Maths Hubs Professional and School Development Opportunities

2022/23

Discover fully funded subject-specific opportunities to support professional learning for teachers and development for departments and schools.

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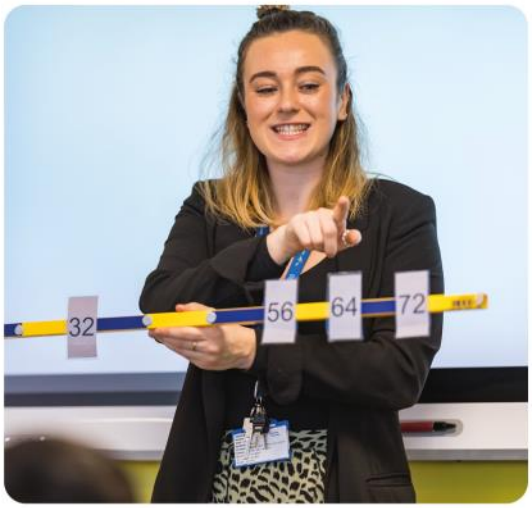
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

What opportunities does the Maths Hubs Network offer?

Every year, the 40 Maths Hubs across England offer a wide variety of 'projects' to teachers and schools, covering maths teaching from Early Years to post-16.



All of the projects involve teachers developing their knowledge and pedagogy for maths teaching, whilst collaborating with their peers and putting their new knowledge to work in their classrooms. Most also aim to influence classroom and collaborative practice that benefits maths teaching and learning across a department or school.

These professional development opportunities are coordinated by the NCETM (National Centre for Excellence in the Teaching of Mathematics) and the Maths Hubs Network, which consists of 40 hubs that cover the whole of England and serve all state-funded schools.

For 2022/23, there are over 30 different projects available. Generally, teachers will work alongside colleagues from other schools, in a small group led by a local experienced teacher with expertise in professional development and the school phase in question. A small number of projects involve larger groups coordinated and led regionally or nationally. Meetings are a mix of online and face-to-face. The work takes place over an extended period, across two or three school terms, which allows for experimentation and experience-sharing within the group. Many projects include a parallel objective of embedding improved practice, leading to more secure learning across a department or school.

Participants will be involved in either **Work Groups, programmes** or **communities** according to the experience offered to participant teachers (see *page 3*). However, all offer fully-funded, high-quality professional development, and the chance for participants to become more effective teachers of maths.

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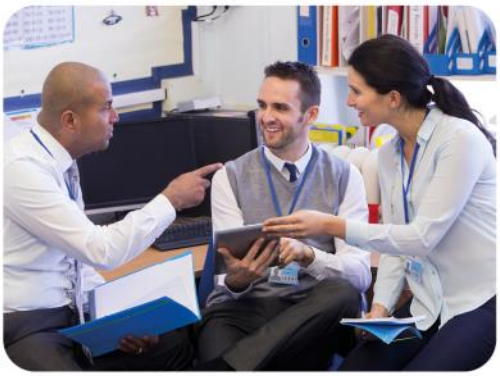
Types of activity

Work Group	With the primary aim of supporting school – or department-wide development in their own setting, participant teachers will develop their own expertise as classroom practitioners. Both objectives – personal learning and school or department development – are supported by the collaboration among other members of the Work Group, guided by the Work Group Lead.
Programme	Teachers participating in a programme join a cohort of colleagues from other schools on a series of sessions – more akin to a training course – where the central objectives are individual professional learning and practice development. Sessions are led by a local Cohort Lead, who concentrates on progress being made by individuals as well as facilitating experience-sharing and discussion amongst participants. The materials used on the programmes are developed centrally by the NCETM.
Community	Professional learning communities are looser in structure, with fewer fixed meeting times but more frequent, informal communications among members in their own time. There's also an expectation that participants will continue to work and learn together beyond one academic year. All communities have a Community Lead who steers discussions and conversations, offering expert input and individual support where appropriate.



How can you get involved?

Discover the projects your local Maths Hub is offering – details of all the projects are in this catalogue. Then get in touch with your hub to book your place. Contact details for your hub are on the next page.

The Maths Hubs projects provide something for everyone and every school. Don't miss out!

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Welcome

Your local Maths Hub is:

North West Three

MATHSHUBS NORTH WEST THREE

We serve all state-funded schools in the areas of:

- Knowsley
- Liverpool
- Sefton
- St Helens
- Wigan

The professional development we provide is fully funded, meaning it is **free** for the participant or the participant's school/college.

The Lead School for the hub is:

St Mary & St Thomas CE Primary School

(Part of the Three Saints Academy Trust)

Some of the professional and school development activities in this catalogue take place in face-to-face meetings. Others happen online. In most cases you will be working together with colleagues from schools in your area .

To find out more about the Work Groups, programmes and communities on offer with your hub, check the details in the box on the bottom left corner of each page.

You can also contact us directly at the Maths Hub, or visit our website.

We look forward to hearing from you.

Contact

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2022/23

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Mastering Number

Supporting pupils in Reception, Year 1 and Year 2 to develop good number sense

A national programme to secure firm foundations in the development of good number sense

What is involved?

This programme focuses on the key knowledge and understanding needed in Reception classes, and progression through KS1. Participating schools will receive central training (online and face-to-face) and a wealth of pupil-facing resources.

There is an expectation that schools will provide a daily teaching session for all children of 10 to 15 minutes, in addition to their normal maths lesson. Lead Teachers in schools will also contribute to an online community to share practice and engage in critical reflection.

Who can take part?

Lead participants from Work Group schools will be three teachers – one each from Reception, Year 1 and Year 2 – known as Lead Teachers. Some support will also be given to subject leaders and headteachers. Where appropriate, Lead Teachers are expected to support the other teachers in their year group.

This programme and its Work Groups are open to all schools that have not yet engaged with the Mastering Number Programme.

Find out more

Search **mastering number** online or contact your local Maths Hub:

Work Group Lead is Gill Hood. To register your interest please use this link to form: https://forms.gle/LQ79tNPe7QptAStG9

Benefits

- Your pupils will be able to clearly communicate their mathematical ideas
- You will develop a secure understanding of how to build firm mathematical foundations
- You will work to develop teaching strategies focused on developing fluency in calculation and number sense for **all** children
- You will develop understanding and use of appropriate manipulatives to support your teaching of mathematical structures

The **programme** is fully funded by the Maths Hubs Programme, so is **free** to participating schools.

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2022/23

Fully funded

Mastery Readiness

A programme for primary schools that want to adopt teaching for mastery in maths, but would benefit from a staged approach

What is involved?

Schools with additional challenges need bespoke support to ensure their systems and cultures are conducive to a teaching for mastery approach. Those who are not yet ready to join a Teaching for Mastery Development Work Group will prepare for implementing a teaching for mastery approach which is embedded and sustained across the whole school. This will involve receiving support from Mastery Readiness Leads, and developing classroom culture and attitudes to maths that will support a teaching for mastery approach, both on the part of teachers and their pupils.

After the year-long programme, Mastery Readiness schools will be ready to progress into Development Work Groups and beyond.

Who can take part?

Schools will have an identifiable barrier to being able to successfully implement teaching for mastery at present. Barriers may include an Ofsted grading of RI or Inadequate, poor pupil progress in maths, serving an area of low social mobility, or issues in the school that have meant the implementation of sustained change has been difficult.

Find out more

Search **mastery readiness** online or contact your local Maths Hub:

Work Group Lead is Linda Lavagna Slater. To register your interest please use this link: https://forms.gle/5XzBPfyLvPr9qkVD6

Benefits

- Your pupils will demonstrate an improved mathematical mindset and potential to progress in the subject
- Your school leaders will promote a collaborative learning culture amongst staff in order to make improvements to the teaching and learning of maths
- You will put into practice the school's shared vision for what maths will look like in your school
- You will try new approaches to teaching maths and reflect on the impact of your changes regularly, so that you can share good practice beyond your own classroom

The **programme** is fully funded by the Maths Hubs Programme, so is **free** to participating schools.

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2022/23

Fully funded

Primary Teaching for Mastery

Development Work Groups

Be part of the continuing programme to develop teaching for mastery in maths in primary schools

What is involved?

Two teachers from each participating school join a Work Group, consisting of six or seven local primary schools. Each Work Group is led by a trained Primary Mastery Specialist. Work Groups meet regularly to plan, observe and discuss teaching for mastery. In between meetings, teachers explore mastery approaches in their own classrooms and across their school.

Support is provided from a local classroom-based Mastery Specialist who leads the group. This model of professional development involves hands-on learning and peer-to-peer support. It is evidence-based and designed to support substantial long-term change.

Who can take part?

This programme is for state-funded primary schools in England. Two teachers from each participant school will attend six half-day meetings during the school year, and lead teaching for mastery development in their own school.

Find out more

Search **primary teaching for mastery** online or contact your local Maths Hub:

Work Group Lead is Claire Martin. To register your interest please use this link: https://forms.gle/DnK1R3KrzJwuNtdK8

Benefits

- Pupils will show a positive attitude towards maths, enjoy learning the subject and demonstrate a growth mindset
- Leaders will develop a common vision, culture and set of principles which support teaching for mastery
- Teachers will enhance their maths subject knowledge with an emphasis on progression within key areas of maths
- Teachers will cultivate a deep understanding of the principles and pedagogies related to teaching for mastery

The **Work Groups** are fully funded by the Maths Hubs Programme, so are **free** to participating schools.

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Primary Teaching for Mastery

Embedding Work Groups

Collaborative professional development to support schools in their second year of teaching for mastery

What is involved?

Work Groups in this project will support schools to scale up teaching for mastery approaches from individual teachers' classrooms, ensuring whole-school practices are consistently adopted. There are six workshops across the year, plus support from a Mastery Specialist.

Those who have been in a Development Work Group become part of this project, focusing on systems and culture to support teaching for mastery, as well as support for school leadership and subject leadership.

Who can take part?

This is for schools who have previously participated in a Development Work Group. All must show a strong commitment for embedding teaching for mastery approaches, and at least the lead teacher from the Development Work Group must have already started using mastery approaches. The school leadership team including the headteacher must also be involved, to ensure there is a whole-school commitment.

Find out more

Search **embedding primary mastery** online or contact your local Maths Hub:

Work Group Lead is Claire Martin. To register your interest please use this link: https://forms.gle/V2tkNFBP8vbniFqu6

Benefits

- You will enhance your mathematical subject knowledge, emphasising key areas of maths
- You will plan, teach and reflect on lessons with a mastery approach
- Your school leaders will understand the school-wide structures which enable staff to develop mastery approaches
- You and your school leaders will establish a set of principles, policies, practices and systems which embody a teaching for mastery approach

The **Work Groups** are fully funded by the Maths Hubs Programme, so are **free** to participating schools.

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Primary Teaching for Mastery

Sustaining Work Groups

Support for schools to make teaching for mastery 'business as usual'

What is involved?

This is for primary schools who have previously been involved in a Development or Embedding Work Group, or who are Mastery Specialist schools. It brings together schools working to sustain their mastery approach to maths. Workshops are hosted in different schools during the year, with the first held in a Mastery Specialist's school.

Sustaining Work Groups are a permanent form of support where schools can focus on continued improvement, consistency and refinement of teaching for mastery. Teachers, maths leads and headteachers are all involved, striving to support teachers, and looking at collaborative planning and subject knowledge development.

Who can take part?

Schools will have previously participated in a Development Work Group and might have received support for embedding mastery. Participating schools must show strong commitment from their leadership for sustaining mastery approaches, and for most teachers to have already started using these.

Each school will have a lead participant in the Work Group, normally the maths lead. At different points in the year, other teachers will also participate.

Find out more

Search **sustaining mastery work groups** online or contact your local Maths Hub:

Work Group Lead is Claire Martin. To register your interest please use this link: https://forms.gle/MxKtuUkV9nLHZ8c2A

Benefits

- You and your school will enhance your mathematical subject knowledge, emphasising key areas of maths
- You and your school will plan, teach and reflect on lessons with a mastery approach
- You and your school will understand the school-wide structures which enable staff to develop mastery approaches
- You and your school leaders will establish a set of principles, policies, practices and systems which embody a teaching for mastery approach

The **Work Groups** are fully funded by the Maths Hubs Programme, so are **free** to participating schools.

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Secondary Teaching for Mastery

Development Work Groups

Professional development to enable you to introduce teaching for mastery across your maths department

What is involved?

Secondary maths teachers whose schools want to introduce teaching for mastery can nominate two teachers ('Mastery Advocates') to join a Work Group. Mastery Advocates then form part of a locally-based group of teachers who meet regularly to develop professional knowledge and expertise, and receive bespoke support.

In a Teaching for Mastery Work Group, teachers collaborate with colleagues from local schools, and get support and guidance from a Local Leader of Maths Education (LLME). Participants also take away ideas to help students become more confident mathematicians, ready to tackle GCSE and A level, and begin to introduce and embed teaching for mastery.

Who can take part?

This programme is for state-funded secondary schools in England. Mastery Advocates should be teachers with the commitment, experience and authority to lead developmental work across a maths department. The support of the Head of Maths, and the headteacher or a member of SLT, is also essential.

Find out more

Search **secondary teaching for mastery** online or contact your local Maths Hub:

Work Group Lead is Lindsay Porter. To register your interest please use this link: https://forms.gle/CrtrFW3ZRThtMTHKA

Benefits

- Your students will develop a deep, secure and connected understanding of the maths they are learning
- You will begin to develop teaching for mastery approaches within your own classroom
- You and your head of department will begin to develop an understanding of the practices and principles aligned to secondary teaching for mastery
- You will begin to support the teachers in your department to develop teaching for mastery approaches in their practice

The **Work Groups** are fully funded by the Maths Hubs Programme, so are **free** to participating schools.

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Secondary Teaching for Mastery

Embedding Year Support

Enhanced support for maths departments in their second year of introducing teaching for mastery

What is involved?

This project is for those departments who participated in the previous year's Secondary Teaching for Mastery Development Work Group, and who are beginning to embed teaching for mastery. Mastery Advocates will work closely with an assigned Secondary Mastery Specialist to embed teaching for mastery approaches across the whole department. Specialists will provide three days of support tailored to each school.

The focus will be on constructing or refining a coherent development plan, and supporting and leading the whole department in realising the aims of that plan. The school will also be part of a Secondary Teaching for Mastery Embedding and Sustaining Work Group with other schools.

Who can take part?

Participation is for maths departments in schools that took part in a Secondary Teaching for Mastery Development Work Group in 2021/22. Lead participants will ideally be the Mastery Advocates who participated in 2021/22 Work Groups.

Find out more

Search **secondary mastery embedding year support** online or contact your local Maths Hub:

Work Group Lead is Lindsay Porter. To register your interest please use this link: https://forms.gle/mJbnByDszAn1fbmb8

Benefits

- Your students will develop a deep, secure and connected understanding of the maths they are learning
- You will begin to develop teaching for mastery approaches across your department
- You and your department will collaborate to create coherent curriculums in a culture of professional learning
- You will produce a development plan and professional development programme for the department

The **Work Groups** are fully funded by the Maths Hubs Programme, so are **free** to participating schools.

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Secondary Teaching for Mastery

Embedding and Sustaining Work Groups

For departments that have previously participated in Development Work Groups and all Cohort 1-5 Mastery Specialist departments

What is involved?

This project is for departments who participated in a Secondary Teaching for Mastery Development Work Group, or who have a member of their department who is part of the Mastery Specialist Programme. Mastery Advocates will meet regularly throughout the year, and the content of departments' development plans will be the stimulus for how joint work will be devised and undertaken.

Focus will be on the department's planned developments, as well as sharing and critiquing them with a group of schools in a professional learning community.

Who can take part?

Participation is for schools that have either participated in Development Work Groups or the Mastery Specialist Programme. Lead participants continue to be Mastery Advocates, and key teachers from a Mastery Specialist's department. Particular Work Group sessions may also be joined by participants' departmental colleagues.

Find out more

Search **sustaining secondary mastery** online or contact your local Maths Hub:

Work Group Lead is Lindsay Porter. To register your interest please use this link: https://forms.gle/9cmzeqMUqAZGWckh7

Benefits

- Your students will develop a deep, secure and connected understanding of the maths they are learning
- You will continue to develop teaching for mastery approaches consistently across your department
- You and your department will collaborate to create a coherent curriculum in a culture of professional learning
- You will develop and implement a coherent and ambitious sustained development plan

The **Work Groups** are fully funded by the Maths Hubs Programme, so are **free** to participating schools.

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Secondary Subject Leadership Work Groups

Professional development designed specifically for secondary heads of maths

What is involved?

Local Work Groups will follow a cycle of workshops followed by school-based tasks. Participants will support each other through the sharing of leadership strategies and practices. A vibrant professional learning community will be created through peer-to-peer discussions and expert input. Participants will also create an action plan for their department.

Much of the work will involve each individual department working on elements of their action plan and developing collaborative ways of working which support their professional development. As well as exploring the needs of their own department, participants will benefit from the expertise and experiences of the group of departments represented.

Who can take part?

The project is for secondary heads of department/subject leaders, and is open to heads of department in schools already involved with Maths Hubs and to those who are not yet involved. In their first year of engagement with this project, participants will be part of a Work Group. In subsequent years they will be part of a Maths Hub-led subject leadership community.

Find out more

Search **secondary subject leadership work groups** online or contact your local Maths Hub:

Work Group Lead is Jen Hornby. To register your interest please use this link: https://forms.gle/sRVbdS967p6aQUCdA

Benefits

- You will promote and develop a shared vision, culture and set of principles for teaching and learning in maths
- You will ensure coherence in the curriculum and provide support for teaching for mastery across the department
- You and your department will establish collaborative ways of working to support ongoing developments
- You will develop in your ability to lead change

The **Work Groups** are fully funded by the Maths Hubs Programme, so are **free** to participating schools.

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Secondary Maths MAT Leads Programme

Professional development to support those leading maths across multiple schools

What is involved?

Now in its second year, this project supports those who lead maths across multiple schools within a MAT. Participants will also develop their role as a leader of system change, curriculum change, and teacher professional development.

The programme involves three one-day face-to-face national workshops. Within these, the cohort will be split into new and continuing participants for some sessions, with other sessions for everyone. Participants will also carry out and evaluate their own improvement initiatives, both in and between sessions, and be part of a vibrant online community.

Who can take part?

The project is for those who lead maths across multiple schools within a MAT, including at least one secondary school. This includes MAT maths leads who are continuing from 2021/22, and new participants. To better engage in the programme, participants are encouraged to have at least one school in a Secondary Teaching for Mastery Work Group in 2022/23, but this is not essential.

Find out more

Search **secondary maths MAT leads programme** online or contact your local Maths Hub:

Please contact Secondary Lead, Lindsay Porter for more information:
lindsay.porter@three-saints.org.uk

Benefits

- You will promote and develop a shared vision for effective teaching and learning in maths
- You will work with subject leaders across your MAT to lead and manage maths teaching effectively, and to develop teaching for mastery approaches within your own department
- You will understand the leadership and management skills required to effectively promote and develop teaching for mastery approaches within your schools
- You will understand effective models of maths teacher professional development, the rationale for using them, and the evidence that supports them

The **programme** is fully funded by the Maths Hubs Programme, so is **free** to participating schools.

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Years 7-11 Coherence

Work Groups

Explore approaches to key topics in KS3 and at GCSE

What is involved?

Feedback from teachers, along with GCSE exam analysis, indicates there are key areas of the curriculum that students find challenging. Work Groups in this project deconstruct and analyse these areas and devise effective approaches to them, to achieve a more coherent learning journey through the secondary years.

Work Groups will follow a workshop – school-based work cycle. Teachers will identify and analyse a key topic area, work collaboratively to develop pedagogical approaches to it, and evaluate and discuss it after teaching.

Who can take part?

Participants should be secondary school maths teachers. Individuals or, ideally, pairs of teachers from a department participate, and will work with other members of their department at appropriate points. The project also offers an entry point into developing mastery approaches, or could support a department already involved in the Teaching for Mastery Programme.

Find out more

Search **years 7-11 coherence** online or contact your local Maths Hub:

Work Group Lead is Amanda Sharples. To register your interest please use this link: https://forms.gle/MmdxK4iaXb9yUACH6

Benefits

- Your students will gain a deeper understanding of the topic area being considered by the Work Group and the underlying maths
- You will develop a deeper insight into the maths that underpins learning in a challenging topic, through unpicking and analysing the topic
- You will identify misconceptions and plan a series of lessons to support students in the topic area
- You and your department will unpick and analyse topics to inform collaborative planning and develop of schemes of work

The **Work Groups** are fully funded by the Maths Hubs Programme, so are **free** to participating schools.

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Years 5-8 Continuity

Work Groups

Strengthen the transition from primary to secondary school

What is involved?

Work Groups in this project focus on curriculum and pedagogical continuity over Years 5 to 8. Participants will explore a selection of high-quality resources: Checkpoints, Multiplicative Reasoning and Algebraic Thinking materials.

A lesson study approach is encouraged, where all participants focus on a particular aspect of the maths curriculum and work collaboratively to develop this in their schools. Cross-phase classroom observation and discussion of practice are encouraged wherever possible.

Who can take part?

This project is for both primary and secondary schools. It may be particularly suitable for linked 'families' of schools: primary, secondary, etc. A 'family' could be a secondary school and their associated (feeder) primary schools or groups of schools from within a MAT. Lead participants should be teachers of Years 5-8, ideally with some responsibility for curriculum development.

Find out more

Search **years 5-8 continuity** online or contact your local Maths Hub:

Work Group Leads are Amanda Sharples & Beth Kearns. To register your interest please use this link: https://forms.gle/JcNAwgET5zU55LPo6

Benefits

- Your pupils in KS2 and KS3 will demonstrate a positive attitude to maths
- You will make common use of approaches, representations and language across phases
- You will deepen your knowledge and understanding of the curriculum across KS2 and KS3 and the expectations of pupils at the end of each Key Stage
- You and your cross-phase colleagues will collaborate on issues of curriculum and pedagogy as a normal part of your schools' transition practice

The **Work Groups** are fully funded by the Maths Hubs Programme, so are **free** to participating schools.

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Fully funded

Mathematical Thinking for GCSE

Work Groups

Discover ways to help GCSE students improve their mathematical thinking

What is involved?

Exam boards often note that, when students come to GCSE examinations, AO2 and AO3 are frequently poorly addressed. This Work Group is designed to meet teachers' needs in that it provides practical and theoretical elements to support the development of students' mathematical thinking, whilst offering a manageable structure for collaborative CPD.

The Work Group is structured around four meetings, with school-based tasks to complete and reflect upon between each meeting. Day 1 is a full day (or equivalent), with Days 2, 3 and 4 being around 0.5 days of input.

Who can take part?

This is for teachers of KS4 who want to further understand mathematical thinking, and devise related practical classroom strategies. Participants will be expected to lead developments in their own department and so should have the opportunity and authority to do this effectively. The project also offers an entry point into developing mastery approaches, or could support a department already involved in the Teaching for Mastery Programme.

Find out more

Search **mathematical thinking for GCSE** online or contact your local Maths Hub:

Please contact Secondary Lead, Lindsay Porter for more information:
lindsayporter@three-saints.org.uk

Benefits

- Your students will develop a range of strategies to allow them to get started on, and to think their way through, unfamiliar mathematical problems
- You will develop your understanding of the role of reasoning and problem-solving in the curriculum
- You will develop an effective repertoire of task types that give opportunities for mathematical thinking
- You will be equipped to develop strategies and approaches to support mathematical thinking within your department

The **Work Groups** are fully funded by the Maths Hubs Programme, so are **free** to participating schools.

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New to Teaching Core Maths

Support for teachers new to teaching this qualification

What is involved?

This programme supports teachers in developing specialist knowledge for teaching Core Maths and increases their confidence in teaching the course. It involves a direct working partnership between the Maths Hubs Network and the Advanced Mathematics Support Programme (AMSP).

The principal focus is on Core Maths subject knowledge and pedagogy, and the programme will be based on six key themes: using contextualised problem-solving; applying Fermi estimation and modelling; developing critical analysis; making sense of finance; using the pre-release materials; exploring statistics. Technology and online teaching will also be underlying themes.

Who can take part?

This programme is for teachers who are in their first two years of teaching Core Maths and are teaching a Core Maths class during the academic year 2022/23.

Find out more

Search **new to teaching core maths** online or contact your local Maths Hub:

Please contact: Post 16 Lead, Helen Geoghegan for more information: helen.geoghegan@three-saints.org.uk

Benefits

- Your students will gain raised awareness of the use of maths and statistics in everyday life
- You will plan lessons/sequences of lessons to promote student understanding, confidence, and progress
- You will understand the philosophy of Core Maths, with its approach to maths through contextualised problem-solving
- You will understand how online learning and technology can be used to support Core Maths teaching

The **programme** is fully funded by the Maths Hubs Programme and the AMSP, so is **free** to participating schools.

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2022/23

Fully funded

Developing Core Maths Pedagogy

Work Groups

Develop improved teaching approaches for Core Maths

What is involved?

These Work Groups give teachers opportunities, through collaboration and experimentation, to develop improved teaching approaches that support the open-ended problem-solving skills Core Maths students need to develop, and to share these with departmental colleagues. Work Groups may be face-to-face or online and will include school-based activities between workshops.

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

Who can take part?

Participants should be experienced and developing teachers of Core Maths from schools and colleges in at least their second year of teaching Core Maths. Where appropriate, participants will be expected to work with colleagues in their own department.

Find out more

Search **developing core maths pedagogy** online or contact your local Maths Hub:

Please contact Post 16 Lead, Helen Geoghegan for more information:
helen.geoghegan@three-saints.org.uk

Benefits

- Your students will gain raised awareness of the use of maths and statistics in everyday life
- You will teach mathematical concepts and processes effectively through contextualised problem-solving
- You will understand the philosophy of Core Maths
- You will support your school/ college in developing clear ways of communicating and promoting its Core Maths offer

The **programme** is fully funded by the Maths Hubs Programme and the AMSP, so is **free** to participating schools/colleges.

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Developing A Level Pedagogy

Work Groups

Develop improved teaching approaches for A level Mathematics.

What is involved?

These Work Groups support experienced A level teachers to not only further develop their expertise but to provide a model to support departmental change. The content of individual Work Groups will be flexible to meet the needs of participants, but will be broadly linked to the Overarching Themes of the A level qualification: problem solving and mathematical thinking; mathematical modelling and representations; proof, reasoning and mathematical communication.

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

Who can take part?

Participants should be existing leaders of A level teaching or experienced teachers of A level Mathematics who wish to lead the development of pedagogy with other colleagues in their own or other schools.

This project would be particularly useful to those who may have already completed other (AMSP) A level courses such as Teaching A level Mathematics (TAM) or Preparing to Teach A level Mathematics.

Benefits

- Your students will have a deeper conceptual understanding of the A level Maths content
- You will understand the purpose of the Overarching Themes, including use of technology, and their impact on teaching and learning in A level Maths
- You and your department will be equipped to better support the development of stronger subject knowledge pedagogy
- You and your department will further embed the Overarching Themes into your A level teaching

These **Work Groups** are fully funded by the Maths Hubs Programme, so are **free** to participating schools/colleges.

Find out more

Search **developing A level pedagogy** online or contact your local Maths Hub:

Please contact: Post 16 Lead, Helen Geoghegan for more information: helen.geoghegan@three-saints.org.uk

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NCETM Professional Development Lead Programme

Accreditation for those who lead professional development for teachers of maths

What is involved?

The PD Lead Programme is designed for participants who are working with other teachers to enhance teaching and learning of maths.

Participants benefit from the equivalent of three one-day workshops (face-to-face and online). The completion of an Accreditation Evidence Document, which facilitates critical reflection on participants' learning and the professional development they design, deliver and evaluate over the year, is also required. Participants will design, lead, review and refine a programme of support for maths teacher professional development, drawing upon a range of evidence-informed models and activity.

Who can take part?

These phase-specific programmes are for expert teachers of maths (all phases from Early Years to post-16) who have existing commitments and responsibility for designing, leading and evaluating maths teacher professional development, and who will lead maths professional development beyond their own institution.

Find out more

Search **ncetm professional development lead programme** online or contact your local Maths Hub:

Please contact Maths Lead, Sarah McIlroy, for more information:
sarah.mcilroy@three-saints.org.uk

Benefits

- You will develop an understanding of effective models of maths teacher professional development
- You will critically evaluate your own professional development programme against your intended outcomes
- You will develop an understanding of the full range of potential outcomes of maths teacher professional development
- Participants in the programme you design will report a change in their subject knowledge/ professional practice

The programme is fully funded by the Maths Hubs Programme, so is **free** to participating schools.

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NCETM School Development Lead Programme

Support for mathematics leads whose role is to lead change in a school or group of schools other than their own

What is involved?

This programme is specifically designed to enable the leaders of maths school development to enhance leadership capacity and capability in the schools they support. It will provide regional support through workshops (face-to-face, run regionally across England, and online), practice development activities, and an online community.

Participants will plan, lead and evaluate a school development initiative for a school or group of schools, and record all planning, evaluation and reflection in an Accreditation Evidence Document.

Who can take part?

The programme is for expert leaders of maths leading change in a school/group of schools other than their own. It will benefit those with previous experience of developing maths leadership capacity, or those new to the role. Usually, participants will have completed the NCETM PD Lead Programme. Participants must commit to the full programme of activities and will need the support of the headteacher of their own school and/or MAT.

Benefits

- You will develop your knowledge of a range of maths school development strategies and know why, when, and how to use them effectively
- You will strengthen your knowledge of the evidence base that underpins school development and change management
- You will design and lead maths development in schools, which is supported by learning and discussion in the programme
- You will increase your awareness of the skills needed by a maths school development lead and have a deeper self-awareness in relation to the role

The **programme** is fully funded by the Maths Hubs Programme, so is **free** to participating schools.

Find out more

Search **ncetm school development lead programme** online or contact your local Maths Hub:

Please contact Maths Lead, Sarah McIlroy, for more information:
sarah.mcilroy@three-saints.org.uk

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Coordinators of the Maths Hubs Programme

2022/23

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LLME Communities

Professional learning communities for Local Leaders of Maths Education (LLME)

The members of any Maths Hub LLME Community are those who lead and support the work of the hub

What is involved?

This project enables those LLME who lead hub work to join a local professional learning community. Participants will be well-supported, developed and strengthened for their role within the Maths Hub and wider network.

Participants will attend several LLME collaborative events, spread across the academic year and equating to three days of time. There will be opportunities to connect with the community of local leaders of maths education, and build wider professional relationships. LLME will also learn and work together, to further develop expertise in maths pedagogy, leading maths professional development, and leading school development in maths.

Who can take part?

The Maths Hub LLME Community consists of every leader of Maths Hub activity in the hub area. This includes Maths Hub Leads, Assistant Maths Hub Leads, Cohort Leads and Work Group Leads who support the work of the hub. These professionals could have other roles such as SLEs or PD Leads, but they will be working directly with the hub in the roles outlined.

Benefits

- You will have the opportunity to connect with your community and build wider professional relationships
- You will further develop your expertise in leading maths pedagogy, maths professional development, and school development in maths
- You will have your thinking constructively challenged and develop new ideas, including through critical engagement with research
- You will deepen your own understanding of how teachers learn and develop

The **project** is fully funded by the Maths Hubs Programme, so is **free** to participating LLME.

Find out more

Search **LLME communities** online or contact your local Maths Hub:

Please contact Maths Lead, Sarah McIlroy, for more information:
sarah.mcilroy@three-saints.org.uk

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Primary Mastery Specialist Programme

Mastery Specialists are classroom-based practitioners who develop expertise in mastery and in leading maths-specific professional development

What is involved?

The Mastery Specialist Programme is for primary teachers with a passion for maths. Each year over 100 primary teachers – three or four from each Maths Hub – complete a programme of professional development to become Mastery Specialists. In every subsequent year, each of these teachers leads a Teaching for Mastery Work Group.

Focus throughout the training is on is on both maths knowledge and practice. Participants will work on developing a deeper understanding of teaching for mastery and reflect on how to support others effectively.

Who can take part?

This programme is for experienced primary teachers. Participants must be regularly teaching maths to a primary class, and have a passion for teaching for mastery. Excellent communication and a desire to develop skills both in the classroom and in working with others are essential.

Find out more

Search **ncetm professional development lead programme** online or contact your local Maths Hub:

Please contact Primary Lead, Claire Martin, for more information:
claire.martin@three-saints.org.uk

Benefits

- Your pupils will develop a deep understanding of, and confident attitude towards, maths
- You will demonstrate deeper subject knowledge and greater understanding of the principles behind teaching for mastery
- Your colleagues will begin to develop teaching for mastery approaches
- Your school will develop a positive maths professional development culture

The **programme** is fully funded by the Maths Hubs Programme, so is **free** to participating schools.

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Secondary Mastery Specialist Programme

Mastery Specialists are classroom-based practitioners who develop expertise in mastery and in leading maths-specific professional development

What is involved?

The Secondary Mastery Specialist Programme enables secondary maths teachers to become experts in teaching for mastery, so they in turn can develop maths departments that are well-led, high-performing, and provide high-quality professional development through collaborative working.

Over three years, participants first work on their own understanding and practice, then work with their own department, and finally work with other maths departments. Throughout the programme, participants keep in touch with other specialists across the country to share best practice.

Who can take part?

Any teacher who is teaching maths in a state-funded secondary school and who wishes to develop both their own classroom practice and their skills in leading professional development with others can apply to become a Secondary Mastery Specialist.

Find out more

Search **secondary mastery specialist programme** online or contact your local Maths Hub:

For more information please contact Secondary Lead, Lindsay Porter: lindsay.porter@three-saints.org.uk

Benefits

- Your students will develop a deep, secure and connected understanding of the maths they are learning
- You will develop and refine your classroom practice in line with the principles of teaching for mastery
- Your colleagues will begin to develop teaching for mastery approaches
- Your department will create a coherent and connected curriculum which promotes teaching for mastery

The **programme** is fully funded by the Maths Hubs Programme, so is **free** to participating schools.

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2022/23

Fully funded

Specialist Knowledge for Teaching Mathematics (SKTM)

Early Years Teachers

Develop mathematical subject knowledge and pedagogy

What is involved?

This programme is designed to improve the subject knowledge and pedagogical knowledge for all practitioners teaching and supporting the learning of early maths.

There are two types of SKTM Early Years pathways: Pathway One: Number Patterns and Structures, and Pathway Two: Pattern, Shape, Space and Measures. Each pathway is the equivalent of a four-day programme and has three core elements, three associated pedagogy sessions, and a task to support the transition from theory to practice. There is also a final core unit that aims to review quality provision.

Who can take part?

These programmes are designed for individuals who would like to develop their specialist knowledge for teaching maths to three- to five-year-olds. This may be particularly relevant for teachers who have moved phases or have not received maths-specific training.

Find out more

Search **early years SKTM** online or contact your local Maths Hub:

Work Group Lead is Gill Hood. To register your interest please use this link: https://forms.gle/Zy9CeT9NWiRfKNCz7

Benefits

- Your pupils will demonstrate a positive attitude towards maths, being willing to have a go, persevere, and share their mathematical ideas
- You will review the mathematical learning opportunities and pedagogical approaches across your wider provision
- You will evaluate and enhance the opportunities to promote mathematical learning in all areas of provision

The **programme** is fully funded by the Maths Hubs Programme, so is **free** to participating schools.

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Fully funded

Specialist Knowledge for Teaching Mathematics (SKTM)

Primary Teachers

Develop mathematical subject knowledge and pedagogy

What is involved?

This project is designed to improve the subject knowledge and pedagogical knowledge for all practitioners teaching and supporting the learning of primary maths.

There are two pathways: Number, and Spatial Reasoning. Each pathway consists of several core units and looks at specific topics as well as policy and practice. Exploration of modules in these pathways will take place during the the academic year, over the equivalent of four days. Participants in the programme may wish to follow one pathway this year, and the other pathway next year.

Who can take part?

These programmes are designed for primary teachers who would like to develop their specialist knowledge for teaching maths. This may be particularly relevant for teachers who have moved phases or have not received maths-specific training.

Find out more

Search **primary teachers SKTM** online or contact your local Maths Hub:

Work Group Lead is Sarah Wilkins. To register your interest please use this form: https://forms.gle/5nwM7PzKmKfescs56

Benefits

- Your pupils will demonstrate a positive attitude towards maths, being willing to have a go, persevere, and share their mathematical ideas
- Your pupils will be able to explain their maths and their mathematical thinking using appropriate language
- You will review your practice as a result of the sessions and make practice-specific adaptations to impact on pupil outcomes
- You will enhance your maths subject knowledge with an emphasis on the key structures in each mathematical area covered

The **programme** is fully funded by the Maths Hubs Programme, so is **free** to participating schools.

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Specialist Knowledge for Teaching Mathematics (SKTM)

Primary Teaching Assistants

Develop mathematical subject knowledge and pedagogy

What is involved?

This project is designed to improve the subject knowledge and pedagogical knowledge for all practitioners teaching and supporting the learning of primary maths.

It utilises primary teaching assistant-specific materials and focuses on the following mathematical areas: What is effective in the learning and teaching of mathematics?; Number sense (part 1); Number sense (part 2); Additive reasoning; Multiplicative reasoning; Fractions. The modules are each designed to last three to four hours, but may last longer if delivered online. This programme will take place across the equivalent of four days.

Who can take part?

These programmes are designed for primary teaching assistants who would like to develop their specialist knowledge for teaching maths. This may be particularly relevant for new TAs or TAs that have not received maths-specific training.

Find out more

Search **SKTM primary teaching assistants** online or contact your local Maths Hub:

Work Group Lead is Linda Lavagna Slater. To register your interest please use this form: https://forms.gle/H3NK1MyLmVThXXk86

Benefits

Your pupils will demonstrate a positive attitude towards maths, being willing to have a go, persevere, and share their mathematical ideas

You will review your practice as a result of the sessions and make specific adaptations to support the pupils you are working with

You will understand the key elements that form number sense, forms of addition and subtraction, forms of multiplication and division, and forms of fractions, including precise language, structures and representations

The programme is fully funded by the Maths Hubs Programme, so is free to participating schools.

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Specialist Knowledge for Teaching Mathematics (SKTM)

Primary Early Career Teachers

Develop mathematical subject knowledge and pedagogy

What is involved?

Two maths-specific subject knowledge projects are available to support primary Early Career Teachers (ECTs) – one is for ECTs who have not yet participated in this project and one is for those who participated in 2021/22. Both projects offer high-quality subject knowledge and pedagogy maths support for ECTs, recognising the requirements of the ECF.

Communities of ECTs will be formed in these projects, allowing for collaboration and practice-sharing. In both projects, teachers will design effective learning and teaching in maths, and review and analyse their practice.

Who can take part?

Phase 1 Communities are for those identified as Early Career Teachers – teachers in their first or second year of teaching. Phase 2 Communities are for those in the early part of their careers. They will have engaged with Phase 1 before engaging with this phase.

Find out more

Search **SKTM primary early career teachers** online or contact your local Maths Hub:

Work Group Leads: Year 2 Claire Martin, Year 1 Sarah Wilkins. Register your interest for Year 1 using this form: https://forms.gle/SwWuU8phqYQoYjXJ9

Benefits

- Your pupils will be seen to elaborate when responding to questions, showing that their answer stems from a secure understanding
- You will identify essential concepts, knowledge and skills within the topic area and provide opportunity for all pupils to learn and master these critical components
- You will develop an understanding of approaches to assess pupils' prior learning, so that learning sequences are planned to take this into account

The **programme** is fully funded by the Maths Hubs Programme, so is **free** to participating schools.

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Specialist Knowledge for Teaching Mathematics (SKTM)

Secondary Early Career Teachers

Develop mathematical subject knowledge and pedagogy

What is involved?

Two maths-specific subject knowledge projects are available to support secondary Early Career Teachers (ECTs) – one is for ECTs who have not yet participated in this project and one is for those who participated in 2021/22. Both projects offer high-quality subject knowledge and pedagogy maths support for ECTs, recognising the requirements of the ECF.

The communities formed as part of the project provide an opportunity for participants' conversation to remain focused on the teaching of maths, with teachers at a similar stage of their career.

Who can take part?

Phase 1 Communities are for those identified as Early Career Teachers – teachers in their first or second year of teaching. Phase 2 Communities are for those in the early part of their careers. They will have engaged with Phase 1 before engaging with this phase.

Find out more

Search **SKTM secondary early career teachers** online or contact your local Maths Hub:

Work Group Lead is Lindsay Porter. To register your interest please use this form: https://forms.gle/2exLfpTAEqfPuaHv8

Benefits

- Your students will be seen to elaborate when responding to questions, showing that their answer stems from a secure understanding
- You will identify essential concepts, knowledge and skills within the topic area and provide opportunity for all students to learn and master these critical components
- You will develop an understanding of approaches to assess students' prior learning, so that learning sequences are planned to take this into account

The **programme** is fully funded by the Maths Hubs Programme, so is **free** to participating schools.

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Fully funded

Specialist Knowledge for Teaching Mathematics (SKTM)

Secondary Non-specialist Teachers

Highly-regarded professional development offering secondary non-specialist maths teachers valuable CPD focusing on subject knowledge and pedagogy

With the pressures of timetabling and the need to deploy staff flexibly, many secondary schools find that they have teachers teaching outside their specialism. This can mean teachers from a range of subject backgrounds teaching in maths departments, tackling complex topics, and having to plan lessons with unfamiliar content.

If you currently have non-specialists teaching in your maths department, and want to give them the opportunity to hone their subject knowledge and classroom practice, this programme is ideal.

Testimonials

"I have found it really useful to see different ways of explaining or teaching concepts." – Previous participant

"From attending the programme, the non-specialist teacher's confidence in his maths and the teaching of maths has improved. The expectations of his students are now higher" – Head of Maths

Benefits

The SKTM Programme offers participants:

- six days, or the equivalent, of face-to-face or online expert input, plus further local support
- the opportunity to be part of a vibrant and supportive online community
- access to high-quality resources

The programme is fully funded by the Maths Hubs Programme, so is **free** to participating schools.

Find out more

Search **secondary non-specialist SKTM** online or contact your local Maths Hub:

Work Group Lead is Lindsay Porter. To register your interest please use this form: https://forms.gle/XqKtE7YQTmqaYPuV8

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Strengthening Partnerships with ITT Providers

A professional learning community for ITT providers and Maths Hub leadership

What is involved?

This project aims to form an established group of ITT representatives across the sector who are committed to developing communities of practice in order to review and evolve their provision.

Any work undertaken will be in conjunction with the leaders of maths provision in ITT institutions, to strengthen the partnership and agree actions that will support the deepening of understanding of teaching for mastery for ITT trainees at an award level. Activity may include working across hub boundaries and collaborating in larger regions.

Who can take part?

Participants will be from the ITT community; they should be directly involved in ITT with a responsibility for maths. They will represent the various ITT providers across the hub region so may include HEI, SCITT and School Direct, and represent different phases of ITT including EYTS, QTS (primary and secondary), and post-16.

Find out more

Search **strengthening partnerships with ITT providers** online or contact your local Maths Hub:

For further information please contact Maths Lead, Sarah McIlroy:
sarah.mcilroy@three-saints.org.uk

Benefits

- You and those responsible for maths provision at your institution will review your practice and programme
- You and those responsible for maths provision at your institution will aim to ensure trainees have some understanding of designing lessons informed by mastery principles
- Maths Hubs leaders will have a dynamic awareness of the local needs of ECTs and schools
- Maths Hubs leaders will ensure there is regular opportunity for collaboration and professional discussion of practices across ITT providers and that this dialogue informs hub work

The **project** is fully funded by the Maths Hubs Programme, so is **free** to participating institutions.

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