

2024/25 Maths Hubs Handbook

Local leaders of mathematics education

The **Maths Hubs Programme** works to improve mathematics education in all state-maintained schools in England. This work is done by LLMEs, experienced and knowledgeable classroom practitioners in the local Maths Hub area, who design and lead professional development for teachers of mathematics in order to have an impact on classroom practice.

This handbook details the Strategic Goals underpinning the **Maths Hubs Programme** and the work of the **NCETM** for the academic year 2024/25, the ways in which LLMEs work with teachers, and gives an overview of all the Network Collaborative Projects (NCPs) available. This should be read in conjunction with the Network Collaborative Project-specific handbook.



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Types of school and professional development activity

<p>Work Group</p>	<p>Work Groups have an emphasis on collaborating to support school- or department-wide development in maths, as well as supporting individual professional learning and development. Lead participant teachers develop their own practice by trying out new approaches in their own classrooms, and work with their colleagues in school to share ideas and establish approaches across their school or department. They also meet regularly during the year to collaborate with their peers locally. Work Groups are led by a teacher (or former teacher) expert, who is experienced in both maths education and in leading teacher professional development.</p>
<p>Programme</p>	<p>Programmes support individual teachers or leaders of maths in their professional development. There are two types: Specialist Knowledge for Teaching Mathematics (SKTM) programmes, where individuals develop specialist knowledge to improve their practice; and local leaders of mathematics education (LLME) development programmes, to equip practitioners to lead work with teachers and schools. Both involve participants joining a national or regional cohort of colleagues from other schools or colleges, and exploring centrally produced NCETM materials.</p>
<p>Community</p>	<p>Professional learning communities also emphasise supporting individual teachers or leaders of maths in their professional development. Participants collaborate formally and informally, over a sustained period of more than a year, to deepen their understanding of maths culture, curriculum, pedagogy, and professional development. Community Leads establish a professional learning culture that creates professional dialogue and mutual support, offering their own expert input where appropriate.</p>
<p>Targeted Support</p>	<p>Targeted Support in Maths supports primary and secondary schools to make sustained change in maths through a bespoke offer over a sustained number of agreed days. Local leaders of maths education (LLMEs) from the school's local Maths Hub will work with participating leaders to develop their understanding and practice of developing maths, underpinned by the key features of the EEF implementation cycle. Leaders will meet regularly with their LLME over a planned period of time and will collaboratively explore, plan, deliver and evaluate a development focus in maths. The collaborative professionalism between the school leader(s) and the LLME aims to develop a long-term professional learning relationship between the school and Maths Hub.</p>



Primary Schools

Strategic Goal



Maths Hubs support primary schools to:

- i. establish a culture of high expectations for all pupils (including disadvantaged pupils and pupils with SEND) in which they develop deep knowledge, understanding and confidence in mathematics, succeed in National Curriculum mathematics assessments, and are well prepared for the secondary mathematics curriculum
- ii. introduce, embed, and sustain teaching for mastery approaches with fidelity and consistency, making effective use of high-quality resources
- iii. ensure their mathematics teaching is knowledge-rich and fulfils the aims of the National Curriculum: every school's teaching containing a coherent and detailed sequence of essential content to support pupils' progress over time
- iv. ensure all teachers of mathematics have the specialist knowledge and skills required to teach mathematics effectively
- v. work with teachers and leaders of mathematics to establish professional cultures and practices that support ongoing development
- vi. work in a collaborative and sustained way with other schools and local leaders of mathematics education to overcome challenges and support ongoing improvement.

By 2025, the aim is for 75% of primary schools to have engaged with the teaching for mastery support provided through the Maths Hubs Network.

2024/25 commentary

A key part of the Primary Schools Strategic Goal is to support teachers and leaders in primary schools to establish highly effective classroom practices through developing teaching for mastery approaches as exemplified in the [NCETM's Essence of Mathematics Teaching for Mastery](#).

For some schools, their teaching for mastery journey starts with Mastery Readiness, which is particularly aimed at schools who may require additional support to get their schools into a strong position to fully benefit from future mastery Work Groups. Mastery Readiness focuses on securing leadership within the school and establishing a shared vision of what they want to achieve. There is also a focus on arithmetic proficiency, so that pupils are in a strong place to benefit from a mastery approach. Readiness schools then move into a Development Work Group the following year where most schools start their journey, followed by an Embedding Work Group. The final phase is Sustaining, a permanent Work Group which continues, allowing schools to work collaboratively year-on-year with other schools to refine and sustain teaching for mastery.

Mastering Number projects contribute to the Strategic Goal. For some schools, these projects provide an introduction to teaching for mastery principles and approaches, and these schools are encouraged to join the full Teaching for Mastery Programme, starting with Readiness or Development Work Groups. For schools already engaged in the Teaching for Mastery

Programme, Mastering Number helps to strengthen teaching for mastery practices through the bespoke teaching materials and professional development.

This year, the 'Parent Project' will continue, and Maths Hubs will be supported with materials and PD from the NCETM to share with schools. The Parent Project is aimed at schools who have previously engaged in Mastering Number and want to continue to refine and develop it through work with parents.

Maths Hubs continue to develop and refine models for Work Groups in the Sustaining phase so that schools continue to benefit from participating in a Sustaining Work Group each year. There is normally a core Work Group and a range of other Work Groups that schools select from, according to their needs.

The development of primary teachers' specialist knowledge of maths is important to achieving both the Strategic Goals and effective teaching for mastery. This is supported by a suite of SKTM programmes which will continue to run this year.

Targeted Support in Mathematics will focus on supporting schools to make sustained change through a bespoke offer. Enhanced support will be given to schools in need of additional LLME capacity to meet the outcomes of the project they are engaging with. Intensive support will be given to schools to enable leaders to make sustained change, leading to them benefiting from standard and enhanced provision at a later stage.

Primary Schools

School and professional development opportunities

Achieving and maintaining excellence in teaching mathematics requires focused effort over time. Change is effected and progress is built through development of leadership for strong classroom practice. The Maths Hubs Programme offers a range of school and professional development opportunities to support teachers, subject and senior leaders according to need, contributing to schools' long-term success in the teaching and learning of mathematics. Network Collaborative Projects (NCPs) are offered nationally and led locally, with opportunities for enhanced and intensive support to tailor the offer to schools' particular needs.

The national offer for 2024/25 is set out below.

Work Groups

NCP24-06	Mastering Number at KS2 Work Groups
NCP24-07a	Mastering Number at Reception and KS1 Work Groups
NCP24-08	Mastery Readiness Work Groups
NCP24-09	Primary Teaching for Mastery Development Work Groups
NCP24-10	Primary Teaching for Mastery Embedding Work Groups
NCP24-11	Primary Teaching for Mastery Sustaining Work Groups
NCP24-19	Years 5-8 Continuity Work Groups



Programmes

NCP24-01	Primary Mastery Specialist Programme (Cohort 10)
NCP24-04	NCETM Professional Development Lead Programmes
NCP24-05	NCETM School Development Lead Programme
NCP24-25	Specialist Knowledge for Teaching Mathematics: (Early Years Teachers) Programme
NCP24-26	Specialist Knowledge for Teaching Mathematics: (Primary Teachers) Programme
NCP24-27	Specialist Knowledge for Teaching Mathematics: (Primary Teaching Assistants) Programme
NCP24-28	Specialist Knowledge for Teaching Mathematics: (Primary ECT) Programme

Communities

NCP24-07b	Mastering Number Embedding the Impact Community
NCP24-09s	Regional Cross-phase Special Schools Teaching for Mastery Development Communities
NCP24-31	Strengthening Partnerships with ITT Providers Community

Targeted Support

NCP24-33	Targeted Support in Mathematics (Intensive)
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Secondary Schools

Strategic Goal



Maths Hubs support secondary schools to:

- i. establish a culture of high expectations for all students (including disadvantaged students and students with SEND) in which they develop deep knowledge, understanding and confidence in mathematics, succeed in GCSE mathematics, and are ready to continue studying mathematics post-16
- ii. introduce, embed, and sustain teaching for mastery approaches with fidelity and consistency, making effective use of high-quality resources
- iii. ensure their mathematics teaching is knowledge-rich and fulfils the aims of the National Curriculum: every school's teaching containing a coherent and detailed sequence of essential content to support pupils' progress, building on prior knowledge and understanding, over time
- iv. ensure all teachers of mathematics have the specialist knowledge and skills required to teach mathematics effectively
- v. work with teachers and leaders of mathematics to establish professional cultures and practices that support ongoing development
- vi. work in a collaborative and sustained way with other schools and local leaders of mathematics education to overcome challenges and support ongoing improvement.

By 2025, the aim is for 65% of secondary schools to have engaged with the teaching for mastery support provided through the Maths Hubs Network.

2024/25 commentary

A key part of the Secondary Schools Strategic Goal is to support teachers and leaders in secondary schools to establish highly effective classroom practices through developing teaching for mastery approaches as exemplified in the [NCETM's Essence of Mathematics Teaching for Mastery](#).

All projects aim to provide the necessary support and challenge to achieve the Strategic Goal and contribute to the long-term, sustainable national transformation of the teaching of maths in secondary schools.

One of the key challenges remains shifting from working with individual teachers to having impact across an entire department, and the secondary leadership NCPs (NCP24-15 and NCP24-16) continue to be successful in supporting this work.

A key focus is on continuing to support schools that have already engaged with teaching for mastery through the Sustaining NCP (NCP23-14). The foci introduced last year have supported hubs in continuing to work with these schools. Responding to Ofsted's findings that lower-attaining students are often denied opportunities to reason and communicate in maths, alongside the fact that multiplicative reasoning underpins a substantial proportion of the secondary maths curriculum, there will be a new, resourced option within Sustaining. Materials and professional development will be provided which will draw upon existing research and

established resources to develop fluency with multiplicative reasoning in Key Stage 3.

Ensuring that students have a more equitable experience in maths is emerging as a key priority. Nationally it has been noted that, since Covid, lower-attaining students entering Year 7 have more substantial gaps in their understanding of maths. A new, centrally resourced project will be offered to enable teachers to better understand early maths pedagogy in order for them to support lower-attaining students in Year 7.

To ensure a consistent and cohesive experience for students, the development of specialist knowledge for all those teaching maths is important. To help achieve this, SKTM programmes for Early Career Teachers (please note the change of format for this NCP), non-specialists and teaching assistants will continue to run this year.

Targeted Support in Mathematics will focus on supporting schools to make sustained change through a bespoke offer. Enhanced support will be given to schools in need of additional LLME capacity to meet the outcomes of the project they are engaging with. Intensive support will be given to schools to enable leaders to make sustained change, leading to them benefiting from standard and enhanced provision at a later stage.

Secondary Schools

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Achieving and maintaining excellence in teaching mathematics requires focused effort over time. Change is effected and progress is built through development of leadership for strong classroom practice. The Maths Hubs Programme offers a range of school and professional development opportunities to support teachers, subject and senior leaders according to need, contributing to schools' long-term success in the teaching and learning of mathematics. Network Collaborative Projects (NCPs) are offered nationally and led locally, with opportunities for enhanced and intensive support to tailor the offer to schools' particular needs.

The national offer for 2024/25 is set out below.

Work Groups

NCP24-12	Secondary Teaching for Mastery Development Work Groups
NCP24-13	Secondary Teaching for Mastery Embedding Year Support Work Groups
NCP24-14	Secondary Teaching for Mastery Embedding and Sustaining Work Groups
NCP24-18	Securing Foundations at Year 7
NCP24-19	Years 5-8 Continuity Work Group
NCP24-20	Cross Phase – Supporting Low Attainers to Achieve a L2 Qualification in Maths Work Groups



Programmes

NCP24-02	Secondary Mastery Specialist Programme (Cohort 8)
NCP24-03	Secondary Mastery Specialist Programme (Cohort 9)
NCP24-04	NCETM Professional Development Lead Programmes
NCP24-05	NCETM School Development Lead Programme
NCP24-29	Specialist Knowledge for Teaching Mathematics: Secondary (ECT) Programme
NCP24-30	Specialist Knowledge for Teaching Mathematics: (Secondary Non-specialist Teachers) Programme
NCP24-32	Specialist Knowledge for Teaching Mathematics: (Secondary Teaching Assistants) Programme



Communities

NCP24-09s	Regional Cross-phase Special Schools Teaching for Mastery Development Communities
NCP24-15	Secondary Maths Subject Leaders Community
NCP24-16	Secondary Maths MAT Leads Community
NCP24-31	Strengthening Partnerships with ITT Providers Community



Targeted Support

NCP24-33	Targeted Support in Mathematics (Intensive)
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Post-16 institutions (including 11-18 schools)

Strategic Goal



Maths Hubs, supporting and collaborating with the Advanced Mathematics Support Programme (AMSP) at Level 3 and FE colleges at GCSE resit/FSQ, support post-16 institutions to:

- i. establish a culture of high expectations for all students (including disadvantaged students and students with SEND) in which they develop deep knowledge, understanding and confidence in mathematics, succeed in their post-16 mathematics qualifications, and are well prepared for the mathematical requirements of their future education and career pathways
- ii. develop teaching approaches consistent with teaching for mastery principles building on the work of the Centres for Excellence
- iii. ensure their mathematics provision offers a coherent and detailed sequence of essential content to support students' progress, building on prior knowledge and understanding
- iv. ensure all teachers of mathematics in participating settings have the specialist knowledge and skills required to teach mathematics effectively
- v. work with teachers and leaders of mathematics to establish professional cultures and practices that support ongoing development
- vi. work in a collaborative and sustained way with other schools and institutions, and local leaders of mathematics education to overcome challenges and support ongoing improvement.
- vii. ensure that the professional development needs of those teaching GCSE resit/FSQ mathematics are addressed through support provided by Maths Hubs and other partners
- viii. provide ongoing support for the AMSP's work to increase participation in Level 3 mathematics courses, including Core Maths.

By 2025 a total of 150 Further Education Mastery Specialists to be trained and supported to embed mastery approaches in GCSE resit and FSQ provision.

2024/25 commentary

2024/25 sees the continuation of the Mastery Specialist Programme for teachers of GCSE Maths resit and Functional Skills Maths qualifications in post-16 institutions (see LLME Strategic Goal commentary).

NCP24-20 will continue to focus on the cross-phase support of students who are working towards a Level 2 qualification (GCSE Maths grade 4 or Functional Skills qualification). This cross-phase NCP started in 2023/24, bringing together participants from both secondary schools and post-16 institutions. Its intention is to develop effective practice to support students, in both phases, who are unlikely to achieve a GCSE Maths grade 4 in Year 11 and will continue to work towards a Level 2 qualification as part of their post-16 studies.

Level 3 NCPs are carried out in partnership with the AMSP. This continues in 2024/25, with Work Groups being agreed and run within and across regions in liaison with AMSP colleagues. An increased focus on Core Maths is anticipated following the announcement of the Core Maths Premium, and Maths Hubs will need to work closely with AMSP partners as work develops.



Post-16 institutions (including 11-18 schools)

Professional development opportunities

Achieving and maintaining excellence in teaching mathematics requires focused effort over time. Change is effected and progress is built through development of leadership for strong classroom practice. In collaboration with the AMSP, the Maths Hubs Programme offers a range of professional development opportunities to support teachers, subject and senior leaders according to need, contributing to schools' long-term success in the teaching and learning of mathematics. Network Collaborative Projects (NCPs) are offered nationally and led locally, aligned with AMSP ambitions for increased student participation in Post-16 maths.

The national offer for 2024/25 is set out below.



Work Groups

NCP24-20 Cross Phase – Supporting Low Attainers to Achieve a L2 Qualification in Maths

NCP24-23 Developing Core Maths Pedagogy Work Group

NCP24-24 Developing A Level Pedagogy Work Group

Programmes

NCP24-04 NCETM Professional Development Lead

NCP24-05 NCETM School Development Lead

NCP24-21 Post-16 GCSE/FSQ Mastery Specialist Programme (Cohort 2)

NCP24-22 Specialist Knowledge for Teaching Mathematics (Core Maths Teachers) Programme



Strategic Goal



Maths Hubs identify, develop and support local leaders of mathematics education (LLME) who:

- i. lead high-quality school and professional development in mathematics, including Teaching for Mastery Work Groups; specialist knowledge for teaching mathematics programmes; and mathematics leadership communities
- ii. establish and sustain long-term working relationships with leadership in schools and trusts, enabling them to agree the forms of support that will be most relevant for their needs
- iii. are well prepared for their role through the NCETM accredited LLME programmes (Mastery Specialist, Professional Development Lead, and School Development Lead), and through participation in NCETM-led project communities
- iv. are supported and developed by their Maths Hub leadership through participation in their local LLME Community
- v. are fully supported in their LLME role by their own school's leadership and have external recognition for their expert role as local leaders of mathematics education.

The ambition is for each Maths Hub to have a team of at least 50 active LLME (2,000 across the country) in any year, providing an appropriate range of expertise to address the needs of schools in the Maths Hub area.

2024/25 commentary

The LLME development programmes continue to support the development of LLME expertise across the Maths Hubs Programme.

2024/25 sees the continuation of the Mastery Specialist Programme for teachers of GCSE Maths resit and Functional Skills Maths qualifications in post-16 institutions. Cohort 2 of this programme is twice the size of the first cohort, following the pilot and positive feedback. The programme focuses on teaching for mastery approaches as exemplified in the [NCETM's Essence of Mathematics Teaching for Mastery](#) and draws upon research from the FE Centres for Excellence in Maths project which concluded in March 2023. Cohort 1, along with the trailblazer cohort, will move to the embedding stage of their programmes, with a focus on leading professional development in their institutions and collaboration. They will also join a tailored pathway of the PD Lead Programme (NCP24-04).

Leadership of maths school development is an element of expertise for all LLMEs, particularly so for colleagues working in the Maths Hubs Targeted Support for Mathematics (TSM) project. All LLMEs working on TSM

are accredited or working towards accreditation as a School Development Lead. The School Development Lead Programme (NCP24-05) will continue to evolve to support the changing needs of the system and will complement the work of the TSM Intensive support project (NCP24-33).

In addition to the NCETM LLME development programmes, it is recognised that LLMEs also have opportunities to develop within their community, at both the local and national tiers.

- Maths Hub LLME Communities are long-term professional learning communities working together to achieve a shared vision for maths across the Maths Hub area.
- NCP LLME Communities are linked to Network Collaborative Projects, which support their development in the context of the project.

An important strategic objective in this area is to ensure there is understanding and coherence across the different activity that supports LLME development, whether it is designed and led locally or across the network.

Developing LLME expertise

The programmes listed below are available to primary, secondary and FE teachers wanting to become a Mastery Specialist, and to educators from any phase who seek to gain accreditation as a Professional Development Lead or as a School Development Lead. Teachers undertaking these LLME development programmes benefit from the support of their school as they commit to this substantial leadership professional development.

LLME development is a concerted effort across the Maths Hubs Programme. Each hub brings together LLMEs from all NCPs in the Maths Hub's LLME Community, addressing local needs and the hub's vision for mathematics education. Each NCP also brings all LLMEs together in NCP LLME Communities, focused on continued development of leadership and practice within the NCP.

The national offer for 2024/25 is set out below.

Programmes

NCP24-01	Primary Mastery Specialist Programme (Cohort 10)
NCP24-02	Secondary Mastery Specialist Programme (Cohort 8)
NCP24-03	Secondary Mastery Specialist Programme (Cohort 9)
NCP24-04	NCETM Professional Development Lead Programmes
NCP24-05	NCETM School Development Lead Programme
NCP24-21	Post-16 GCSE/FSQ Mastery Specialist Programme (Cohort 2)

Communities

MH LLME	Maths Hub LLME Community for each hub
NCP LLME	Network Collaborative Project LLME Communities for each NCP



The work of an LLME

The work of the Maths Hubs Programme is to improve the teaching and learning of mathematics in England. At its most fundamental level, this involves experienced and knowledgeable colleagues designing and leading professional development for teachers of mathematics, in order to have an impact on classroom practice.

All those engaged in this leadership are known as local leaders of mathematics education (LLME), encompassing Mastery Specialists, Work Group Leads, Cohort Leads and various other roles within Maths Hubs across the national programme, including within Maths Hub Leadership and Management teams.



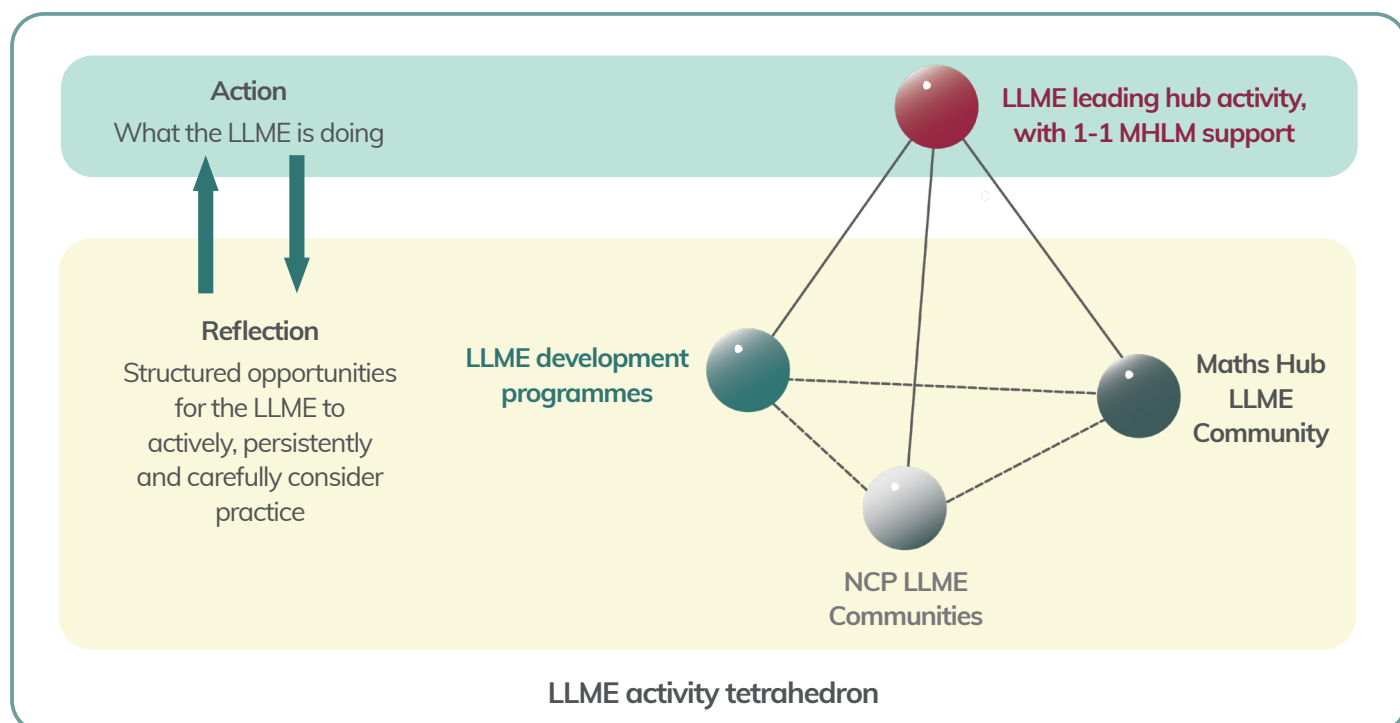
LLME activity tetrahedron

LLMEs lead hub activity as part of their commitment to the improvement of maths education for all pupils and to the professional development of all teachers of maths. Working with their Maths Hub Leadership and Management team, LLMEs design and lead hub activities to have an impact on teachers' classroom practice and pupils' maths education.

As leaders of maths education, LLMEs are themselves lifelong learners, and committed to their own professional learning, which they actively pursue by taking opportunities to reflect on their practice.

LLMEs' direct experience of leading hub activity sets the context for purposeful collaboration and individual development in at least three settings:

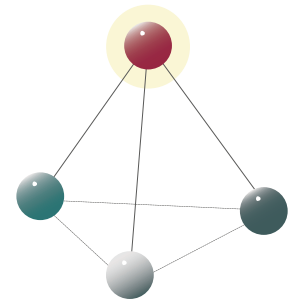
- **LLME development programmes**
- **NCP LLME Communities**
- **Local Maths Hub LLME Community**



LLMEs leading hub activity

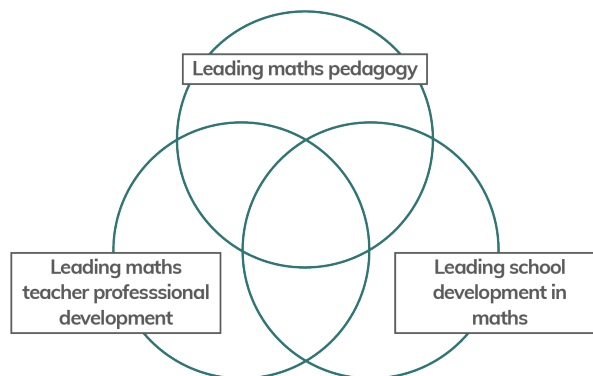
LLMEs work to improve maths education for all learners. Effecting sustainable change in teaching and learning is a complex endeavour that demands knowledge-in-action and understanding of at least three aspects: how maths is learnt, and how task and lesson design support this; how maths teachers develop professionally; and how practice across whole organisations can be transformed.

LLMEs develop leadership expertise locally within a community of their peers and their Maths Hub Leadership and Management Team, and in national communities of LLMEs working on the same project.



Three elements of LLME expertise

- 1. Leading maths pedagogy:** LLMEs have expertise in the practice, theory and ongoing research into how mathematics is taught and learnt.
- 2. Leading maths teacher professional development:** LLMEs have expertise in designing professional development that has a lasting impact on teachers' classroom practice and their understanding of how children learn mathematics.
- 3. Leading school development in mathematics:** LLMEs have expertise working with senior and subject leaders to effect sustainable improvement in mathematics education across whole departments, schools and trusts.

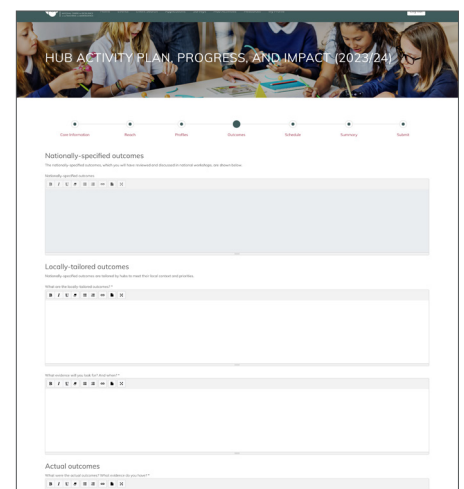


Every LLME has and is developing these three elements of expertise.

Supported by the [LLME Toolkit](#), LLMEs work directly with teachers and leaders, and are skilled in recognising and responding to local need and the challenges and opportunities within schools' contexts. LLMEs' work is focused on the outcomes of the Network Collaborative Project that they are leading, which are defined nationally.

LLMEs work with an assigned link from their Maths Hub Leadership and Management Team to write and agree a HAPPI form, a planning document that includes a schedule of intended activity, which is used to monitor progress and to record impact. LLMEs tailor the national outcomes to meet the local context and priorities.

Further to their work with local teachers and schools, year on year LLMEs work to refine their practice leading maths pedagogy, leading maths teacher professional development, and leading whole school development of maths. This development of expertise is supported by the LLMEs' Maths Hub Leadership and Management Team, and LLMEs' participation in LLME development programmes, national NCP LLME Communities, and local Maths Hub LLME Communities.

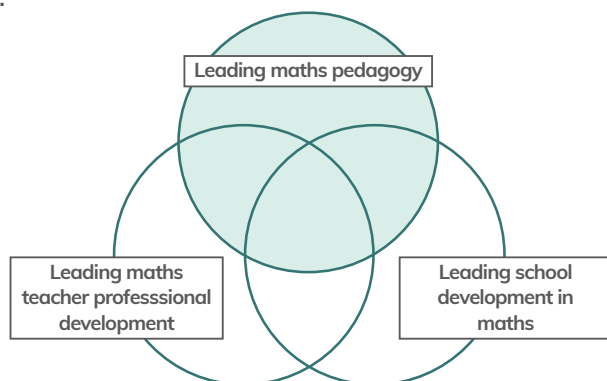


LLME development programmes

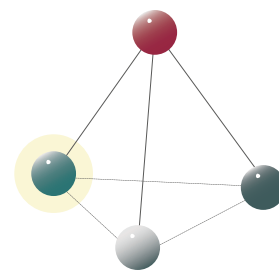
There is a suite of professional development programmes run nationally to support the coherent development of LLMEs. All LLMEs are considered to have three elements of expertise, each of which has an emphasis in the different LLME development programmes.

Leading maths pedagogy

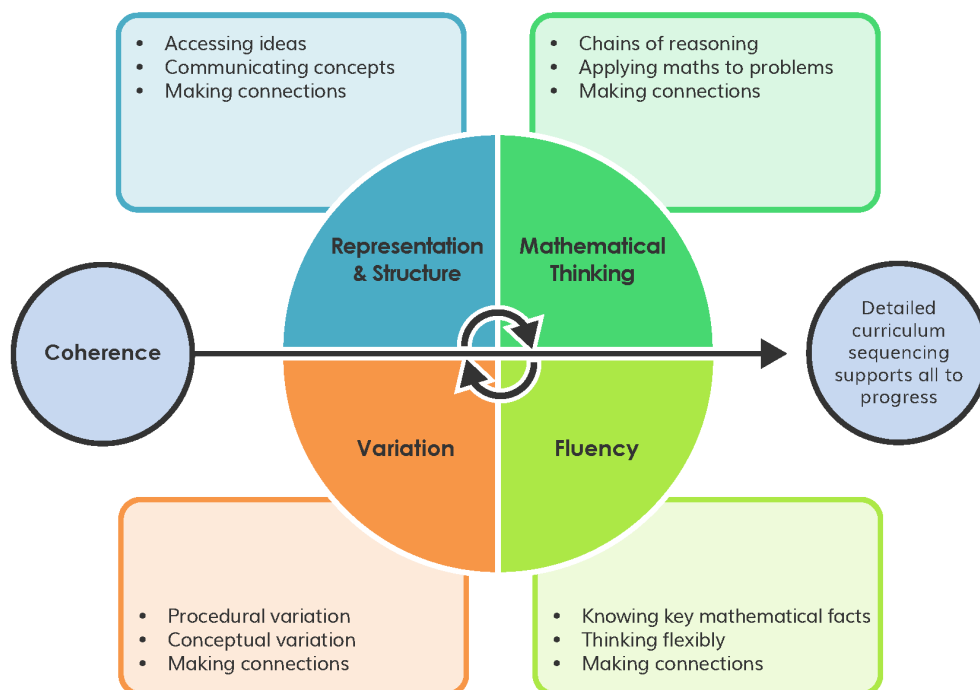
A focus on how mathematics is learnt, and on designing lessons to achieve this, is central to the work of all LLMEs across the Maths Hubs Programme.



Mastery Specialists in the primary, secondary and FE phases develop expertise in highly effective classroom practice through developing teaching for mastery approaches as exemplified in the NCETM's [Essence of Mathematics Teaching for Mastery](#).



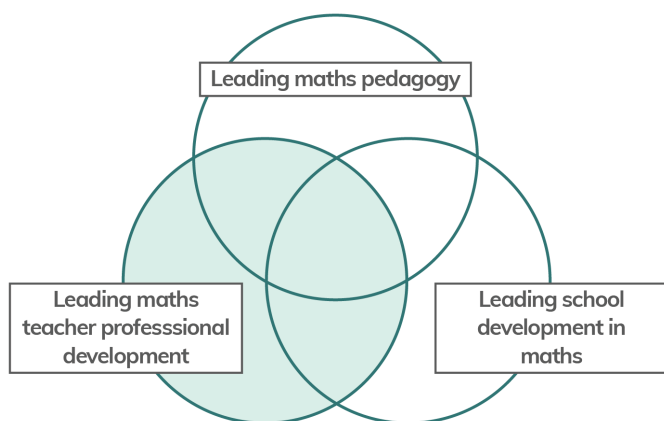
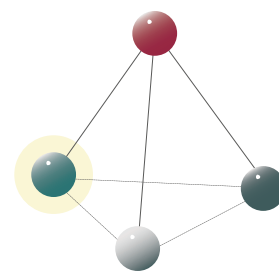
Teaching for Mastery Five Big Ideas



Leading maths teacher professional development

Knowledge of how teachers of mathematics develop professionally, and designing and leading PD programmes to achieve this, is an element of all work of all LLMEs.

Offered as a core programme with phase-specific aspects for Early Years, primary, secondary, post-16 and FE practitioners, the NCETM Professional Development Lead Programmes support individuals to develop and embed expertise in designing and leading mathematics professional development and knowledge of how teachers of mathematics learn and develop.



Five core questions

All LLMEs leading hub activity complete the NCETM Professional Development Lead Programme. The programme is structured around five core questions, designed to highlight key considerations in the design, leadership and evaluation of high-quality professional development.

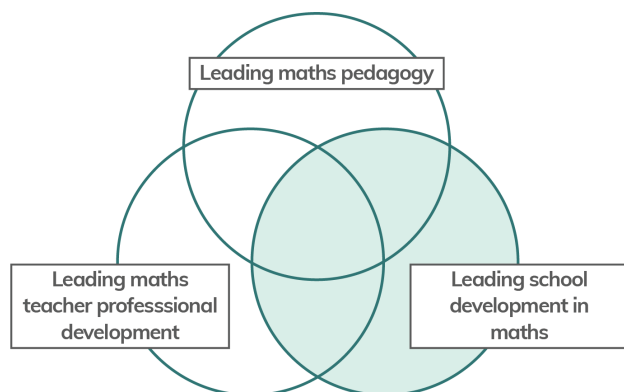
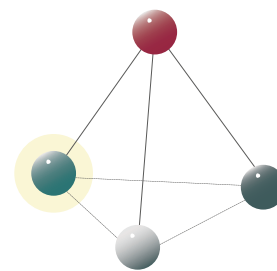
These questions form a shared framework across the Maths Hubs Programme.

- ? The PD question**
How do teachers develop professionally? What do you think 'good' professional development is?
- ? The knowledge question**
What does a teacher of mathematics need to know in order to teach the subject well?
- ? The programme design question**
Why is this programme needed? How do you decide the structure of a PD programme?
- ? The task/activity question**
What is your purpose at this point in the session? What participant activity will promote this? How do you design tasks to enable this to happen?
- ? The evidence/impact question**
What is the impact of your PD? How does your evidence support your evaluation?

Leading school development in mathematics

All LLMEs work to extend the impact of professional development to whole school settings, beyond the participants with whom they work directly. Mathematics school development is a concerted effort, always involving a school's senior and subject leadership, and often encompassing many NCPs – LLME expertise in leading school development in mathematics underpins this joint venture.

Offered as one programme for School Development (SD) Leads working in any phase, the NCETM School Development Lead Programme (SDLP) is designed specifically to enable leaders of maths school development to enhance leadership capacity and capability in the schools they support through their work in that role.



Two key elements underpin the SD Lead Programme: the Maths School Development Domains and the Maths School Development Process

Maths School Development Domains

Maths curriculum and assessment	Maths pedagogy
Maths professional development	Maths culture

Maths School Development Domains relate directly to the leadership domains that underpin the suite of NPQs that is in widespread use and has common currency¹ across the school system. The SD Lead Programme focuses on a subset of these domains that are particularly appropriate in a subject-specific context.

Maths School Development Process



Based closely on the implementation process from the EEF Implementation Guidance, the **Maths School Development Process**² supports senior and subject leaders to adopt effective behaviours, attend to contextual factors and to plan and implement change in phases and over time.

¹ Department for Education (2020). National Professional Qualification (NPQ): Senior Leadership Framework, HMSO, London.
² Sharples, J., Eaton, J. & Boughelaf, J. (2024). A School's Guide to Implementation. Education Endowment Foundation, London.

NCP LLME Communities

Every NCP holds national workshops several times per year, bringing all of that NCP's LLMEs together to reflect on ongoing work in the NCP, and to focus on project-specific professional development.

LLMEs are funded for the equivalent of three days of national NCP workshops, at which attendance is a requirement.

Designed and led by the NCP Project Coordination Team (PCT), these national workshops provide opportunities for the sustained development of LLME expertise through mutual dialogue and collaborative inquiry.

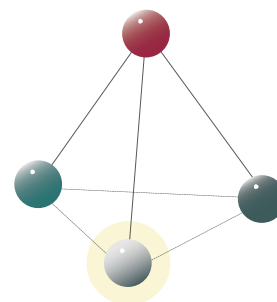
Local leaders of mathematics education:

- will be part of a project-specific community that meets across the year to share, review and develop their work
- will develop their professional knowledge through engaging with tasks, sharing expertise and reflecting on the way they work within the project and the implications of this for wider work
- will develop their leadership practice through collaborating with other local leads and evaluating their work.

National workshops are designed to:

- facilitate project-specific knowledge exchange
- provide collaborative opportunities
- deepen thinking about professional knowledge and leadership practices
- develop the LLME network/engagement with the maths community.

NCP national workshops are a site of LLME professional development. Further details of the NCP-specific LLME professional development are included in NCP handbooks.



Design principles for LLME Communities

Informed by practice and research into Professional Learning Communities^{1,2,3}, five design principles underpin the building of strong communities of LLME in the context of national NCPs and of local Maths Hubs.

Explicitly plan for professional growth



Model and expect high levels of professionalism



Design for push and pull



Establish, develop and revisit a common meaning and purpose



Develop collective and collaborative leadership



1 Bolam, R., McMahon, A., Stoll, L., Thomas, S., Wallace, M., Greenwood, A., Smith, M. (2005). Creating and sustaining effective professional learning communities (Vol. 637). Research report.

2 Hargreaves, A. (2013). Push, Pull and Nudge: The Future of Teaching and Educational Change. In: Zhu, X., Zeichner, K. (eds) Preparing Teachers for the 21st Century. New Frontiers of Educational Research. Springer, Berlin, Heidelberg.

3 MacBeath, J., Dempster, N., Frost, D., Johnson, G., & Swaffield, S. (2018). Strengthening the connections between leadership and learning: Challenges to policy, school and classroom practice. Routledge.

Maths Hub LLME Community

Every hub maintains its own local LLME community, supporting the long-term individual development of LLMEs, and establishing a collective identity that reflects the group's commitment to inquire, innovate and act to improve maths education in the Maths Hub area, which is evident in all LLMEs' work across the hub.

The Maths Hub LLME Community includes every leader of Maths Hub activity in the hub area, including Maths Hub Leads (MHLs), Assistant Maths Hub Leads (AMHLs), Cohort Leads, Work Group Leads and Community Leads.

The active participation of LLMEs in their local Maths Hub LLME Community is a stated aim of the LLME Strategic Goal. The community is led by three of its senior members, often the Maths Hub Lead and two Assistant Maths Hub Leads. Through the use of five LLME Community design principles (given above), this leadership designs a programme of activity to build on individual and collective strengths, building collaborative professionalism as the Maths Hub LLME Community matures.

As part of the LLME Community, all LLMEs will be supported by their Maths Hubs to develop their professional learning and leadership practice development as follows.

Community culture

In a community of practice, local leaders of mathematics education:

- build collective autonomy, taking authority and looking to each other as the source of accountability and standards
- instigate continual cycles of collaborative inquiry, relying on a wide range of evidence and each other's honesty and openness to refine and decide on steps for improved practice
- celebrate and exploit the diversity and accumulated expertise within the LLME Community.

Professional learning

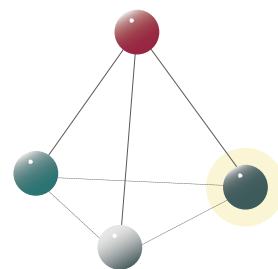
Local leaders of mathematics education:

- make decisions based on their increasingly well-informed interpretation of the expectations in effectively planning, leading and evaluating hub activity
- have their thinking constructively challenged and develop new ideas, including through critical engagement with research
- understand how the five LLME Community design principles can apply to their own practice
- deepen their own understanding of how students learn maths
- deepen their own understanding of how teachers learn and develop
- deepen their own understanding of how better to develop and influence the work and learning of leaders.

Leadership practice development

Local leaders of mathematics education:

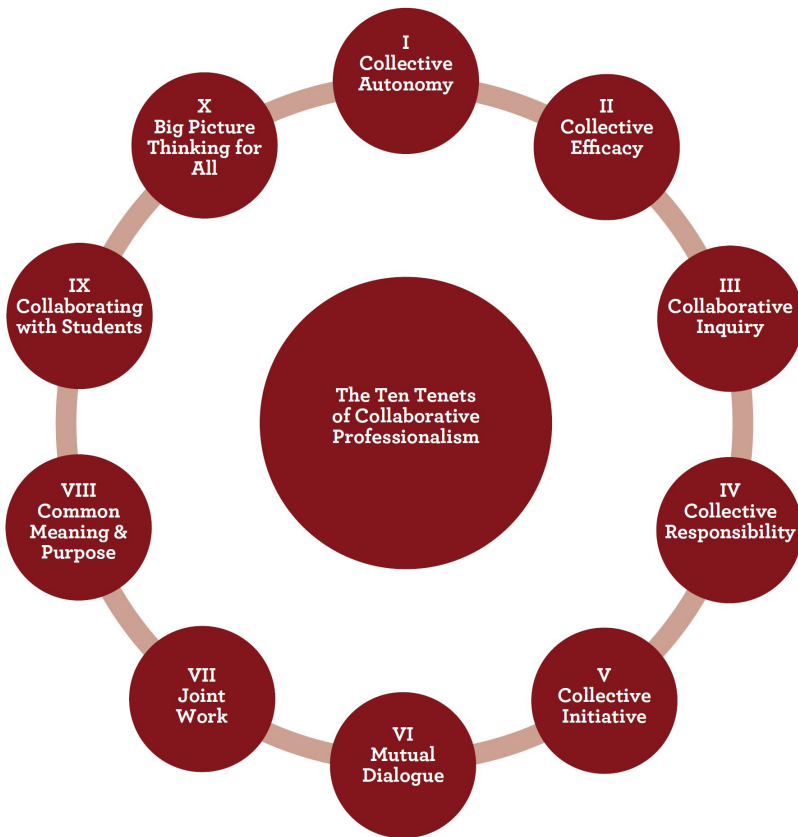
- further develop their expertise in leading maths pedagogy
- further develop their expertise in leading maths professional development
- further develop their expertise in leading school development in maths
- advance their practice in leading hub activity.



Collaborative Professionalism

Year-on-year over 12 000 primary and secondary schools, more than 50% of all schools in England, participate in Maths Hub projects. Internationally, the Maths Hubs Programme is a significantly large school-led system of educational improvement.

Hargreaves and O'Connor (2018)¹ conducted research on five other successful large-scale educational improvement systems around the world. Despite wide-ranging differences in the projects, from Hong Kong, the US, Canada, Norway and Colombia, they found ten aspects that these systems shared, that they report as ten tenets of collaborative professionalism:



Teachers working together – professional collaboration – can be highly purposeful and productive, but not necessarily. Collaboration can be done well, and less well. When an LLME chooses to have teachers collaborate, they must consider:

- How are teachers collaborating?
- How well are teachers collaborating?

The authors further describe² consideration of two dimensions to establish collaborative professionalism: **trust** and **precision**.

		Low	High
Precision	High	Contrived Collegiality	Collaborative Professionalism
	Low	No Collaboration	Informal Collaboration

¹ Hargreaves, A., & O'Connor, M. T. (2018). Collaborative professionalism: When teaching together means learning for all. Corwin Press.

² Hargreaves, A., & O'Connor, M.T. (2018). Leading collaborative professionalism (pp. 1-17). Melbourne, Australia: Centre for Strategic Education.

Impact evaluation and quality assurance

There is little point leading a project which does not lead to sustainable change. Impact evaluation explores **how** professional activity is happening, to **what extent** activity is taking place as planned, and **whether and how** it is having a positive effect.

We look at impact through different lenses, adapted from Guskey's (2002)¹ model of professional development evaluation:

- 1. Outcomes in mathematics for students, schools, and departments.**
We expect our activity to cultivate a more positive attitude towards maths, greater engagement with maths, and a deeper understanding of maths, by children in participating schools. This can only happen at scale if our activity improves culture, structures, curriculum, and practice in participating schools.
- 2. Outcomes for professional learning and practice in doing, teaching and leading mathematics.**
We expect our activity to improve both knowledge and practice in planning, teaching, assessment, reflection, collaboration, and scholarship from participating teachers.

Evaluation or quality assurance?

Quality assurance (QA) focuses on understanding the nature of the work taking place in projects, Maths Hub activity, and in schools, and whether it reflects what we expect.

A report by the EEF (2021)² identified a correlation between four effective mechanisms for teacher professional development:

- build knowledge
- motivate staff
- develop teaching techniques
- embed practice

and the impact of that professional development on pupils. Network Collaborative Projects (NCPs) are carefully designed to incorporate specific aspects of these mechanisms, and we expect LLMEs to lead their programmes as directed by their Project Leads.

Whilst inevitably the line separating evaluation and QA is sometimes blurred, the impact sections of surveys and reports focus on evaluation. QA evidence is largely collected and reported internally to inform future development of projects and leadership.

NCP evaluation – role of LLMEs

LLMEs leading hub activity collect evaluation data as a snapshot of a project's success (for internal and external stakeholders), to bring our attention to areas of ongoing challenge and to inform future developments.

All Work Groups and SKTM programmes should include expected outcomes for pupils, and all Work Groups, professional learning communities and LLME professional development programmes should include expected outcomes for schools or departments.

All our projects should include expected outcomes for professional practice.



¹ Guskey, T.R. (2002). Professional Development and Teacher Change. *Teachers and Teaching: Theory and Practice*, 8, 381-391.

² Education Endowment Foundation EEF (2021). *Effective Professional Development Guidance Report*.

Evaluating at a national level

The NCETM collects and analyses national evaluation data through national surveys, project reporting, and field work. National evaluation data are reported to the Department for Education (who fund the Maths Hubs Programme), the NCETM directorship and MHLM Teams. We may also report national impact within maths education professional and research communities.

The NCETM and MHLM collect and analyse national QA data through specific sections of surveys, and QA visits by the MHLM and project leadership team. LLMEs contribute to national evaluation and QA through encouraging and facilitating a 100% completion rate in participant national surveys, completing the LLME survey, attending and contributing to national workshops, completing their Hub Activity Plan, Progress and Impact (HAPPI) document to a high standard, and contributing to field work.

Evaluating at a local level

MHLM, Project Leads and LLMEs collect and analyse data about the activity and impact of specific Work Groups, programmes, communities, projects, and Maths Hubs. Local evaluation data are reported to NCETM strands, MHLM and project leadership. Local evaluation data helps us understand the extent to which individual activities and projects are improving schools and practitioners.

LLMEs lead local evaluation and QA through collecting appropriate data about impact and process from their participants, as directed and advised by their Project Lead and MHLM. LLMEs might choose to collect local data through reflecting on participants' school-based work, visiting schools, interviewing participants or conducting a local survey.

LLMEs report local evaluation through their HAPPI forms, the LLME survey, contribution in national workshops and being part of national field work.

National evaluation data helps us understand the extent to which our collective activity is improving maths education for children and young people, maths culture, structures, curriculum, and practice in schools and colleges, and national maths leadership capacity in England.

QA data is used internally to identify aspects of project design and leadership that are working particularly effectively, and areas for future development.

LLMEs may also report local impact within local maths education professional and research communities.

Indicative evaluation timeline for LLMEs

Before the start of the Maths Hub activity

What

- Attend and contribute to the first national workshop.
- Understand the national and local impact outcomes.
- Understand the expectations for leading hub activity.

Contribution to development

- National workshop feedback informs NCP development and national field visits.

At the start of the Maths Hub activity

What

- Choose your local data collection methods in consultation with your Project Lead and MHLM Link.
- Complete and submit the planning section of the HAPPI form.
- Encourage a 100% completion rate for the participant autumn survey.

Contribution to reporting

- Effective local data collection plan enhances quality of LLME reporting.
- Autumn survey results provide a national evaluation baseline.

Contribution to development

- Autumn survey results inform NCP development.

During the Maths Hub activity

What

- Attend and contribute to the mid-year national workshops.
- Update your HAPPI form as your hub activity develops.
- Conduct local fieldwork.
- Engage in national fieldwork.

Contribution to reporting

- Effective local data collection enhances quality of LLME reporting.
- Engaging with national field work enhances national reporting.

Contribution to development

- National workshop feedback informs NCP development.
- Reflection on leading your hub activity informs your future sessions.

At the end of the Maths Hub activity

What

- Attend and contribute to the final national workshop.
- Encourage a 100% completion rate for the participant summer survey.
- Complete LLME survey.
- Collate and analyse your own evaluation evidence.
- Complete and submit your HAPPI form.

Contribution to reporting

- Summer participant and LLME survey results inform national reporting.
- HAPPI forms inform national reporting.

Contribution to development

- National workshop feedback informs NCP development.
- National reporting informs future development.

Practicalities

NCETM Axis

NCETM Axis is a secure online portal used to access and manage your relevant Maths Hubs Programme events, resources, and applications.

The first time you login to [NCETM Axis](#) you will need to create an account. To set this up you must use the email address that the NCETM has as your main contact (if this has changed, please contact your local hub for support). You will be asked to create a password and authenticate your email by either authenticator app, phone (text or call) or email.

You will then be able to 'Login'. Please note, you can use the icon at the foot of the Sign up page if you have any questions.

On the 'Home' page you will see 'Events', 'Resources' and 'Applications' icons. To view the events that you are eligible to attend, click the 'Events' icon. You will see two tabs, 'Eligible & Upcoming' and 'Past':

- Eligible events: open for registration, please respond to all eligible events
- Upcoming events: you have confirmed your attendance, and these are upcoming
- Past: this event has now passed.

Click the title of a specific event to view the registration page with further information. Please read the event description in full for guidance on attendance and confirming your place.

You will be required to click the Confirm button for each event. If you are unable to attend, please select the Apologies button or get in touch.

For face-to-face events, you will need to click the Confirm button at least ten working days before your event; the event is then locked. You will receive a confirmation email from the NCETM. Do not travel if you have not confirmed attendance. Please complete the Requirements section at the bottom of the page with any dietary or access requirements you may have.

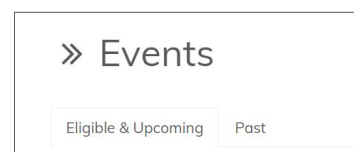
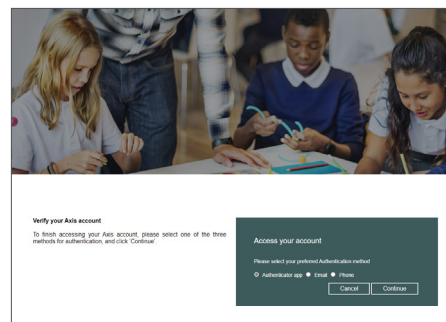
Attendance at online events

Once confirmed, you will receive an email with your Individual Joining Link. You will also be able to join the event through Axis. Please check you will have access to the event prior to the start time.

Our attendance records are maintained based on users attending via their individual accounts. Only one person can join using an individual joining link and this is recorded on the Zoom register. Please do not share joining links.

In the instance that multiple participants have joined on one device, please inform mathshubs@ncetm.org.uk. This will then be updated on our attendance records. We will need to be notified or the attendance record will not reflect this.

If you have been asked to join an event using a Zoom Registration Link, please register using your Axis account email (if applicable), and do not share the registration link. Please direct participants to mathshubs@ncetm.org.uk so we can verify each user is expected.



Basecamp

Basecamp is the platform the NCETM and Maths Hubs use to manage online communication and collaboration within the Maths Hubs Programme. In Basecamp, you will be able to support each other and discuss aspects of each programme. You will be sent a link to join your Basecamp Project when it's available.

When to use it

Documents on Basecamp cannot be edited by several people; they need to be downloaded and re-uploaded, but the history of all documents remains. Use Basecamp if you are working on documents where you need to share different versions and compare changes made.

If you wish to create a document that can be edited by several people, create a Basecamp document instead of uploading a Word document (New > Start a new doc). This can be edited by everyone in a Project.

As with email, be mindful of other people's working hours and not causing them to open their laptop to dozens of notifications. You can always save a message as a draft, and post it during working hours. Try to avoid making multiple posts or replies overnight or at the weekend.

Receiving notifications

You can customise your notifications in Basecamp, so you do not receive an email notification about every message that is posted. A useful way of keeping abreast of everything that happens is to receive a daily digest, which you receive at 7am every morning, summarising the previous day's activity in all your Teams/Projects. You can select to receive this, and customise what else you receive, in your notifications (Profile > Change your notification settings).

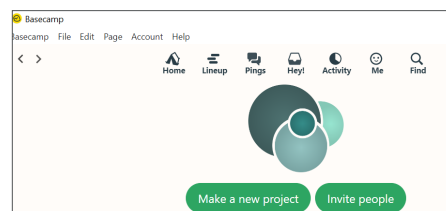
Another useful way to keep an eye on Basecamp without receiving lots of emails is to download the app. If you drag the small Basecamp icon into your toolbar at the bottom of the screen, you can see when a red dot appears in it. This means there is something new; you can choose whether you look at it or wait until a more convenient time.

Reducing the notifications you send and receive

Boosts are a great way to leave a short message or emoji in response to an individual comment. If you boost someone, everyone can see it, but it avoids everyone in a thread getting a notification. If you want to simply say 'Thank you', for example, or give a thumbs up to show that you agree with or acknowledge a message, click on the rocket icon at the bottom right of the message, and type your boost, then press return.

If you are notified about a thread or discussion and feel confident that you won't need to be notified of any further comments, you can unsubscribe from the thread. You will still be able to see it but won't get a notification every time someone comments. Scroll to the bottom of the message below the list of people in the thread and click 'Unsubscribe me'.

Anything you post in a Project or Team on Basecamp can be shared publicly. Any comment or document has a setting which enables a public link to it to be created, and whole threads can be taken from one Basecamp area to another. Be mindful of this with anything you post on Basecamp.



Contacting the Project Team

Your Local Maths Hub will often be your first point of contact, however, if you have any further queries with regards to the programmes you are involved with, please contact us at mathshubs@ncetm.org.uk.

Glossary and Comms Advice

NCETM	The National Centre for Excellence in the Teaching of Mathematics coordinates the national Maths Hubs Programme on behalf of the DfE (Department for Education).
MHL	Maths Hub Leads run the programme regionally across 40 hub areas, based at a Lead School.
WG	Maths Hubs' main form of activity is Work Groups (Work Groups is two words, both capitalised).
LLMEs	Local leaders of mathematics education , who may be members of the Maths Hub Leadership and Management Team, Mastery Specialists, and/or WGLs (Work Group Leads).
NCP	Most Work Groups operate nationally within Network Collaborative Projects .
AMHL	An Assistant Maths Hub Lead may be Primary, Secondary or Post-16, and leads teaching for mastery Work Groups and other Work Groups in their phase.
PMS, SMS and FEMS	Primary Mastery Specialists, Secondary Mastery Specialists and Post-16 GCSE/FSQ Mastery Specialists also lead Work Groups.
TfM	Teaching for mastery underpins all NCETM and Maths Hubs activity ('teaching for mastery' is written in lower case in anything other than the title of a Work Group or programme; 'maths mastery' is never used).
SKTM	Some activities are not Work Groups but instead are designated Specialist Knowledge for Teaching Mathematics programmes.
RIWG	Hubs can also run local Research and Innovation Work Groups that seek to influence the development of the Maths Hubs Programme.
PD Lead	The NCETM and the Maths Hubs Network also run national programmes including Professional Development Lead Programmes for teachers at all phases.
SD Lead	The School Development Lead Programme is aimed at supporting leaders who work in other schools to support maths school development.
PCT	All NCPs are overseen by a Project Coordination Team consisting of a Project Lead, MHL Link and NCETM Link.
SLG	MHL Links and NCETM Links work together with NCETM directors in Strategic Leadership Groups to oversee the strategic goals of the Maths Hubs Programme.
MHPod	The Maths Hub Programme online database captures all programme data relating to the running of Maths Hub activity.

Ensure you are always using the current logos on any PowerPoints and documents you produce.

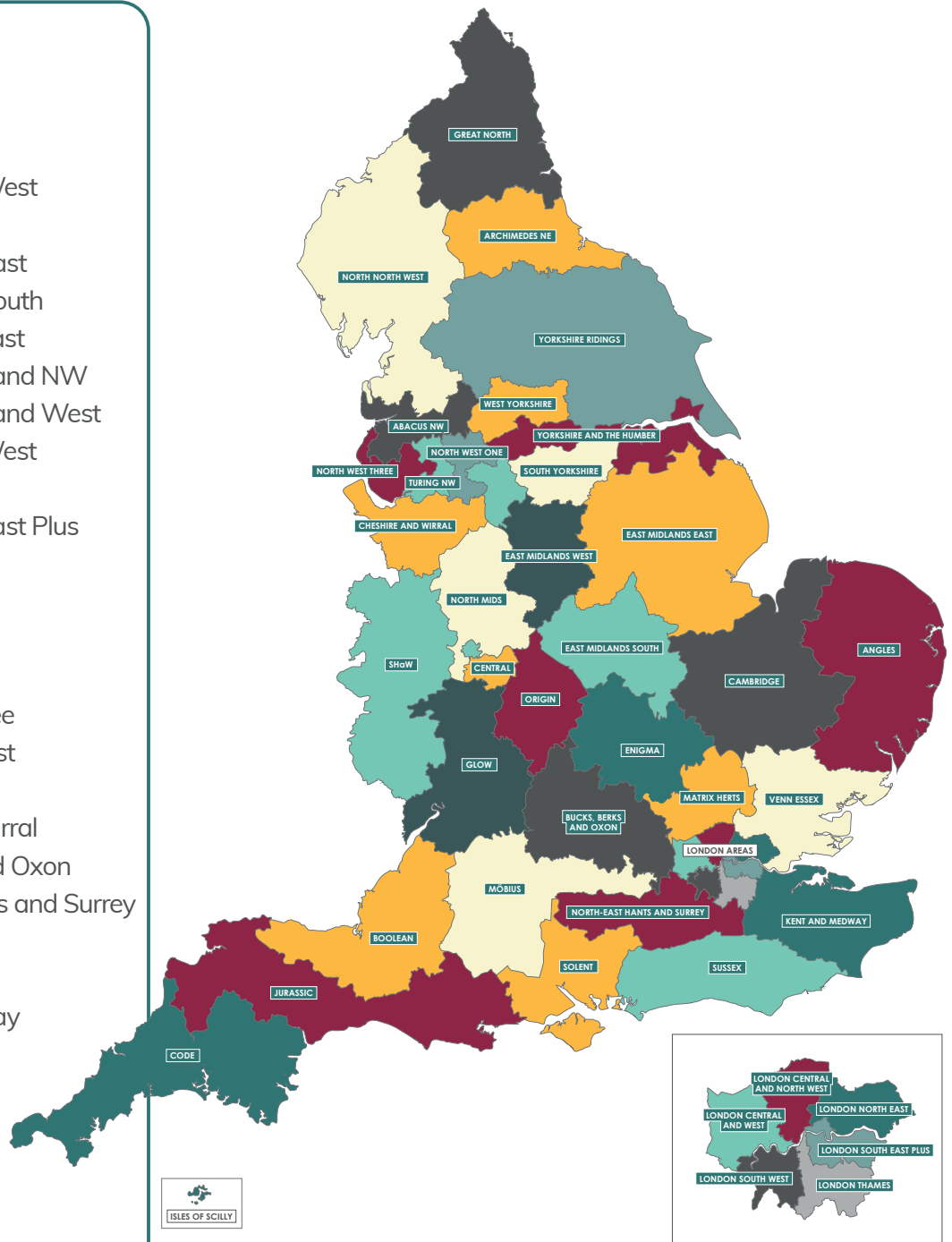


Use your own hub's logo and/or the Working with the NCETM logo, not the generic NCETM and Maths Hubs logos.



The Maths Hubs Network

EE1	Enigma
EE2	Cambridge
EE3	Matrix
EE4	Angles
EM1	East Midlands West
EE5	Venn Essex
EM2	East Midlands East
EM3	East Midlands South
LO1	London North East
LO2	London Central and NW
LO3	London Central and West
LO4	London South West
LO5	London Thames
LO6	London South East Plus
NE1	Great North
NE2	Archimedes NE
NW1	North West One
NW2	Turing NW
NW3	North West Three
NW4	North North West
NW5	Abacus
NW6	Cheshire and Wirral
SE1	Bucks, Berks and Oxon
SE2	North East Hants and Surrey
SE3	Solent
SE4	Sussex
SE5	Kent and Medway
SW1	CODE
SW2	Jurassic
SW3	Boolean
SW4	GLOW
SW5	Mobius
WM1	Central
WM2	SHaW
WM3	North Mids
WM4	Origin
YH1	Yorkshire Ridings
YH2	West Yorkshire
YH3	Yorkshire and The Humber
YH4	South Yorkshire



Find your hub

Search **find your maths hub** online or visit:
ncetm.org.uk/maths-hubs/find-your-hub