths SLE- Mary Anne Ramsbottom.

**The first face to face session will take place on:**

Wednesday 29th November 9-3pm venue: Peter Street Community Centre, St Helens.

Following sessions will take place on:

Wednesday 28th February- 1-4pm (plus ½ day school based visit)

Wednesday 13th June- 1-4pm (plus ½ day school based visit)

**Sessions will 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 challenges is being provided across the two key stages
- Identifying gaps and next steps.



## EEF- Y2 Reasoning Project (collaborative project)

The project, using materials designed by researchers at Oxford University and funded by the Education Endowment Foundation (EEF) is being run in eight Maths Hubs areas and coordinated by the NCETM. NW Maths Hub 3 is one of the eight Maths Hubs participating.

An earlier EEF trial of the programme showed a positive impact on pupils' numeracy ability.

In this larger scale project, at NW Maths Hub 3, we recruited 20 primary schools from across the NW, to participate in the project, which ran during the school year 2016/2017. The 20 schools that have been selected, half have been chosen at random to receive the teaching intervention, the other half will carry on teaching as usual. This group will receive training and the materials for use during the school year 2017/2018. The impact of this trial will be shared in Spring 2018.

## Primary teaching assistant SKE development Work Groups

To develop the subject lead and TA at the same time to support and improve subject and progressional understanding. Including effective deployment, mathematical language and questioning. These sessions have taken place in the autumn term with the final session being held in December. This programme will be re-run in the spring term of 1018.

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## Journey to Mathematical Excellence- School to School support programme- supported by SLEs...

Schools have been nominated for one (or more) of the following reasons, either by the school/LA/TSA member:

- Improvements need to be made in attainment and/or progress in maths
- Enjoyment and participation in maths needs to be at the heart of your curriculum
- Maths SL and/or teaching staff need support/encouragement to develop mathematics provision across school, in particular year groups etc..
- Staff subject and progressional knowledge in mathematics needs improvement across the school

8 schools have been invited to be involved in the project from across St Helens, Sefton, Halton, Wigan, Wirral and Knowsley.

As a result, we have developed a 'bespoke' innovation project that will be 'fully funded' for 12 months.

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## Developing Local expertise across the Teaching Schools Network – partnership collaboration

**SLE (Specialist leaders in Education) training programme (for newly appointed and established SLEs working in both primary and secondary phases)**

**The Programme will include 6 full days of CPD/Networking across the year:**

Day 1- Friday 3rd November 2017, 9-3pm, Sefton venue

Day 2- Friday 1st December 2017, 9-3pm, Warrington venue

Day 3- Friday 26th January 2018, 9-3pm, Halton venue

Day 4- Tuesday 6th March 2018, 9-3pm, Wirral venue

Day 5- Wednesday 25th April 2018, 9-3pm, Knowsley venue

Day 6- Wednesday 20th June 2018, 9-3pm, Liverpool venue

**Themes to include:** Current updates, teaching for mastery, school to school support preparing a mathematical diagnostic, developing reasoning, meeting the 3 aims of the NC, coaching, representation and structures in maths, progression in problem solving, leading CPD in schools, mathematical thinking, developing and securing fluency, professional learning conversations, SKE including mathematical themes i.e. fractions, developing and promoting maths across the curriculum, assessment/moderation and evaluating impact and much more.....

**The Maths SLE programme will be accredited by Maths Hub NW3. This does mean that when Maths SLEs, leading on school improvement in schools on behalf of your teaching school, will have accessed an accredited programme to ensure they remain high quality and current in sharing good practice.**

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## Primary Maths CPD opportunities

**During the Autumn term we have delivered:** Introduction to the 'Mathematical Toolkit', Catering for Higher attaining pupils (rapid graspers) in a mastery context, Mathematical lesson design and structure, Bar Modelling, Differentiation in a Mastery Context

**Coming up in the spring term:** Year 6 Preparation for SATs, EYFS - Using a story/topic based approach to plan a mathematical sequence and Assessment of Mastery - including moderation and standardisation details needed.

Find further details here: <http://bit.ly/2cWgFBV>

**Primary Maths Subject Leader Networks :**

Mathematics Subject Leader Day 2- Friday 23rd February 2018, 9.00am – 3.30pm

Assessment of Mastery; moderation and standardisation

Mathematical updates and current thinking. There will also be an opportunity for quality assurance of Maths practice via NW Maths Hub 3 as they share their experiences from current national practice and policy.

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# Secondary National and Local Projects

## Secondary Maths TSST in collaboration with Liverpool Hope University

An exciting offer for serving and returning secondary teachers who are moving into teaching mathematics, but do not have a previous mathematical qualification. It will enable staff to develop a deeper knowledge and understanding of all aspects of mathematics.

St Helens TSA has successfully run this project in since 2014-15 with 32 delegates completing the training programme so far. In 2016-17, we trained 26 candidates; this innovative Subject Knowledge Enhancement (SKE/TSST) course is delivered in partnership with experienced staff from Rainford High School working to support the Maths Hub alongside

extremely experienced staff from Liverpool Hope University. In 2017-18 we have recruited 30 candidates.

Please see this flyer <http://bit.ly/25NGyek> for more details, including a proposed schedule for the training. All school based sessions will be delivered at Rainford High School.

Expressions of interest are now being taken to start training in Sept 2018. We have 30 places available with two recruitment windows (October and January starts). This programme is free of charge. Please contact: Lisa Bradshaw for further details.

## Teaching for Mastery NCP - Mastery Lead Teachers and Work Group Schools

The Secondary Masters who are leading the national programme on behalf of NWMathsHub 3 are as follows

Alex Cooper- Rainford High School, St Helens

Nicole Speer- Lord Derby Academy, Knowsley

Rebecca Ward- Deyes High School/ Lydiate Learning Trust High School, Liverpool

Matthew Thornley- Hawkley Hall High School, Wigan

Lindsay Porter, Secondary Maths Hub Lead is coordinating this work.

The Mastery Work Group Schools have been involved in two TRGs (Teacher Research Group) with positive feedback provided.

The work group schools are involved in a programme of support and development work involving all teachers from the lead and participating schools designed to introduce and encourage a teaching for mastery approach across the mathematics departments in those schools. Activities will include the following: collaborative planning workshops, TRG-style lesson observations and dialogue in each of the "Mastery Specialist" schools during the year, visits between WG schools to support sharing of practice, visits to primary Mastery Specialist school for TRG-style lesson observations and occasional wider open-lesson events for other interested schools.

Associated schools will move into year 2 of the project these schools are Rose Bridge Academy, Haydock High, The Heath, Tottington High School, Aspire Federation (Landgate / Oakfield special schools), Alder Grange, All Saints High School and Up Holland High School.

## Secondary Maths CPD Network (Whole school department opportunity)



As a result of extremely positive feedback in 2016-17 the secondary maths CPD network will continue this year. 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. The next meeting will take place on: Wednesday 31st January 2018 at St John Bosco High School and will focus on Mathematical habits of the mind, including new curriculum resources from NRICH, delivered by Ems Lloyd, Director of NRICH.

Full programme details: <http://bit.ly/2jdqK0D>

This network has been a huge success with over 25 secondary maths departments attending on a regular basis.



## Secondary Heads of Department Meetings

Lindsay Porter (AQA associate and Secondary Maths lead) will continue to deliver this network in St Helens and Wigan. We now have 25 HOD regularly attending. This is an opportunity for all Heads of departments to come together to review and share approaches to current national and local initiatives.

### Spring term sessions will take place on:

**St Helens/Knowsley/Sefton and surrounding LAs:** Tuesday 27th February 2018, 1.30-3.30pm, Rainhill High School, Warrington Rd, Rainhill, Prescott L35 6NY

**Wigan/Bolton/Warrington and surrounding LAs:** Friday 9th February 2018, 1.30-3.30pm, Byrchall CPD Centre, Warrington Rd, Ashton-in-Makerfield, Wigan WN4 9PQ

**Wirral and surrounding LAs:** Tuesday 6th March 2018, 1.30-3.30pm, Prenton High school for girls Birkenhead CH42 6RS

**Themes to include:** experience gained from the first round of the new GCSEs and associated implications for future rounds, changes implemented at KS3, Mastery- teaching for depth, lesson design (including the 5 big ideas), transition from KS2, effective collaboration from local schools and national updates.

Details: <http://bit.ly/2ArYy1j>

## Secondary Maths NQT Programme

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 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 2017-18.

Details: <http://bit.ly/2ArZyCy>

## Useful links include:

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

Maths Hub website: <http://www.nwmathshub3.co.uk/>

Nrich: <http://nrich.maths.org>

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

Inspire (OUP): <https://global.oup.com/education/content/primary/series/inspire-maths/?region=uk>

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

FMSP: <http://www.furthermaths.org.uk/>

Learn and Lead – Maths Strategy group info: <http://learnandlead.co.uk/>

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



## Secondary Maths Mastery

The following Secondary Schools are in the pilot year of this programme:

Weatherhead High School (Wirral), Weaverham High School (Cheshire West & Chester), Liverpool College (Liverpool), The Queen Katherine School (Cumbria), Middleton Technology School (Rochdale), Academy@Worden (Lancashire), Parklands High School (Lancashire), Rainford High Technology College (St. Helens), Blackburn Central High School (Blackburn with Darwen), Queen's Park High School (Cheshire West & Chester), Hartford Church of England High School (Cheshire West & Chester), Chesterfield High School (Sefton), Maghull High School (Sefton), Oasis Academy MediaCityUK (Salford), The Albion Academy (Salford), Oulder Hill Community School and Language College (Rochdale), Oasis Academy Oldham (Oldham), Bebington High Sports College (Wirral), South Wirral High School (Wirral), Hilbre High School (Wirral), Pensby High School (Wirral), Woodchurch High School (Wirral), Ridgeway High School (Wirral), West Kirby Grammar School (Wirral), Birkenhead Park School (Wirral), Wirral Grammar School for Girls (Wirral), The Oldershaw Academy (Wirral), The Mosslands School (Wirral) and The Catholic High School, Chester A Specialist Science College (Cheshire West & Chester).

Rainford high school (St Helens) are in their 3<sup>rd</sup> year of the programme.



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## Mathematical thinking for the New 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. These sessions will take place on: Wed 06/12/17 1-4pm, Wed 24/01/18 1-4pm, Wed 25/04/18 1-4pm, Wed 20/06/18 1-4pm

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.

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## Maths and SEND CPD programme

**The aims of the programme will be:**

- Develop teachers knowledge and understanding of the early stages of learning in maths.
- Consider what an effective mastery approach to teaching, learning and assessment of mathematics for pupils with SEN looks like.
- Develop the use of manipulatives and concrete modelling for SEN students.
- Use action research in teaching for mastery in the SEN context.

**During the programme participants will be given opportunities to:**

- Develop an understanding of the fundamental concepts which underpin mathematics learning and how pupils with specific difficulties experience particular difficulties in making progress and mastering these concepts.
- Develop strategies for addressing misconceptions or misunderstandings around the fundamental concepts
- Develop strategies to aid retention of understanding
- Support teaching and learning through the use of concrete modelling and manipulatives
- Be supported in disseminating the ideas and practices to the whole school staff
- Be part of and contribute to a collaborative and supportive network of teachers
- Prepare and run parent workshops to enable them to try out and enjoy 'mastery at home' activities with their children

Spring Term: Friday 2nd Feb 9:30 – 12:30 (1/2 day) | Friday 9th March 9:30 – 12:30 (1/2 day)

Summer Term: Friday 15th June 9:30 – 12:30 (1/2 day)

The full programme will be led by Independent Consultant Jan Parry and facilitated by Lisa Bradshaw on behalf of NW3 Maths Hub.

25 schools have applied to be part of the programme for 2017-18.

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## Teaching the new GCSE 1 year on.

NW Maths Hub 3 would like to offer all Secondary Colleagues the opportunity to attend the workshop on: Friday 8<sup>th</sup> December, 9am-12noon at The World of Glass, St Helens.

In this workshop we will look at strategies that have worked well and how to build on these in future years.

We will look in depth at the new ratio, proportion and rates of change strand of the GCSE and how to ensure lessons fully prepare students for the ways in which this strand will be assessed.

This will be a hands-on workshop with opportunities to share best practice as well as consider new ideas.

The session is FREE of Charge.

To reserve a place please contact: [sarah.makin@three-saints.org.uk](mailto:sarah.makin@three-saints.org.uk) or 07446446418

## Post-16 National and Local Projects

### CMSP– Core Maths Support Programme

Why Core Maths? Do you want to find out more about this qualification? Is it suitable for your school and your students?

- Gain a secure knowledge of the Core Maths curriculum and exams and understand the differences between different exam boards.
- Learn more about the strategies to use in your schools and colleges regarding how Core Maths can practically fit into the post-16 curriculum, how to staff it etc. by exploring case studies and hearing from schools and colleges who are already teaching it.
- Understand the philosophy of Core Maths – Maths in a real life context through problem solving.

Don't hesitate in contacting- Steven Nixon: [s.nixon@priestley.ac.uk](mailto:s.nixon@priestley.ac.uk) (NW Maths Hub 3 CMSP regional advisor) or Catherine Van Saarloos, [Catherine.VanSaarloos@liv-coll.ac.uk](mailto:Catherine.VanSaarloos@liv-coll.ac.uk) (Post 16 Lead).

The intention is that the number of schools delivering core maths will increase.

### Year 10 Core Maths engagement event

Due to the success of the core maths engagement event that took place in summer 2017 for year 10 students, alongside NW1 and NW2. All schools from across the North West will be invited once again in the spring term. Schools will be asked to select approx. 4 or 5 students that are keen but predicted to get a 4 or 5 in their GCSE. Further details to follow...

### Core Maths Roadshow...

Core Maths Road Shows- Nov/Dec 2017 and repeated in 2018. to enable students to have some hands on experience with Core Maths activities and also provide for training for teachers and Senior Leaders on the course. In association with FMSP and CM enrichment. Aimed at Y10/11 and targeting students considering A level. For the roadshow we are going to target 15 schools in the NW3 area that have not yet currently engaged with any Core Maths activities.

[core:maths] support programme

### Underground Maths- MEI

Underground Maths- MEI: This training has been designed to support all teachers of A level Mathematics. In order to be able to engage in all aspects of the course, participants will need to be confident with the content of AS Core Mathematics. To maximise impact and aid dissemination, we encourage schools to send two teachers on this course. The aim is to bring the Underground Mathematics resources to all teachers of A level Mathematics.

Thursday 30th November 2017 at Foresight Centre, University of Liverpool, 1 Brownlow Street, Liverpool.



## GCSE Resits workshops

The main priority areas for this group are:

- Improving the support of SLT and vocational tutors for the teaching of GCSE Maths (including the use of contextualisation to encourage maths and vocational staff to work together more closely).
- Enhancing the confidence and knowledge of those delivering GCSE resits who are non-maths specialists.
- Restructuring how we deliver and approach teaching GCSE Maths resits (moving away from more of the same but quicker!)

For further details please contact: Catherine [Catherine.VanSaarloos@liv-coll.ac.uk](mailto:Catherine.VanSaarloos@liv-coll.ac.uk)

For further information in relation to National and Local work streams that Maths Hub NW3 is involved in please visit:

<http://www.nwmathshub3.co.uk/index.html>



or follow us on Twitter



**@NWmathshub3**

Alternatively, please don't hesitate to contact:

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

Sarah McIlroy (Primary Mastery Lead) [smcilroy90@gmail.com](mailto:smcilroy90@gmail.com)

Lindsay Porter (Secondary Mastery Lead) [lindsayporter44@yahoo.co.uk](mailto:lindsayporter44@yahoo.co.uk)

Catherine Van Saarloos (Post 16 Lead) [Catherine.VanSaarloos@liv-coll.ac.uk](mailto:Catherine.VanSaarloos@liv-coll.ac.uk)

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## 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:

### The overall aim:

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

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.

