

# Maths Hubs Professional and School Development Opportunities

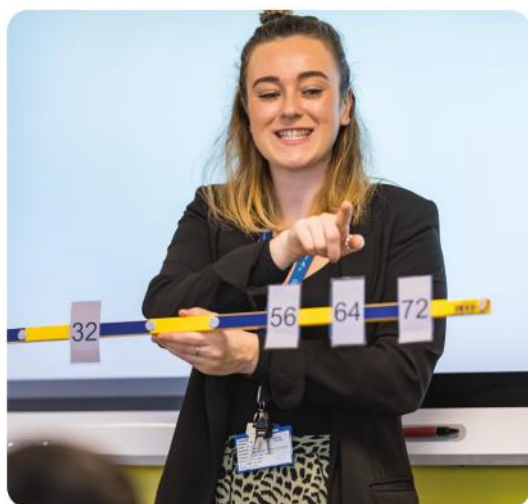
2022/23

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



# 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.



# Types of activity

<b>Work Group</b>	<p>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.</p>
<b>Programme</b>	<p>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.</p>
<b>Community</b>	<p>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.</p>



## 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!



# Welcome

Your local Maths Hub is:

## East Midlands South Maths Hub

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

**Leicester, Leicestershire, Rutland and the Northamptonshire districts of Corby, Daventry, East Northamptonshire and Kettering,**

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:

## Beauchamp College

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

### Hub Leads:

Alison Rouse and Chris Shore

### Hub Coordinator:

Lisa Dale

### Hub Administrator:

Alayna Rossa

### Email:

[admin@emsmathshub.org.uk](mailto:admin@emsmathshub.org.uk)

### Website:

[emsmathshub.org.uk](https://emsmathshub.org.uk)



**NCETM**  
NATIONAL CENTRE FOR EXCELLENCE  
IN THE TEACHING OF MATHEMATICS

# Contents

Discover details of all these professional development opportunities in this catalogue

## Professional Development for Primary Schools and Teachers

Mastering Number Programme

Mastery Readiness Work Groups

Primary Teaching for Mastery Development Work Groups

Primary Teaching for Mastery Embedding Work Groups

Primary Teaching for Mastery Sustaining Work Groups

Years 5-8 Continuity Work Groups

---

## Professional Development for Secondary Schools and Teachers

Secondary Teaching for Mastery Development Work Groups

Secondary Teaching for Mastery Embedding Year Support

Secondary Teaching for Mastery Embedding and Sustaining Work Groups

Secondary Subject Leadership Work Groups

Secondary Maths MAT Leads Programme

Years 7-11 Coherence Work Groups

Years 5-8 Continuity Work Groups

---

## Professional Development for Post-16 and Teachers

Developing Core Maths Pedagogy Work Groups

Developing A Level Pedagogy Work Groups

## Leadership Development Opportunities

Secondary Subject Leadership Work Groups

Secondary Maths MAT Leads Programme

---

## Specialist Knowledge for Teaching Mathematics Programmes

Specialist Knowledge for Teaching Mathematics (Early Years Teachers) Programmes

Specialist Knowledge for Teaching Mathematics (Primary Teachers) Programmes

Specialist Knowledge for Teaching Mathematics (Primary Teaching Assistants) Programmes

Specialist Knowledge for Teaching Mathematics (Primary ECT – Phase 1 and 2) Communities

Specialist Knowledge for Teaching Mathematics (Secondary ECT – Phase 1 and 2) Communities

Specialist Knowledge for Teaching Mathematics (Secondary Non-specialist Teachers) Programmes

---

## Professional Development for ITT Providers

Strengthening Partnerships with ITT Providers Community





**Fully funded**

# 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:

Visit our Work Group's [website page](#)

## 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.



**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:

Visit our Work Group's [website page](#)

## 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.





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:

Visit our Work Group's [website page](#)

## 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.





Fully funded

# 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:

Visit our Work Group's [website page](#)

## 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.



Fully funded

# 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:

Visit our Work Group's [website page](#)

## 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.







**Fully funded**

# 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:

Visit our Work Group's [website page](#)

## 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.





**Fully funded**

# 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:

Visit our Work Group's [website page](#)

## 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.







**Fully funded**

# 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:

Visit our Work Group's [website page](#)

## 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.



Fully funded

# 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:

Visit our Work Group's [website page](#)

## 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.





**Fully funded**

# 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:

Contact [admin@emsmathshub.org.uk](mailto:admin@emsmathshub.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.





**Fully funded**

# 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:

Visit our Work Group's [website page](#)

## 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.







**Fully funded**

# 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:

Visit our Work Group's [website page](#)

## 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.



**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:

Visit our Work Group's [website page](#)

## 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.





**Fully funded**

# 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.

## Find out more

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

Visit our Work Group's [website page](#)

## 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.



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:

Visit our website page [[Number Pathway](#)] [[PSSM Pathway](#)]

## 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.







**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:

Visit our website [\[Number Pathway\]](#) [\[Spatial Reasoning Pathway\]](#)

## 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.



**Fully funded**

# 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:

Visit our Programme's [website page](#)

## 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.







**Fully funded**

# 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:

Visit our Community's [website page](#)

## 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.





**Fully funded**

# 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:

Visit our Community's [website page](#)

## 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.





**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

## Find out more

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

Visit our Programme's [website page](#)

## 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.





**Fully funded**

# 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:

Contact [admin@emsmathshub.org.uk](mailto:admin@emsmathshub.org.uk)

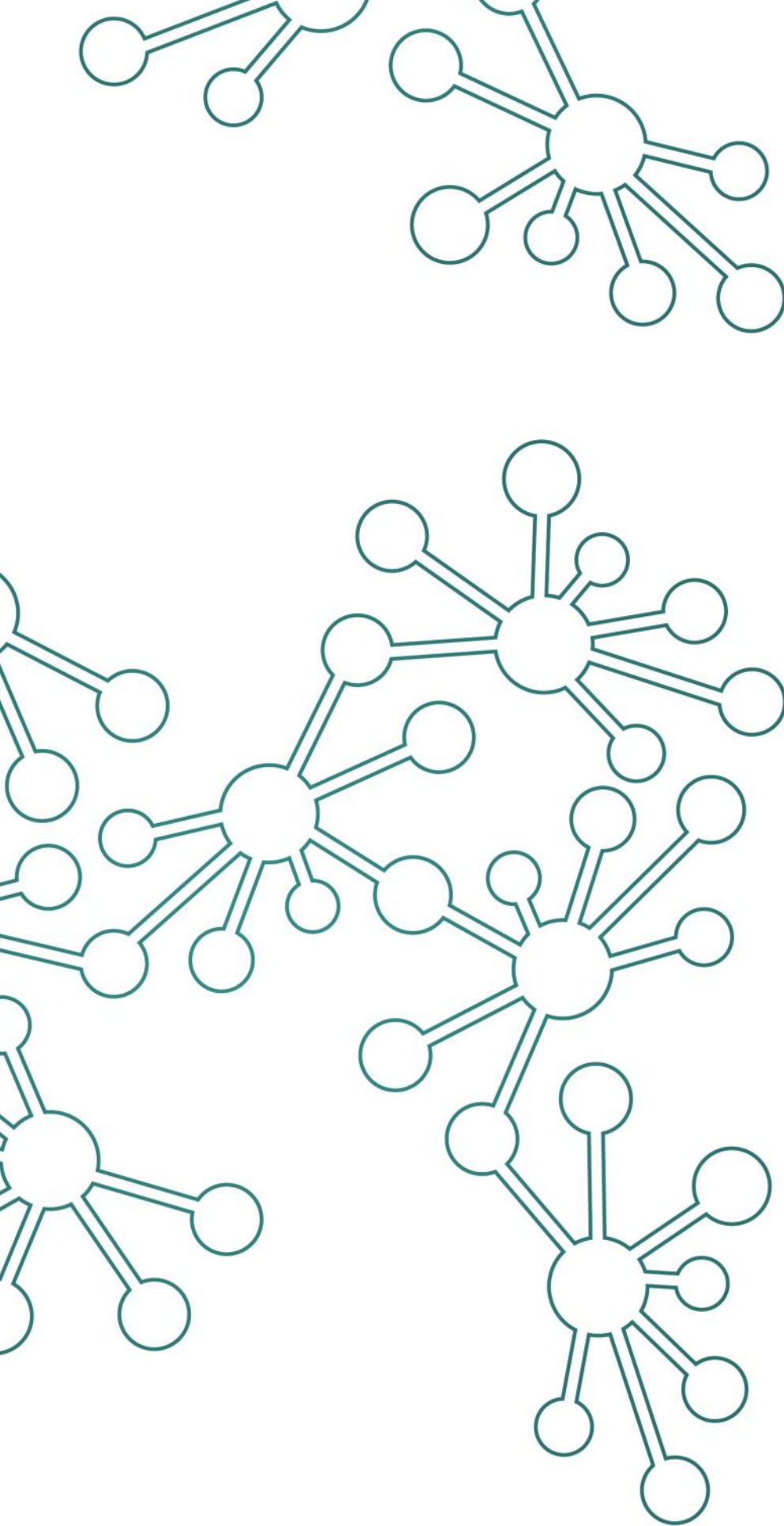
## Benefits

- 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.







**NCETM**  
NATIONAL CENTRE FOR EXCELLENCE  
IN THE TEACHING OF MATHEMATICS