**Network Collaborative Projects – 2019/20**

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| **NCP Code** | **Network Collaborative Project** |
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| **Title** | **Primary Mastery Specialists (Cohort 5)** |
| **Phase** | Primary | **Strategic priority** |  |
| **Project year** | 1st (for this cohort) | **Project code** | NCP 19-01 |
| **Required participation** | Yes | **Type** | Programme |

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| **A. Project summary** |
| The first year of development for the Cohort 5 Primary Mastery Specialists. Teachers attend 3 x 2-day residential training sessions with a focus on developing their knowledge and practice. |

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| **B. Project rationale** |
| An integral part of the strategic priorities is to develop teachers as Primary Mastery Specialists in preparation for working with other schools within their Hub in their second year and beyond. |

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| **C. Programme outcomes**  |
| Professional learning* To develop a deep understanding of the principles and pedagogies underpinning teaching for mastery;
* To develop subject knowledge with a particular emphasis on progression within key areas of mathematics
 |
| Practice development* To develop skills of teaching, planning and assessment which support a teaching for mastery approach;
* To be able to support other teachers in their own school in developing teaching for mastery approaches.
 |
| Development or identification of materials – e.g. curriculum plans, resources, research reports* To be able to design well-crafted lessons to support pupils’ mastery;
* To consider approaches to medium- and long-term planning which emphasise coherence and careful step-by-step progression of key mathematical ideas.
* To utilise resources especially textbooks to support the design of well-crafted lessons to support pupils’ mastery
 |
| Whole school/departmental policies and approaches* To be able to support the head teacher in developing policies and systems (including curriculum and staffing / timetable developments) which support a teaching for mastery approach.
 |
| Pupil outcomes* To support all pupils to develop a deep understanding of the mathematical ideas they are taught so that they fully meet the aims of the National Curriculum (i.e. fluency, reasoning and problem solving).
* all pupils show a positive attitude towards mathematics, enjoy learning the subject and demonstrate a growth mindset
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| **D. Programme models** |
| Year 1Newly appointed specialist attends a launch event with their head teacher in the summer term before they start the programme.There is a programme of three 2-day residentials across the yearSpecialists engage in gap tasks between the residential sessions  |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Cohort Leads** |
| All training in this initial year is led by the Primary Director and Assistant Directors |

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| **G. Participants in the Programme**  |
| Hubs recruit teachers from their area in line with centrally developed criteria. They are experienced primary practitioners with the capacity to lead change in their own schools and to develop as leaders of professional development in other schools. |

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| **H. Participation Data** |
| *Numbers to be recruited for this cohort currently under discussion* |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| Residential training happens in regions around the country* Residential 1 – September/October 2018
* Residential 2 – January/February 2019
* Residential 3 – June 2019

There is an online community for Cohort 5 Specialists with areas for local cohorts and a central point for relevant documents. |

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| **J. Finances** |
| Each Specialist’s school should receive 15 days of supply cover for the year:* 7 days to attend the launch and 3 x 2-day residentials
* 2/3 days to run trial TRG sessions with other schools between the 2nd and 3rd residentials
* Remaining days to support TfM within their own schools
* Travel to residentials will be claimable from the MHNF in 2019/20
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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Cohort Leads and the PCT. |

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| **Title** | **England- China Exchange** |
| **Phase** | Primary and Secondary  | **Strategic priority** |  |
| **Project year** |  | **Project code** | NCP 19-02 |
| **Required participation** | Yes | **Type** | Programme cohort |

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| **A. Project summary** |
| Memorandum of Understanding Between the United Kingdom Department for Education andShanghai Municipal Education CommissionOn the Mathematics Teacher ExchangeDuring the visit of Nick Gibb, Minister of State for Schools, to China in March 2016, an “in principle” understanding was reached between the United Kingdom Department for Education and the Shanghai Municipal Education Commission to deepen policy exchange and extend their co-operation on an exchange of teachers of mathematics between England and Shanghai Municipality. This Memorandum of Understanding (MOU) sets out the continuation of the maths teacher exchange during 2018/19 and 2019/20, as agreed by the United Kingdom and China when the UK Prime Minister visited China in January 2018 and identifies the revised elements of the exchange.This MOU was signed in November 2018 by Paul Kett, Director General at the Department for Education, during the mastery specialists’ visit to Shanghai. This NCP provides the opportunity for 70 Cohort 4 Primary Mastery Specialists and 37 Secondary Mastery Specialists to deepen their understanding of teaching for mastery through observation and collaboration.   |

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| **B. Project rationale** |
| The key objectives of the exchange programme, taken from the Memorandum of Understanding are:* to further deepen UK-China exchanges and co-operation in basic education;
* to further strengthen UK-China collaboration on mathematics and support teacher exchange; and
* to further support the introduction of high-quality mathematics teaching approaches amongst English schools more widely.
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| **C. Work Group/Programme outcomes**  |
| Professional learning* Deepen participants’ understanding of Teaching for Mastery
* Deepen participants’ subject knowledge of mathematics
 |
| Practice development* Improve lesson design
* Improve pedagogical skills in Teaching for Mastery, to develop fluency and deep conceptual understanding
 |
| Whole school/departmental policies and approaches* Provide opportunities for some schools to consider a mastery approach through visiting a demonstration lesson event
* Provide the opportunity for ~~other~~ schools to reflect on how they might improve TfM in their schools
* For the exchange participants, a deeper understanding of policies and practices that support TfM will enable them to influence policies and approaches in the schools with which they work.
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| Pupil outcomes* Pupils’ engagement, confidence and progress improves
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| **D. Work Group/Programme models/plans** |
| For Primary (70 teachers) each Maths Hub (using the Maths Hubs structure at the commencement of cohort 4 i.e. 35 Hubs) will nominate two Cohort 4 Primary Mastery Specialist teachers to visit Shanghai in November 2019. The school of one of the teachers should act as the host school for the return visit. Each Maths Hub will receive two Primary Shanghai teachers, who will be based together in a single host school for the duration of their visit. The return visits will take place in one phase in Feb/March and will last for a fortnight.For Secondary each Maths Hub will nominate one Secondary Mastery Specialist teacher (from Cohort 2 or 3 only) to visit Shanghai in November 2019 (37 teachers).Secondary Mastery Specialist teacher to visit Shanghai in November 2019 (37 teachers). The teachers will work in teams of three, arranged on a regional basis. The school of one of the teachers should act as the host school for the return visit. 12 Maths Hubs will each receive two Secondary Shanghai teachers, who will be based together in a single host school for the duration of their visit. The visits will take place in one phase in Feb/March and will last for a fortnight.The outward leg is from 9 November to 22 November 2019. The return leg is from 29 February to 14 March 2020. |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Cohort Leads** |
| This is a national programme. NCETM staff act as cohort leads |

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| **G. Participants in the Programme/Work Groups** |
| The recruitment of teachers will be managed by the Hub and names forwarded to the NCETM. Please note that Shanghai does not have the same level of accommodation of special dietary requirements as the UK and teachers with food allergies or special requirements should take this into consideration when applying for the programme. For Primary, each hub should select two Cohort 4 specialists for the exchange, with one of the specialists’ schools acting as the host for the return visit. The hub decides on the teachers and on the host school.For Secondary, each hub should select a Cohort 2 or a Cohort 3 Mastery Specialist for the outward leg. The specialist will need to have the potential to host the return leg, but only 12 will do this. The NCETM will decide on the host schools and arrange the regional teams of three discussed in section D. (70 mathematics primary teachers and 24 mathematics secondary teachers will travel from Shanghai on the return leg.) |

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| **H. Participation Data** |
| To be updated  |

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| **I. NCP National Workshops, Webinars and Online Communities** |
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| **Confirmed dates: England teachers to Shanghai (November 2019)** |
| Depart London | Saturday 9 November |
| Arrive Shanghai | Sunday 10 November |
| Teachers in schools | Monday 11 to Thursday 21 November |
| Depart Shanghai | Friday 22 November |
| Arrive London | Friday 22 November |

The Shanghai leg of the programme will include:* In-depth shadowing of Shanghai mathematics teachers
* Collaborative lesson planning and team teaching
* Collective reflection on teaching practice
* Investigation of teacher research practice
* Investigation of teaching resources and materials
* Exploration of teacher professional development practice

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| **Confirmed dates: Shanghai teachers to England (February and March 2020)** |
| Depart Shanghai | Saturday 29 February  |
| Arrive London | Saturday 29 February |
| Teachers travel to schools | Sunday 1 March |
| Teachers in schools | Monday 2 to Thursday 12 March |
| Teachers return to London | Friday 13 March |
| Depart London | Saturday 14 March |
| Arrive Shanghai | Sunday 15 March |

The English leg of the programme will include:* Collaborative working alongside the English primary and secondary ‘mastery specialist’ teachers
* Advice to specialists in their work to support the professional development of teachers in other schools
* Delivery of demonstration lessons to groups of primary and secondary schools linked to the Maths Hubs
* Immersion and exposure to English culture, the English school system and the broader primary / secondary curriculum in England

The primary cohort will be supported through the Cohort 4 Primary Mastery Specialist Community and webinars – dates to be providedThe secondary cohort will be supported through a specific secondary exchange online community and webinars. |

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| **J. Finances** |
| 1. All activities associated with the Mathematics Teacher Exchange Programme will be fully funded by the United Kingdom’s Department for Education. This will include:
* The costs for up to 70 primary school mathematics specialists and 37 secondary school mathematics specialists from England travelling to China covering:
	+ travel costs to Heathrow, air fares, visas, accommodation and subsistence
	+ a contribution to the Chinese placement schools to cover any miscellaneous expenditure
* The costs for up to 70 high performing mathematics primary teachers and 24 high performing mathematics secondary teachers from China travelling to England in 2019/20 covering:
	+ air fares, visas, accommodation, subsistence, all other costs associated with the Exchange Programme
1. Hubs will receive unit grants according to the role they are playing in the exchange to cover the various expenses incurred:
	* Primary exchange: £8800
	* Secondary exchange (hosting): £6000
	* Secondary exchange (non-hosting): £3300

As in previous years the personal expenses of teachers travelling to Shanghai will be addressed directly by the DfE. |

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| **K. Reflection, evaluation and reports** |
| There will be an online participant summative survey. Completion and submission of this report will be requested in the Summer Term – dates to be providedA project evaluation report will be produced in mid-August 2020 by the lead evaluator using data from the participants’ summative report and other evaluation tasks undertaken by the lead evaluator. |

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| **Title** | **Secondary Mastery Specialist Programme** |
| **Phase** | Secondary  | **Strategic priority** |  |
| **Project year** | 4th year (1st for Cohort 4)  | **Project code** | NCP 19–03 and 19-04 |
| **Required participation** | Yes | **Type** | Programme |

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| **A. Project summary**  |
| This is a 3-year programme with the first 2 years being a mixture of central face to face sessions, Hub support and in-school development activities.In year 1 the emphasis is on developing specialists’ own understanding of teaching for mastery and their own classroom practice.In year 2, the programme will support specialists in working within their own department to support individual teachers and to develop departmental systems and structures which support teaching for mastery (each specialist will also be enrolled on the NCETM Accredited PD Lead Programme as part of this support) In year 3, specialists will work with teachers from other school departments as a WG Lead [see Secondary Teaching for Mastery Development Work Groups (Mastery Advocates)] |

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| **B. Project purpose** |
| * Developing the leadership skills of the mastery specialists and supporting them to lead developments with other teachers and schools
* Developing and refining the current PD Programmes with associated PD materials
* Collective evaluation to inform future project years or other projects
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| **C. Programme outcomes** |
| **Professional learning*** A deep understanding of the principles and pedagogies associated with teaching for mastery
 |
| **Practice development*** Effective teaching, planning and assessment which support a teaching for mastery approach
 |
| **Whole school/departmental policies and approaches*** All members of the department understanding the principles and pedagogies associated with teaching for mastery
* Development of structures and systems which support teaching for mastery across the department
 |
| **Pupil outcomes*** Pupils will develop a deep, secure and connected understanding of the mathematics they are learning
* Pupils achieve both conceptual understanding and procedural fluency at each stage of their learning and see mathematics as a subject which is interesting, stimulating and enjoyable
* There are high levels of achievement in mathematics
* Pupils enjoy mathematics lessons and have a positive attitude to learning the subject
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| **D. Programme models** |
| The programme is structured as follows: Year 1 – 15 days comprising:* 4.5 days attending central residentials;
* 6.5 days in-school development, including:
* meeting with Hub’s Secondary Teaching for Mastery Lead and wider team;
* visiting classrooms (Primary and Secondary) to see TfM in action;
* attending Shanghai Showcase events

Year 2 – 15 days comprising:* 3 days attending residentials;
* 8 days in-school development, including:
* meeting with Hub’s Secondary Teaching for Mastery Lead and wider team;
* visiting classrooms (Primary and Secondary) to see TfM in action;
* attending Shanghai Showcase events;
* 4 days acquiring PD Lead status (this will be centrally funded), or, if the SMS already has this accreditation, 4 days doing wider Hub work related to TfM as directed by the Secondary Teaching for Mastery Lead.
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| **E. Project Co-ordination Team (PCT)**  |
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| **F. Cohort Leads**  |
| The Secondary Teaching for Mastery Lead should meet regularly with participants, reviewing gap tasks with them and facilitating visits to other schools (including primary schools) to see TfM in the classroom. There should be a mixture of both ‘team’ and individual meetings throughout both years 1 and 2. |

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| **G. Participants in the Programme**  |
| Requirement for both the school and the individual are laid out in the information and application form here <https://www.ncetm.org.uk/resources/52199>  Any teacher in a state-funded secondary school, teaching mathematics who wishes to develop both their own classroom practice and their skills in leading professional development with others is welcome to apply to become a secondary mastery specialist and there is a national recruitment process.It is expected that participants develop a professional relationship with the secondary TfM Lead in the hub and also with the other mastery specialists in order to lead secondary TfM developments more widely within the Hub region.This is a funded programme with teachers receiving £3000 in each of Years 1 and 2 of their development to cover the 15 days per year release time required. |

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| **H. Participation Data**  |
| Hubs are required to participate in this programme. Hubs will be notified before the application deadline how many teachers they should seek to recruit for Cohort 4. |

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| **I. NCP National Workshops, Webinars and Online Communities**  |
| 3 × 1.5 day residentials in year 1 (Sept/Oct; March; June/July) 2 × 1.5 days residentials in year 2 (Oct/Nov; June/July) Travel expenses are paid for by the Maths Hub Network Fund. There will be an Online Project Community to support participants in the programme. |

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| **J. Finances** |
| Each Secondary Mastery Specialist’s school receives Secondary TfM variable funding at £3000 (for each of year’s 1 and 2) to enable participation in the programme to cover 15 days’ worth of time.  |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Cohort Leads and the PCT. |

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| **Title** | **NCETM PD Lead Development and Accreditation Programmes (Early Years, Primary, Secondary, Advanced Level, and Core Maths)** |
| **Phase** | All phases | **Strategic priority** |  |
| **Project year** | N/A | **Project code** | NCP 19-05 |
| **Required participation** | Recommended | **Type** | Programme cohorts |

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| **A. Project summary**  |
| This is a programme of 3 face to face days over the course of 2019/20 together with institution-based work and individual study undertaken in between these days.Participants will undertake to plan, run and evaluate a professional development programme for a group of teachers / practitioners\* during the course of the 3-day programme and to record their planning, evaluation and reflection in an Accreditation Evidence Document (which includes a Programme Planning and Evaluation Template (PET), a Session PET and a Reflection and Learning Journal) Successful completion of the programme and satisfactory completion of all tasks and related paperwork will result in the participant being accredited as a NCETM Accredited PD Lead. \*In the case of the early years programme  |

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| **B. Project purpose**  |
| An essential aim of the Maths Hubs Network’s is to promote high quality, collaborative professional development for all teachers of mathematics.To achieve this aim it is important to ensure that there are enough people with the skills and capacity to lead, facilitate and support the professional development of others both within and across schools.This programme is part of a strategy to support the development of PD Leads across the network (see also SLE programme NCP19-06), thus building the range of operational partners supporting the work of hubs.The purpose of this NCP is to:* Develop the leadership skills of Cohort Leads and supporting them to run programme
* Provide a quality assured and tested PD Programme with associated PD materials
* Undertake collective evaluation to inform future project years or other projects
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| **C. Programme outcomes (for typical programmes within the project)**  |
| **Professional learning*** To consider what constitutes effective CPD and the role of the PD lead in this in terms of planning, executing and evaluating PD events, Work Groups, projects and programmes.
* To be aware of some fundamental themes and issues in mathematics and the teaching of mathematics (including those related to the demands the National Curriculum and relevant examination board syllabuses and those related to teaching for mastery) and to consider the implications of these in the context of supporting other teachers.
* To develop an understanding of the full range of potential outcomes of mathematics professional development, including knowledge, attitudes and dispositions; practice development; school approaches/policies; pupil outcomes
* To develop an understanding of effective models of mathematics professional development, the rationale for using them and the evidence that supports them
 |
| **Practice development*** Design support for mathematics professional development drawing upon a range of evidence-informed models and activity
* Lead planned mathematics professional development in ways that respond and adapt to the teachers they are supporting
* Evaluate professional development taking into account evidence from both teachers and their school leaders
 |
| **Whole school/departmental policies and approaches*** To support schools’ (or early years’ settings’) development of a coherent approach to teaching mathematics for deep and lasting understanding taking into account the demands of the National Curriculum, the EYFS Statutory Framework and relevant examination board syllabuses.
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| **D. Programme models** |
| There is only one model for this programme as indicated in the project summary section above. |

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| **E. Project Co-ordination Team (PCT)**  |
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| **F. Cohort Leads** |
| * All Cohort Leads must be an NCETM Accredited PD Lead with an in-depth knowledge and understanding of the elements of effective CPD;
* All Cohort Leads must be an experienced teacher with excellent knowledge and understanding of mathematics and mathematics specific pedagogy (relevant to the appropriate phase)
* There should be two Cohorts Leads for each cohort

Cohort Leads will be recruited, contracted and paid centrally from the MHNFAll Cohort Leads must attend all three national workshops. |

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| **G. Participants in the Programmes** |
| This programme is for teachers and leaders who have the potential to develop their skills and capacity to lead, facilitate and support the mathematical professional development of others both within and across schools.SLEs can participate in this programme. They may also like to consider NCP19-06Prospective participants will be asked to apply by filling in an application form in the summer term 2019. Maths Hubs will be asked to sponsor individual applications. |

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| **H. Participation Data**  |
| Hubs are strongly recommended to participate in this project. |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| There will be 3 national workshops for Cohort Leads, one in each term. Travel expenses to the national workshops will be paid for by the MHNF. There will be a project online community. |

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| **J. Finances** |
| This programme will be funded by the MHNF in 2019-20. Hubs will sponsor applicants with a payment of £800 for four days of release time. |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Cohort Leads and the PCT. |

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| **Title** | **Maths SLE School Improvement Support Programme** |
| **Phase** | All phases | **Strategic priority**  |  |
| **Project year** | Year 2 | **Project code**  | NCP19-06 |
| **Required participation** | Recommended | **Type** | Programme cohort |

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| **A. Project summary** |
| This project aims to support mathematics SLEs in developing their approaches to mathematics school improvement work including drawing on the expertise of, and aligning more with approaches used in, the Maths Hubs Programme. It will provide a regional support programme for participants through three workshops and an online community. The workshops will run in the North, the Midlands and the South. |

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| **B. Project purpose** |
| An essential aim of the Maths Hubs Network’s is to promote high quality, collaborative professional development for all teachers of mathematics. To achieve this aim it is important to ensure that there are enough people with the skills and capacity to lead, facilitate and support the professional development of leadership across school networks.This programme is part of a strategy to support the development of LLME across the network. This programme is specifically designed to enable the SLEs in their role to develop leadership capacity and capability in the schools they support. (see also PD Lead programme NCP19-05 and LLME Communities programme NCP19-07)The purpose of this NCP is to:* Developing the leadership skills of Cohort Leads and supporting them to run programme
* Providing a quality assured and tested PD Programme with associated PD materials
* Collective evaluation to inform future project years or other projects
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| **C. Programme outcomes** |
| **Professional learning*** skills in driving the improvement in mathematics, including developing the capacity of school leadership of mathematics
* knowledge and understanding of the challenges and barriers to school improvement in mathematics and how to tackle them
* knowledge and understanding of effective teaching of mathematics including teaching for mastery
 |
| **Practice development*** incorporate new processes and models into their SLE practice
* effectively evaluate and review the effectiveness of particular mathematics school improvement models.
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| **Whole school/departmental policies and approaches**Teaching Schools with participating mathematics SLEs will:* start to use collaborative Work Group models as one of their school improvement strategies
* strengthen links with their local Maths Hub over the development and support for mathematics SLEs.
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| **D. Programme model** |
| The programme is targeted at current mathematics SLEs.There will be a single programme model refined from the model developed in 2018/2019. The programme will have the following elements:* three one-day regional workshops with a cohort of mathematics SLEs, which would explore both school improvement implementation processes (such as Work Group model) and pedagogical interventions (such as TfM)
* online community animated by Cohort Leads
* Mathematics SLEs carrying out and evaluating their own mathematics school improvement initiative.

The programme will be delivered in three regional locations in the North, Midlands and South.  |

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| **E. Project Co-ordination Team (PCT)**  |
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| **F. Cohort Leads** |
| Each regional programme cohort will be led by one of the NCETM Regional Lead Team members. The cohort leads will draw upon other expertise within the NCETM and among Maths Hubs to support particular elements of the workshops, as required.The Cohort Leads will be expected to attend four national programme development workshops as well as three delivery days. There will be three Cohorts, and each will have three Cohort Leads. A Cohort lead will have a specific responsibility for the delivery of one session across the three days and to evaluate the impact of that session. Members of the PCT: they will be paid £400 per day and will need to claim days and travel through their Maths Hub. Their Maths Hub will then claim this through the Maths Hub Network Fund (MHNF). They will be expected to carry out additional duties such as delivering on development days.  The Cohort Leads will be representatives from the Maths Hubs and will be paid from the Maths Hub Network Fund. They will be paid £350 per day for programme development workshops attended and days they deliver. Their Maths Hub will also be able to claim their travel expenses through the MHNF. |

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| **G. Participants in the Programme** |
| The programme is for current mathematics SLEs linked to a teaching school and will benefit those who have previous experience of developing leadership capacity in schools or are new to the role. Participants will be expected to commit to the full programme of activities and will need the support of the headteacher of their own school and their teaching school.The maximum number of participants is 120. (40 per cohort)Prospective participants will be asked to apply by filling in an application form in the Autumn term 2019. Maths Hubs will be asked to sponsor individual applications.  |

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| **H. Participation Data**  |
| Maths Hubs are not required to participate. However, they should review the current reach of the Maths Hub and look to sponsor SLEs where there are cold spots. It is hoped that each Maths Hub would have an LLME community of 50 people. |

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| **I. NCP National Workshops, Webinars and Online Communities**  |
| National programme development workshops are for Cohort Leads. There are four of these planned.The Cohort Leads will be representatives from the Maths Hubs and their travel expenses will be paid from the Maths Hub Network Fund.There will be an Online community for this project. |

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| **J. Finances** |
| **Participants** Maths Hubs sponsor four days of release time (£800) for SLEs that they sponsor**Development and Delivery**The development and delivery cost of the programme will be covered by NCETM staffing and the Maths Hubs Network Fund.Members of the PCT will be paid £400 per day and the Cohort Leads will be paid £350 per day and claimed by the MH through the MHNF. Travelling expenses will also be claimed by the MH through the MHNF. We would also look to particular Maths Hubs to provide value for money venues for the workshops in order to keep costs to the Maths Hubs Network Fund to a minimum. |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Cohort Leads and the PCT. |

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| **Title** | **LLME Communities** |
| **Phase** | All | **Strategic priority** |  |
| **Project year** | 2nd | **Project code** | NCP 19-07 |
| **Required participation**  | Yes | **Type**  | LLME Community |

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| **A. Project summary** |
| This summary includes the two elements of this NCP; the NCP Workshops for Community Leads and the work that each individual hub undertakes to nurture and grow their own LLME community.This is a continuation of the work started in 2018-19 to give definition and an evidence-based framework for the intentional design of a hub LLME community. The five principles that were developed in 2018-19 are:1. Common meaning and purpose
2. Plan for professional growth
3. Push and pull your colleagues
4. Professionalism
5. Collective and collaborative leadership

A hub’s LLME community is defined as the MHL(s), AMHL(s), other Leads, Specialists and Work Group Leads that support the work of the hub These professionals could have other roles e.g SLEs or PD leads but they need to be working directly with the hub in the roles outlined.The growth and development of a vibrant LLME Community is a key element in the success of the whole programme. It is expected that hubs plan for activities annually that are both in line with the five design principles outlined above and that consider the content balance between the ‘3-legged stool’ of mathematics, leadership and community. Hubs should also use the emerging LLME Quality Framework to provide guidance.Hubs should maintain a central list of their LLME community members.As part of this project there will a series of NCP central workshops held in London, Birmingham and Manchester. The purpose of these is to exemplify strategies and principles as well as provide time for reflection and future direction. Each hub will be expected to send five delegates and to carefully consider the balance of role, skills and experience in these people. These delegates should include the 3 designated LLME Community Leads (see Section G). The inputs from these National Workshops will be followed up at the July forum with specific time for MHLs to plan for the next year and share approaches and good practice. |

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| **B. Project purpose** |
| What is the purpose of the collaborative project?* To develop the leadership skills of WG Leads and supporting them to run high quality WG
* To build a meaningful learning community to support and grow high quality distributed leadership
* Collective evaluation to inform future project years or other projects
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| **C. Community outcomes (for typical community activity within the project)** |
| **Professional learning**The Community serves a key purpose of providing CPD to the hub leaders of CPD.  All members of the community should be clear about hub expectations in leading WGs; the community should provide opportunities to constructive challenge thinking and develop new thinking.  |
| **Practice development**Members of the Community will be supported to continuingly develop and refine their knowledge of mathematics pedagogy and leadership of WGs.  The skills and strategies needed to actively build teacher learning communities should be actively and explicitly modelling through the LLME community meetings.   |

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| **D. Community model activity** |
| Each hub can decide how to build, grow and sustain their community. Ideas and approaches will be shared through the national guidance workshops and through case studies that link to the Quality Framework. Each hub needs to be able to clearly articulate its LLME Community vision and delivery model. |

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| **E. Project Co-ordination Team (PCT)**  |
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| **F. Community Leads**  |
| The Maths Hub Lead is responsible for growing and developing their LLME community, however it is important that as this community matures, the leadership is increasingly distributed. It is expected that hubs have 3 designated LLME Community Leads – this should include the MHL and other key leadership positions. Hubs are expected to send five delegates to the NCP Workshops (to include the 3 LLME Community Leads + 2 others). It is vital and expected that the Maths Hub Lead attend this year.  |

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| **G. Participants in the community** |
| As previously stated, the hub LLME community is defined as MHLs, AMHLs, Leads, Specialists and other Work Group leads. The hub should coordinate and arrange meetings on an annual cycle; expectations for these could be built into contracts to give clarity. Hubs are expected to organise meetings of LLME community groups as least 3 times a year with the entire community gathering at least once annually.  Hubs could consider inviting additional representation at these meetings to encourage future recruitment or exemplify design principles, for example, someone to present a present a provocative piece of research to encourage ‘Push and Pull’.It is expected that each hub has a functional LLME community of at least 30 people in 2019/20. |

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| **H. Participation Data**  |
| All hubs are expected to plan for their LLME community and keep registers at LLME events. It is expected that each hub maintains a contact list of their LLME Community. Registers will be kept at the NCP Workshops.  |

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| **I. NCP National Workshops, Webinars and Online Communities**  |
| There will be three central NCP workshops to support this project. Venue and Dates: * London
* Birmingham
* Manchester

Travel expenses will be funded by the MHNF for up to 5 delegates from each Hub. There will be an online community set up after each national workshop – this will be overseen by PCT |

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| **J. Finances** |
| Each hub will receive a unit grant of £3500 to support the work of the LLME community |

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| **K. Reflection, evaluation and reports** |
| Details of the approach to evaluation of the community will be published later |

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| **Title** | **Early Years : Supporting effective transition from Reception to Year 1.** |
| **Phase** | Early Years | **Strategic priority** |  |
| **Project year** | 1st | **Project code** | NCP19- 08 |
| **Required participation** | There are three NCPs that have an EY component :NCP19-05 (PD Leads); NCP19-08 [this one];NCP19-06 School Improvement SupportEach Maths Hub must have an EY offer from within these three options | **Type** | ***Work Groups***  |

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| **A. Project summary** |
| Many schools are adopting a teaching for mastery (TfM) approach in mathematics. The starting point for a school is usually Y1 and then thought is given as to how the approach is built across KS1 and KS2. Schools naturally want to consider the teaching of mathematics in Reception and how the transition to Year 1 can best support children’s learning. The Work Group in this project will start by exploring best practice in Early Years and how the principles might build a secure foundation in mathematics for transition into a TfM approach in Year 1. It will consider the curriculum - what children need to know and understand; approaches to planning and the inclusion of all children; and appropriate resources and contexts for effective learning. This WG would seek to ensure that management are actively involved in identifying best practice in EY and the connections to a mastery approach. This would ensure the mathematical learning in the foundation stage is recognised, supported and valued, enabling it to provide the firmest foundations to build later mathematical understanding upon.This project is aimed at a pair of teachers attending from a Teaching for Mastery school: a reception teacher and the teacher leading on Teaching for Mastery within the school. One of the sessions should be aimed at senior leaders within the school, the Headteacher or Deputy should attend this session.It will aim to identify best practice in the early teaching and learning of mathematics and make links as to how they support the NCETM guidance on TfM (The 5 big ideas). Consideration also needs to be given to how these practitioners can disseminate their findings more widely – in this project his could be discussions with TfM specialists, SLT, EY conferences etc. |

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| **B. Project purpose** |
| This project aims to:1. Identify EY best practice in the learning and teaching of mathematics, explore this in the context of their provision and consider how it support children in their progression to the next phase of their learning
2. Support schools (and school leadership teams) with providing a consistent message about high quality maths provision in the Early Years and how this provision supports progression into the next phase of learning
3. Evaluate models of PD and associated activities to support with the future development of this project.
4. Enable practitioners to start to share professional findings and add to a developing EY maths focused community
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| **C. Work Group/Programme outcomes**  |
| **Professional learning*** develop an understanding of a key aspect of effective Early Years maths pedagogy
* understand the principles of the NCETM teaching for mastery approach, and how these can be applied appropriately within the context of an Early Years setting.
 |
| **Practice development*** identify and implement effective Early Years pedagogies in their own provision, and gain insight into how they will support children in maths learning as they move to Y1
 |
| **Whole school/departmental policies and approaches*** SLT to be able to identify effective EY mathematics pedagogies for younger children
 |
| **Pupil outcomes*** Promote a positive attitude towards maths, so that all children are seeking out maths in their environment, demonstrating a willingness to ‘have a go’, and can communicate these ideas.
* Close the gap of attainment where all children develop firm foundations in maths that can be built on in Y1
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| **D. Work Group/Programme models/plans** |
| It is expected that this WG would have a time allocation of 4-6 days. There is flexibility in how that time is allocated and WG leads need to consider the models they use according to their specific focus.Consideration of approaches may include:* Allocation and structure of sessions – full or half days, online sessions, online communities etc.
* A TRG approach
* An action research approach
* Collaboration and sharing of good practice with visits to other schools
* Independent study

There is the expectation that participants will engage in research as part of their independent learning through the duration of this project. In addition to this there should be some specific gap tasks set that set the expectation that there will be aspects developed in provision, enable a sharing of practice and allow for further developments to be made across the Work Group.  |

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| **E. Project Co-ordination Team (PCT)** |
| NCETM NCP Project Lead:  |

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| **F. Work Group/Cohort Leads****WG leads** should have the following:* direct, substantive experience of working within Early Years contexts and demonstrate understanding of best practice in the learning and teaching of Early Years mathematics
* an understanding of TfM in primary schools
* strong subject knowledge with regards to early mathematics concepts
* Permission to be released from their setting (if applicable) for the full duration of the work group and for the attendance at national workshops
* Aware of the expectation that they will evaluate the work of their NCP and share their contributions across hubs.

**Cohort recruitment:**This Work Group is aimed at schools who have previously engaged in a TfM development workgroup and have a commitment to Teaching for Mastery |

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| **G. Participants in the Programme/Work Groups** |
| It is expected that participants are made aware that this is a Work Group and as such they will be expected to carry out tasks beyond the face to face time. They should also be aware that as a WG they are developing new knowledge, contributing to a body of knowledge and be willing to share their findings more widely.This project is aimed at a pair of teachers attending from a Teaching for Mastery school: a reception teacher and the teacher leading on Teaching for Mastery within the school. One of the sessions should be aimed at senior leaders within the school, the Headteacher or Deputy should attend this session. There are no recruitment targets from the NCETM for this NCP – Hubs should give consideration to the capacity of their Work Group Leads and what size is effective for a Work Group.It is expected that there will be a central flyer made available for this Work Group, however this will need editing at hub level to capture the local offer. |

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| **H. Participation Data** |
| Hubs are not required to participate in this NCP however they must have a coherent EY offer. If they are not participating in this NCP then there is the expectation that they would be offering an alternative EY offer.  |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| There will be 3 national workshops linked to this project. There will be a communities set up with the opportunity to engage with online webinars to share and support the work within these projects.Day 1: Birmingham September 2019Day 2: Birmingham December 2019Webinar: February 2020Day 3: Birmingham July 2020Travel expenses for all WG Leads to be paid by MHNF |

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| **J. Finances** |
| Costs for this WG:3 days WG lead to attend National Workshop3- 4 days facilitation of WG 2 days preparation1 day evaluation and collation of materials for local & central sharing+ Venue costs × number of participants |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT.Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **Primary Teaching for Mastery Development Work Groups** |
| **Phase** | *Primary* | **Strategic priority** |  |
| **Project year** | 4th | **Project code** | NCP19-09 |
| **Required participation** | Yes | **Type** | Work Groups  |

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| **A. Project summary** |
| This is part of the continuing programme to develop the teaching for mastery in mathematics in primary schools. Each hub has a group of primary TfM specialists who have taken part in the national training.Each of these specialists leads a workgroup of 6 or 7 schools in developing their approach to Teaching for Mastery. |

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| **B. Project purpose** |
| For Teaching for Mastery to develop from individual enthusiasms to long term, sustainable, whole-school developments there is a need to engage teachers and subject leaders in practice-based professional development activity and (together with the head teacher) consideration of leadership and management issues and the development of whole-school systems.A key aim of these Work Groups is to develop groups of schools where strong curriculum, teaching and professional development practices related to mathematics can be shared more widely across the Hub region |

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| **C. Work Group outcomes (for typical WGs within the project)** |
| **Professional learning****For all teachers (including lead teachers):*** Enhanced mathematics subject knowledge with a particular emphasis on progression within key areas of mathematics;
* A deep understanding of the principles and pedagogies related to teaching for mastery.

**For lead teachers and head teachers:**An appreciation of and commitment to the importance of embedded, collaborative professional development structures in the school to support deep and sustainable professional learning and practice |
| **Practice development****For all teachers (including lead teachers):*** Developing the ability to plan effective mathematics lessons that reflect a TfM approach
* Developing a teaching for mastery approach to teaching mathematics.
 |
| **Whole school/departmental policies and approaches*** A clear set of principles, policies, practices and systems (including curriculum and staffing / timetable developments) which embody a mastery curriculum and a teaching for mastery approach;
* Systems to support ongoing professional learning established.
 |
| **Pupil outcomes*** All pupils develop a deep understanding of the mathematical ideas they are taught so that they fully meet the aims of the National Curriculum
* All pupils show a positive attitude towards mathematics, enjoy learning the subject and demonstrate a growth mindset.
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| **D. Work Group models** |
| This is a nationally agreed model where the specialists lead groups of 6/7 schools. Each school sends two teachers to half termly meetings arranged by the specialist. These meetings give opportunities for joint observation of lessons as well as collaborative planning. After each of these meetings all schools agree actions that they will take before the next meeting. Each term the specialist will visit each of the schools to support the school in its development of its action plan. |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Work Group Leads** |
| All Work Group leads must be accredited Mastery Specialist teachers  |

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| **G. Participants in the Work Groups** |
| The participants are schools who wish to develop a teaching for mastery approach. They apply through a nationally structured recruitment process and are selected by their local Maths Hub. |

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| **H. Participation Data** |
| All hubs are expected to engage in this programme and recruitment figures are agreed with the NCETM. |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| The mastery specialists who act as the work group leads are supported and monitored by the Maths Hub TFM lead. There are online communities and updating provided through webcasts.There are no central workshops as the specialists have all received a year of training, however the Cohort 4 Mastery Specialists will participate in a bespoke PD Lead Programme during the year.  |

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| **J. Finances** |
| Each maths hub receives variable funding for the Work Groups. Specialists are funded at £350 per day for f2f contact with schools and £200 for non-contact days. So, for a seven-school workgroup: * 6 TRGs @£350 per day (1 per half term) = £2,100
* 3 x 7 school visits @£350 per day (1 visit per term per school) = £7,350
* 6 days for own school/personal/collaborative development @£200 per day = £1,200
* Each Work Group school to receive £1000 towards release time for lead teachers = £7,000
* £150 towards travel costs for specialist carrying out school visits = £150

Total funding for a seven- school Work Group = £17,800The adjustment for different numbers of schools is ± £2050 |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **NCP 19-10 Primary TfM Embedding Work Groups** |
| **Phase** | Primary | **Strategic priority** |  |
| **Project year** | 2nd year (after 2017/18 pilot) | **Project code** | NCP 19-10 |
| **Required participation** | Yes  | **Type** | Work Groups  |

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| **A. Project summary** |
| NCP 19-10 Work Groups are part of the continuing programme to embed the Teaching for Mastery approach. There is an expectation that **all** primary schools who took part in the Teaching for Mastery Work Group School programme 2018-19 will participate in this NCP.The programme will focus on two key areas:* **To embed a Teaching for Mastery approach in each classroom across the whole school**
* **To secure a whole school approach to sustained change in mathematics**

For Teaching for Mastery to become embedded in schools there is a need to provide continued support for headteachers, senior leadership teams and maths leads. Through practice-based professional development activities, focussing on the development of whole-school organisational structures and systems, subject knowledge and a shared understanding of Teaching for Mastery, schools will embed a consistent approach to TfM in every classroom supported by change to structures within the school.Working collaboratively in this Work Group, school leaders who have already begun to develop mathematics in their schools, will show a **commitment** to the Teaching for Mastery approach by taking on the responsibility for embedding change across the whole school and ensuring structures in place will support **continued development of mathematics now and into the future**. |

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| **B. Project purpose** |
| To support school leaders to * embed TfM approach across all year groups
* develop capacity to continually increase understanding and subject knowledge of TfM approach for all practitioners
* identify school structures and systems that support continued development of mathematics now and beyond

To support hubs and meet local need by * Collective evaluation that will inform the project and/or others in the future years
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| **C. Work Group/Programme outcomes (for typical WG/Programmes within the project)** |
| **Professional learning**For school leaders, headteachers and maths leads* Understand principles of TfM approach and knowledge of structures and systems within school that will support this approach
* An appreciation of and commitment to the importance of embedding, collaborative professional development structures in the school to support deep and sustainable professional learning and practice

For **all** teachers* Shared and deep understanding of the principles and pedagogies to Teaching for Mastery approach
* Enhanced understanding of mathematics subject knowledge of aspects of the mathematics curriculum as identified by the cohort of schools
 |
| **Practice development**For **all** teachers* To embed a Teaching for Mastery approach to teaching mathematics.
* For some to embed the ability to plan effective mathematics lessons that reflect a TfM approach; For others develop the ability to plan effective mathematics lessons that reflect a TfM approach
 |
| **Whole school/departmental policies and approaches*** To identify a clear programme to ensure that TfM approach is embedded in this and subsequent years
* To make changes to organisation and structure to embed TfM approach in each classroom
* To establish school policy that allows for continued professional development of subject knowledge now and beyond
 |
| **Pupil outcomes*** Pupils will demonstrate a deeper understanding of aspects of the mathematics curriculum. This will be evidenced by their ability to explain through appropriate mathematical language and to use resources and images to justify their reasoning. They will be able to apply their understanding to a range of contexts.
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| **D. Work Group/Programme models/plans** |
| This is a nationally agreed model where each Work Group supports a group of 6/7 schools who have already established a working relationship as part of a Teaching for Mastery work group. Each Work Group will complete a Work Group plan. Work Group plans will include a set of **essential professional activity sessions**, however, there will be some flexibility, so it meets the needs of the group of schools.There will be activity at different levels within the work group. There will be opportunities for,* classroom teachers to work collaboratively on deepening their understanding of Teaching for Mastery
* Work Group leads (maths leads) to work collaboratively in how they are supporting and developing classroom practitioners
* school leaders to collaboratively identify challenges for embedding Teaching for Mastery across the school and to work together sharing solutions, to make changes to organisation and structures to ensure Teaching for Mastery approach can be embed across the whole school, and to enable a sharing of practice to allow for further developments.

There is the expectation that participants will engage in research and reflective practice as part of their independent learning through the duration of this project. In addition to this there should be some specific gap tasks set to support development within the levels of activity described above. Each Work Group plan will outline monitoring and evaluation at Hub, Work Group and school level. At the end of the programme each school will complete a Participant Summary Report and Work Group Leads will complete a Work Group Lead Report.  |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Work Group/Cohort Leads** |
| All Work Group Leads * will be required to have
* direct, substantive experience of working in the primary phase and demonstrate understanding of the Teaching for Mastery approach
* evidence of experience in leading change within a primary setting
* permission to be released from their setting (if applicable) for the full duration of the Work Group and for the attendance at regional/national workshops
* will be responsible for the creation of a Work Group plan with cohort
* will be responsible for the design and delivery of the professional activity and for the monitoring and evaluation of their cohort
* will keep their local Maths Hub informed of progress. This format for this will be decided at Hub level
* will complete a Work Group Lead Report at the end of the programme
* will be supported by the TfM Lead
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| **G. Participants in the Programme/Work Groups** |
| * Participants are the schools who took part in the Teaching for Mastery Programme 2018-19
* The number of Work Group schools should match the number of Teaching for Mastery Work Group Schools 2018-19
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| **H. Participation Data** |
| All hubs are expected to engage in this programme. |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| * The Work Group leads are supported and monitored by the Maths Hub Primary TfM Lead
* The Primary TfM Leads work together on this project both within their forums and online community
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| **J. Finances** |
| Each Maths Hub receives a unit grant of £3500 per Work Group |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **Mastery Readiness Work Groups** |
| **Phase** | Primary | **Strategic priority** |  |
| **Project year** | 2nd year | **Project code** | NCP 19-11 |
| **Required participation** | Yes | **Type** | Work Group |

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| **A. Project summary** |
| This project will develop vital skills and practices for schools who have not yet accessed the Teaching for Mastery programme and have an identifiable barrier to them developing TfM across the school. Participant schools will access free workshops and regular high-quality bespoke support of a trained Mastery Readiness Lead and will then get priority to be part of the full Teaching for Mastery Work Groups in Autumn 2020 complete with the associated funding.The programme will focus on two key areas:* The development of effective leadership that will remove barriers and put in place structures to support change and teacher professional development in relation to teaching for mastery.
* Development of classroom culture and attitudes to mathematics that will support a teaching for mastery approach, both on the part of teachers and their pupils.
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| **B. Project purpose** |
| * Developing the leadership skills of WG Leads and supporting them to run the Work Group
* Developing and designing/refining model WGs/PD Programmes with associated PD materials
* Collective evaluation to inform future project years or other projects
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| **C. Work Group outcomes (for typical WGs within the project)** |
| **Professional learning*** Teachers will receive bespoke support from the Mastery Readiness Leads and the NCETM to develop understanding and implementation of the big ideas of Mastery Readiness.
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| **Practice development*** Leaders in the participant schools will be develop a vision for what mastery will look like in their school and will be actively working towards implementing changes in their school.
* Leaders will ensure professional development practices are in place so that the cycle of change can be implemented
 |
| **Whole school/departmental policies and approaches*** Leaders will reflect upon current practice and prioritise actions, with support from the MR Leads. They will identify areas for development and will develop an action plan which will be worked upon and the impact of which evaluated.
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| **Pupil outcomes*** Pupils will demonstrate an improved mathematical mindset leading to an improvement in pupil progress
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| **D. Work Group models** |
| A minimum of five schools and a maximum of eight schools will work with Mastery Readiness Leads for approximately 2.5 – 3 terms, over the academic year. The maths lead and another teacher from the schools will receive training and networking events with the headteacher expected to attend some relevant ones too. This will be on average of five workshops during the programme. In addition, the Mastery Readiness Leads will spend several half days (1 per half term) in the school developing, implementing and evaluating an action plan alongside school staff which will focus on areas related to the 5 Big Ideas of Mastery Readiness, which is bespoke to the needs identified. There will be a skeletal toolkit of resources for Mastery Readiness Work Group Leads to use for the workshops and school visits. There will be a suggested timeline for the project. This can be adapted to meet local need. |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Work Group Leads** |
| From previous cohorts, it is very important to recruit a suitable Mastery Readiness Lead who will support the work of the Maths Hub programme and what it seeks to achieve and who is personable and confident when working with leaders from vulnerable schools.Leading school improvement, experience of leading mathematics in a primary school and recent experience of working beyond their own setting (including working with headteachers) is essential.A knowledge of Teaching for Mastery is desirable. They will receive training and support from the NCETM and each other (see below).It is vital that each Mastery Readiness Lead has the capacity to focus on this project exclusively for approximately 30 days (based on a seven-work group model, working one day per week) in total, in addition to attending the Mastery Readiness central training.Listed below are some of the expectations of the role:* Recruitment of suitable participant schools alongside the Hub Leadership team and other stakeholders
* Writing a project plan to be submitted to the NCETM
* Planning and facilitating workshops
* Constructing and reviewing a programme of support for each school
* Completing paperwork, as stated in Day 1 of training
* Contributing to the shared resource bank between Mastery Readiness Leads
* Collecting evidence of impact and writing an evaluation
* Liaising with NCETM Primary Mathematics team members who will visit each Mastery Readiness Lead to support them in their role (if they are new to Mastery Readiness)
* Taking part in collaborative activities with other Mastery Readiness Leads (including a peer to peer session (if Mastery Readiness Leads are experienced)

In addition to this, you may want to consider the geographic proximity to the areas that the Mastery Readiness Leads will be supporting – schools reasonably close geographically may be easier for the Mastery Readiness Lead to visit and manage. |

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| **G. Participants in the Work Groups**  |
| Schools who participate in Mastery Readiness should meet these criteria:* Have not been part of a TfM Work Group previously (Essential)

*And at least one* of the following criteria…* Has been judged at RI or Inadequate for at least their most recent OFSTED inspection
* Has poor progress or attainment data for mathematics across the school
* Has been identified, by their Local Authority, as being suitable for the programme
* Is in an area of low social mobility such as Opportunity Areas, Category 5/6 areas
* Identifies as needing additional support for leadership of mathematics
* Has a high turnover of staff, meaning that the implementation of sustained change can be difficult
* Another identifiable reason for being unable to engage in developing Teaching for Mastery yet

We have literature to support the recruitment to the programme here (insert link once available)* Expression of Interest form (to ascertain a school’s suitability for the programme)
* A general flyer (as distributed at Shanghai Showcases in January 2019)
* An updated Statement of Commitment to ensure Head teachers are fully aware of the requirements for at least three years of engagement, in total.
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| **H. Participation Data** |
| This NCP will become compulsory in 2019-20. We would like at least 266 schools (38 Work Groups of 7 schools) to participate in the NCP nationally. may be an upper Work Group limit imposed. |

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| **I. NCP National Workshops, Webinars and Online Communities**  |
| *For WGLs who have already run Mastery Readiness Work Groups:*

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| ***Event***  | ***Timing***  | ***Location***  |
| *National Workshop 1 (1 day)*  | *Early October*  | *Birmingham*  |
| *Webinar (1 hour)*  | *December*  | *Online*  |
| *National Workshop 2 (1 day)*  | *January*  | *Birmingham*  |
| *Webinar (1 hour)*  | *April*  | *Online*  |
| *National Workshop 3 (1 day)*  | *Late June*  | *Birmingham*  |
| *Plus 1 day for working collaboratively with another Mastery Readiness Lead*  | *TBC*  | *Various*  |
| *Online community* | *Continual* | *Online* |

*For WGLs who are new to leading Mastery Readiness*

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| ***Event*** | ***Timing*** | ***Location*** |
| *Residential (2 days)* | *Early October* | *Birmingham* |
| *Webinar (1 hour)*  | *December*  | *Online*  |
| *National Workshop 2 (1 day)*  | *January*  | *Birmingham*  |
| *Webinar (1 hour)*  | *April*  | *Online*  |
| *National Workshop 3 (1 day)*  | *Late June*  | *Birmingham*  |
| *Online community*  | *Continual*  | *Online*  |
| *Support visit from NCETM*  | *Once per year*  | *Either at a workshop or school visit*  |

Travel expenses and the costs of the residential for new MR Leads will be covered by the MHNF.There will be an online community for MR Leads and they will be invited to have host their participant schools in their own Work Group community too. |

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| **J. Finances**  |
| There is a grant of £14,150 based upon a seven – school model. This will be adjusted by £1000 for every school above or below the seven schools. For example, for six schools in a Work Group this will be £13,150 and for 8 schools this will be £15,150.This will predominantly be for the Mastery Readiness Lead’s time, resources, travel etc. We suggest using schools for venues to keep costs to a minimum. There are no grants to schools available for this project, but schools will benefit from free, bespoke support and will move to engaging in the TfM Work Group in the second year (with associated funding).Costs for travel to the national residential training and national workshops will be covered by the MHNF. |

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| **K. Reflection, evaluation and reports**  |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **Teaching for Mastery Focused Issue Work Group****Designing Lessons: depth of learning for all** |
| **Phase** | Primary | **Strategic priority** |  |
| **Project year** | 3rd | **Project code** | NCP 19-12 |
| **Required participation** | No | **Type** | Work Groups |

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| **A. Project summary** |
| The project will focus on designing effective lesson plans, making use of key resources such as the Primary Mastery Professional Development materials and text books. There has been a large investment in both resources and making effective use of them will support schools in embedding teaching for mastery in mathematics. For those schools that have taken up the text book funding, this Work Group will provide them with the opportunity to reflect on how these materials can be best used to support teachers, through the planning process, to develop subject and pedagogical knowledge. The project will also make use of the planning guidance created in previous NCPs to update and extend it, and it will be informed by the work of the ‘Planning opportunities for Greater Depth’ NCP 2017/18 and 2018/19. |

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| **B. Project purpose**  |
| * Developing the leadership skills of WG Leads and supporting them to run the WG
* Developing and designing/refining model WGs/PD Programmes with associated PD materials
* Collective evaluation to inform future project years or other projects
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| **C. Work Group/Programme outcomes (for typical WG/Programmes within the project)**  |
| **Professional learning:**Teachers will:* have a deep understanding of the elements of effective lesson design
* be able to consider how lesson design can have an impact on teacher subject and pedagogical knowledge
* develop their understanding of the big ideas of teaching for mastery and how they are found and used in effective lesson design
* identify what needs to be developed to supplement the information in published materials
 |
| **Practice development**Teachers will:* be confident in producing planning for sequential, coherent learning to take place (small steps) to meet the needs of all learners
* plan for opportunities for children to demonstrate they understand a concept at a greater depth than age-related expectations
* share good practice in effective lesson design
* see that collaborative planning is a positive process and becomes a regular part of practice and impacts on lesson design and therefore pupil outcomes
 |
| **Whole school/departmental policies and approaches*** Practice developed and shared through engagement in the project will influence planning policy in the school (system changes make take place such as reallocation of PPA time, formats used, monitoring)
* Professional development is linked to planning support to enable teachers to make better connections
 |
| **Pupil outcomes*** All pupils will have access to the maths that allows them to demonstrate a depth of understanding
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| **D. Work Group models** |
| There are no required Work Group models for this NCP, however guidance on possible models and structures will be made available in the online community. |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Work Group/Cohort Leads**  |
| We strongly recommend that the WGL has had experience of Primary TfM. Number of recommended days for WG Leads is 8 days:* Running Work Group sessions: 3 days
* Central NCP workshops: 3 days
* Evaluation plus planning and preparation time 2 days
* Work Groups Leads, using evaluation evidence will write and submit a Work Group Lead Evaluation report.
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| **G. Participants in the Work Groups** |
| The recommended target audience is schools who have participated in TRG Work Groups, however this is not an absolute requirement.As this NCP will incorporate elements which some schools may have experienced through participation in the ‘Planning for Greater Depth’ NCP or in ‘Sustaining Mastery’ work in hubs, this needs to be taken into consideration when recruiting.Suggestion: where multiple groups run in a hub, grouping them by experience of TfM rather than geographically was found to be more beneficial especially in the early stages of the work. |

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| **H. Participation Data** |
| This is not a required NCP |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| 3 days for Work Group Leads and 2 Webinars* September (WGL Day 1)
* December (Webinar 1)
* February (WGL Day 2)
* April (Webinar 2)
* July (WGL Day 3)

There will be an online community monitored and supported by members of the PCT |

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| **J. Finances** |
| There will be a unit grant of £4200 for each Work Group the hub leads. |

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| **K. Reflection, evaluation and reports**  |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **Teaching for Mastery Focused Issue Work Group****Intervention in a Mastery Context (Established NCP)** |
| **Phase** | Primary | **Strategic priority** |  |
| **Project year** | 3rd | **Project code** | NCP 19-13 |
| **Required participation** | No | **Type** | Work Groups |

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| **A. Project summary** |
| The project will support participants in considering different models of intervention in a mastery context to ensure that mathematics teaching has maximum impact for all children. Participant teachers and leaders will further their understanding of teaching for mastery by using case studies to inform their practice. Schools will trial a model of their choice and will document their observations to share with others. |

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| **B. Project purpose** |
| * Providing quality assured and tested models of Intervention so that teachers and schools can collaborate when implementing and evaluating them in their own setting.
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| **C. Work Group outcomes (for typical WGs within the project)** |
| **Professional learning**Teachers will:* Deepen their understanding of Intervention in Teaching for Mastery context
* Work collectively with other teachers to implement and evaluate a chosen intervention model.
 |
| **Practice development**Teachers will:* Plan, deliver and evaluate a model of Intervention which promotes a ‘keep up’ approach
 |
| **Whole school/departmental policies and approaches**Schools will:* Review the impact of their current practice and be open and flexible to making organisational and attitudinal changes to existing models. By participating in this project, they may change policy and practice to intervention in their schools.
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| **Pupil outcomes*** Although there may be circumstances where ‘catch up’ programmes are still necessary, the vast majority of the pupils will access whole class teaching due to swift and timely interventions in order to keep up, when needed.
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| **D. Work Group models** |
| There will be models of intervention for Work Group Leads to offer their participants likely to include: Same Day Intervention, Pre-Teaching (& Assigning Competency) and potentially one or two others (dependent on evaluation from 2018/19). The PCT will provide links to full models in the Work Group plans folder.The structure and frequency of their Work Group meetings will depend upon local circumstance, but we advocate no less than 3 workshops including a school visit to support each participant in implementing the intervention. |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Work Group/Cohort Leads** |
| Due to this NCP being established, we require that only experienced WGLs, preferably having already facilitated ‘Intervention in a Mastery Context’ Work Groups previously should be used.They should have an understanding of Teaching for Mastery in primary schools to an appropriate level and should ensure their Work Group aligns with the principles of the Maths Hub Programme and should be ambassadors for the work that the projects seek to achieve.Work Group Leads will have just one workshop in Autumn 2019, but it is expected that they collaborate via the community and webinars throughout the year. The structure and frequency of their Work Group meetings will depend upon local circumstance, but we advocate no less than 3 workshops including a school visit to support each participant in implementing the intervention. Work Group Leads will be required to submit a project plan, may be visited by a member of the PCT during one of their Work Groups and will be required to complete case studies, collect evidence of impact to inform the Work Group Lead evaluation report.An example of Work Group Lead time would be: 1 day for central training, 0.5 days for online collaboration (resources, webinars, community contributions), 3 days of local workshops including preparation and planning, 2 days for evaluation and 0.5 days per school for field visits.Therefore, in a Work Group of 7 schools, there would be 1 + 0.5 + 3 + 2 + (7 x 0.5) = 10 days for a 7 school model, negotiable locally. |

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| **G. Participants in the Work Groups** |
| It is recommended that schools have previous experience of Teaching for Mastery, such as those who have completed the embedding (sustaining) and development Work Groups previously. |

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| **H. Participation Data** |
| There is no requirement to take part in this Network Collaborative Project. |

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| **I. NCP National Workshops, Webinars and Online Communities** |
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| Type of event   | Approximate timing (exact dates will follow in Maths Hub Calendar) | Location |
| National Workshop (1 day) | October 2019 | Birmingham |
| Webinar | January 2020 | Online |
| Webinar | April 2020 | Online |
| Online community contributions | Continual | Online |

Travel expenses to the National Workshop are included in the MHNF for the workshop for WGLs. |

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| **J. Finances** |
| Maths Hubs will receive a unit grant of £4200 for each Work Group they lead. |

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| **K. Reflection, evaluation and reports** |
| As this NCP is established there is no Lead Evaluator. However, participants and Work Group Leads are still required to carry out Work Group evaluation |

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| **Title** | **Teaching for Mastery Focused Issue Work Group****Mixed Age Planning in the context of teaching for mastery** |
| **Phase** | Primary | **Strategic priority** |   |
| **Project year** | 1st | **Project code** | NCP 19-14 |
| **Required participation** | No | **Type** | Work Groups |

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| **A. Project summary** |
| Many Hubs have indicated that planning for mixed age classes is an issue for schools in their region. There have been several Innovation Work Groups related to this issue and the NCP will now draw on the experience gained in this work.The project will involve the trialling and reviewing of a range of approaches to deal with the issue of planning for mixed age classes in a mastery context. The project will present current work and case studies from the innovation work already carried out. Work Group Leads will support participants in engaging with the approaches in their own schools and evaluating the impact on pupils. The Primary PD Materials will underpin the work and provide a structure for planning.**Please note** that schools applying to join this programme will also be signed up for NCP 19-09[**Primary TfM Development Work Group**](#NCP09)**s (previously titled Primary TfM Work Groups).** The two programmes will run in conjunction with each other and support the development of teaching for mastery in schools with mixed aged classes. Schools who have previously engaged in a Primary TfM Work Group will be exempt from this aspect of the programme and be able to enrol on the programme to support the embedding of TfM in their school. |

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| **B. Project purpose** |
| * Developing the leadership skills of WG Leads and supporting them to run the Work Groups
* Providing a quality assured and tested model of Work Group with associated PD material
* Collective evaluation to inform future project years or other projects
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| **C. Work Group outcomes (for typical WGs within the project** |
| **Professional learning*** To deepen understanding of teaching for mastery
 |
| **Practice development*** To be able to use different models to deliver a mastery curriculum within a mixed-age setting
 |
| **Whole school/departmental policies and approaches** * To develop and begin to implement a coherent policy, appropriate to the setting, to support teachers in designing and teaching lessons to meet the needs of learners from mixed age groups
 |
| **Pupil outcomes*** All pupils in mixed age settings will have access to an age appropriate curriculum
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| **D. Work Group models** |
| A range of strategies will be offered to Work Group Leads following a review of the work carried out so far within the Maths Hubs Network. Models will include:* Re-structuring the lesson time to allow for separate input to different year groups and will consider the nature of the tasks that others will work on when not receiving input from the teacher
* Re-structuring staffing and timetables so that pupils can be grouped by age for maths lessons
* Planning to meet the needs of learners from different year groups when it is not possible or practical to group pupils according to their age (e.g. very small schools where more than two year groups are mixed)

Schools may focus on one model or use a mixture of approaches to meet the needs of their pupils. Work Group Leads will plan and lead three face to face days with their participants. Gap tasks set with focus questions to support reflections which are then discussed at the following meeting. Participant schools to contribute to case studies based on their reflective journals on the success of particular models or the combination of approaches used. |

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| **E. Project Co-ordination Team (PCT)**  |
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| **F. Work Group Leads** |
| Essential:* Experience of teaching mixed age primary classes or leadership in these schools
* Leadership of Professional Development beyond their own setting
* Experience of Teaching for Mastery in a primary context

Desirable:* Familiarity with the Primary PD Materials

WGLs will plan and lead three days (or the equivalent) for the Work Group and to collect data to inform an end of project Work Group Lead Evaluation Report. Thy will also evaluate the work carried out and produce a Work Group Lead Evaluation Report at the end of the project. Where Hubs have previously engaged with IWG activity in this area, MHLs to ensure that any new WG Leads are put in contact with those who have led previous projects. |

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| **G. Participants in the Programme/Work Groups**  |
| Teachers from schools who regularly have to teach pupils in mixed age classesWhere possible, the teacher responsible for the development of mathematics in the school will be one of the participants, if not the lead participant. |

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| **H. Participation Data**  |
| Hubs are not required to participate in this project. |

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| **I. NCP National Workshops, Webinars and Online Communities**  |
| There will be three face to face days with Work Group Leads in 2019-20 along with 2 webinars to review progress and share relevant developments. WG Leads who have previously led IWGs in this area may be called upon to share their expertise and support discussions with WG Leads who are new to the area of work. An online community will be established to support WG Leads and to promote discussion between face to face and online sessions.

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| Date (month) | Length | No. of venues | Key function of workshop |
| *Sep/Oct 2019* | 1 day | 1 | To share:* aims and organisation of the work group
* the planning and organisational models
* key points from the evaluation of Innovation work in this area

Introduce project, review models of organisation of learning previously trialled and investigate of the PD Materials as a resource to support planning.*Curriculum focus on addition and subtraction.* |
| *Dec 2019* | twilight |  | Webinar to update, share successes and explore an aspect of evaluation and evidence |
| *Feb/March 2020* | 1 day | 1 | To share:* successes so far
* examples of plans for the different models
* discussion of the impact of the different approaches on learning
* strategies for continuing engagement with schools
* reminder of evaluation expectations and evidence collection

*Curriculum focus on multiplication and division* |
| *April/May 2020* | twilight |  | Webinar to update, share successes and explore an aspect of evaluation and evidence |
| *June/July 2020* | 1 day | 1 | NCP evaluation: a chance to spend time organising evidence, beginning the evaluation paperwork and deciding on next steps for the group  |

Travel to central WG Lead NCP workshops will be payable by the MHNF. |

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| **J. Finances** |
| Maths Hubs will receive a unit grant of £4200 for each Work Group they lead. |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **Secondary Teaching for Mastery Development Work Groups** |
| **Phase** | Secondary | **Strategic priority** |  |
| **Project year** | 2nd | **Project code**  | NCP 19-15 |
| **Required participation** | Yes | **Type** | Work Group |

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| **A. Project summary** |
| Each Secondary Teaching for Mastery Specialist will lead a Work Group in the third year of their programme\* (following two years of centrally planned input) to support two mathematics departments in developing their own practice and systems with regards to teaching for mastery.[\*Some will do this in their 4th year as well if they choose to do so]Two teachers from each of two schools will become ‘Mastery Advocates’ within their own departments and will form the Work Group. They will work closely with a Secondary Mastery Specialist to understand the principles and practices associated with teaching for mastery and will begin to work with teachers within their own departments to embed these principles and practices. Work will initially begin in Key Stage 3, but it is intended that this will extend to Key Stage 4, certainly in the longer term. |

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| **B. Project purpose** |
| * Developing the leadership skills of the Mastery Advocates and supporting them to develop TfM within their own departments
* Developing and designing/refining model WGs with associated PD materials
* Collective evaluation to inform future project years or other projects

There is a national target for half of the secondary schools in England to be committed to developing and embedding teaching for mastery by 2023. These Work Groups form part of the national strategy to achieve this.The role of the Mastery Advocate is crucial since external influences and input can only go so far in producing lasting and sustainable change. To have deep, sustained impact and bring about long-term change in the way mathematics is taught in a secondary school requires drive and enthusiasm from within the school’s mathematics department so that once the external input and support is removed or reduced, development is unlikely to halt. |

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| **C. Work Group outcomes (for typical WGs within the project)** |
| **Professional learning*** Mastery Advocates will have a deep understanding of the principles and practices associated with Teaching for Mastery
* They will learn about the 5 big ideas, how these are being implemented in primary schools and gain an appreciation of how KS2 pupils’ mathematical knowledge, skills and understanding are developing
* They will consider the implications of this for KS3 practice and will learn about teaching for mastery practices that have already been explored and developed so far at KS3 as well as learning and developing skills through their own experimentation with the 5 big ideas
 |
| **Practice development*** Mastery Advocates will explore ways of incorporating the 5 big ideas into their own practice
* Mastery Advocates will lead the teachers in their department in developing these approaches in their practice.
 |
| **Departmental policies and approaches*** Mastery Advocates will work to develop and embed teaching for mastery approaches across their own departments
* In the initial stages this will involve exploring approaches in lessons and supporting the development of colleagues’ practice, but this will grow to include developing schemes of work and other departmental systems and structures to allow for teaching for mastery approaches to be embedded.
 |
| **Pupil outcomes*** Pupils will develop a deep, secure and connected understanding of the mathematics they are learning.
* Pupils achieve both conceptual understanding and procedural fluency at each stage of their learning and see mathematics as a subject which is interesting, stimulating and enjoyable.
* There are high levels of achievement in mathematics.
* Pupils enjoy mathematics lessons and have a positive attitude to learning the subject
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| **D. Work Group models** |
| There is a single model for this Work Group.Two teachers from each of two schools will work with each Secondary Mastery Specialist. Work will be bespoke for each department, tailored to the needs of the teachers and their stage of development, but is likely to include: * Mastery Specialist leading PD sessions with the 4 Mastery Advocates to enable them to understand the principles and practices associated with Teaching for Mastery.
* Mastery Specialists supporting the Advocates to enable them to run PD sessions for their department colleagues; this could include shared planning (and possibly co-leading) of sessions, but the intention is for the Advocates to take the leading role in working with their departments.
* Advocates observing Specialist in the Specialist’s own school.
* Specialist observing and giving feedback to Advocates– this might be of, and following, a lesson, a PD session, a departmental meeting or a planning meeting.
* Joint planning of individual lessons, sequences of lessons or longer units of work.
* Specialists working alongside Advocates to support other departmental members as appropriate.
* Specialists working alongside Advocates to develop schemes of work and other departmental systems and structures to allow for a full Teaching for Mastery approach
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| **E. Project Co-ordination Team (PCT)** |
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| **F. Work Group Leads** |
| Each Mastery Specialist who has completed the first two years of their programme should lead a Work Group in their 3rd year and have 15 days of time to undertake the role. (There is the option for specialists in their 4th year to run another WG with a different pair of departments.)The hub’s Secondary Teaching for Mastery Lead will be the main support mechanism for the Secondary Mastery Specialist leading the Work Group and will be instrumental in helping to decide exactly how the Mastery Specialist’s time should be spent since the programme will be bespoke for the departments involved.As indicated above, it is envisaged that most of the time will be spent with the specialist working alongside and supporting the Advocates in developing their own and their colleagues’ practice and their department’s structures and systems. There may also be benefit in attending a hub organised Teaching for Mastery event for all Secondary WGs, support meetings with the Teaching for Mastery Lead and visiting a primary Mastery Specialist’s classroom. Specialists are funded to undertake this role as part of their programme (15 days)The secondary TfM Lead within the Hub should support the SMS in developing the bespoke programmes for the schools they work with. |

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| **G. Participants in the Work Groups** |
| Secondary schools who want to introduce and embed teaching for mastery can join the Work Group and nominate two teachers as Mastery Advocates.All maths teachers, from NQTs to Heads of Department can be nominated as Mastery Advocates, but it requires the support of the headteacher/member of SLT.There is more information on the recruitment to the NCP available here (<https://www.ncetm.org.uk/resources/52199>) |

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| **H. Participation Data** |
| Hubs are required to participate in this project. |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| There will be one national workshop (in the Autumn term) for all specialists leading Work Groups which will aim:* to support the development of specialists, with regard to their own knowledge and thinking and their PD work with others
* to share models of bespoke work with departments
* to share the successes and challenges associated with their new role

There will also be on online forum in the Spring term to continue support and update on key developments.There will be an online community for specialists/WGLs where plans will be shared |

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| **J. Finances** |
| Maths Hubs will receive a unit grant of £9250 for each Work Group they lead. There is £5250 funding for each Secondary Mastery Specialist. Travel costs for Mastery Specialists attending the national workshop will be paid by the MHNF. The participating schools each receive £2000 towards the cost of releasing the Mastery Advocates to carry out development work. |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **Secondary Teaching for Mastery Embedding Work Groups** |
| **Phase** |   | **Strategic priority** |  |
| **Project year** | 1st year | **Project code** | NCP 19-16 |
| **Required participation** | Recommended for hubs that had schools in TfM Development Work Groups in 2018/19 | **Type** | Work Group |

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| **A. Project summary** |
| Secondary TfM Embedding Work Groups are only for those departments who have already participated in the Secondary TfM Development work groups in 2018/19 and wish to continue their work and sustain and embed developments. The focus will be on constructing or refining a coherent development plan and supporting and leading the whole department in realising the aims of the development plan.The Work Group will be led by a secondary Mastery Specialist or secondary TfM Lead and will involve Mastery Advocates as participants. The expectation is that Secondary TfM Development Work Groups and Secondary TfM Embedding Work Groups form a two-year package for departments. |

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| **B. Project purpose** |
| * Developing the leadership skills of Mastery Advocates and supporting them to further develop TfM within their departments
* Collective evaluation to inform future project years or other projects
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| **C. Work Group outcomes (for typical WGs within the project)** |
| **Professional learning*** All members of the department have a deep understanding of the principles and practices associated with teaching for mastery
* They will learn about the 5 big ideas and gain an appreciation of KS2 pupils’ mathematical knowledge, skills and understanding and how they need to be developed in KS3
 |
| **Practice development*** Mastery Advocates will develop a coherent development plan with clear aims based on evidence of need and a professional development programme which will support all departmental members in meeting these aims.
* Mastery Advocates will work to develop and embed teaching for mastery approaches across their own departments.
* This will involve exploring approaches in lessons and supporting the development of colleagues’ practice (the intention is that much of this will be a continuation from their work in the Mastery Advocate NCP).
* Mastery Advocates will support the department in developing schemes of work and other departmental systems and structures to allow for teaching for mastery approaches to be fully embedded.
 |
| **Whole school/departmental policies and approaches*** Teaching for mastery approaches are developed and embedded across the department
* Schemes of work and other departmental systems and structures which support teaching for mastery approaches are developed.
 |
| **Pupil outcomes*** Pupils will develop a deep, secure and connected understanding of the mathematics they are learning.
* Pupils achieve both conceptual understanding and procedural fluency at each stage of their learning and see mathematics as a subject which is interesting, stimulating and enjoyable.
* There are high levels of achievement in mathematics.
* Pupils enjoy mathematics lessons and have a positive attitude to learning the subject.
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| **D. Work Group models** |
| There is a single model for this Work Group.The Work Group will consist of Mastery Advocates from a range of departments who have worked with a specialist in the previous year. Ideally, there should be a minimum of four Mastery Advocates (two departments) with a recommended maximum of 12 (six departments).Work Group members will meet for four sessions during the year and work will focus on discussing, sharing, refining and putting into action the departmental plans that Mastery Advocates will have started to develop in the previous year. There will be an emphasis on planning a coherent approach to evidence collection and evaluation from the outset and as the year progresses the focus will shift to collecting evidence of progress towards stated intended outcomes. |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Work Group/Cohort Leads** |
| Work Group Leads should be a secondary TfM specialist or Secondary TfM Lead. There are no specific recruitment guidelines as specialist and TfM Lead criteria will be met. |

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| **G. Participants in the Work Groups** |
| Departments and their Mastery Advocates who have participated in TfM Development Work Groups. |

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| **H. Participation Data** |
| Hubs are not required to participate in the project this year, but it is recommended that hubs that have had Secondary TfM Development Work Groups in 2018/19 consider leading embedding Work Groups. |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| There will be two central NCP workshops:* Workshop 1 (at the beginning of the year) focusing on supporting WG participants in refining development plans;
* Workshop 2 (towards the end of the year) focusing on collecting evidence and evaluation

There will be an online community for WGLs. |

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| **J. Finances** |
| Maths Hubs will receive a unit grant of £3500 for each Work Group they lead. |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **Mathematical thinking for GCSE (Established NCP)** |
| **Phase** | Secondary | **Strategic priority** |  |
| **Project year** | 4th | **Project code** | NCP 19-17 |
| **Required participation** | No | **Type** | Work Group |

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| **A. Project summary** |
| This Work Group offers teachers and their departments high quality support to address the reasoning and problem-solving challenges of the mathematics curriculum and its assessment at GCSE. An increasing body of expertise and exemplification examples has built up over the years as part of this work which participation will give access to in order to stimulate further developments and collaborations.Reasoning and problem solving are at the heart of the mathematics curriculum and GCSE and represent a key teaching and learning challenge for mathematics departments. Many departments will be considering not only the long-term development of these skills across KS3 and into KS4, but also the immediate needs of current KS4 pupils facing the challenges of the GCSE. The Work Group aims to support both these aspects through professional development activities focusing on practical and accessible classroom-based approaches. Participation also offers opportunities for the engagement of the wider department. The approaches are accessible to all teachers (including non-specialist) and aim to support the development of reasoning and problem-solving skills for all pupils across all topics. They aim to develop these skills as part of all lessons thus deepening understanding of the content at the same time. |

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| **B. Project purpose** |
| * To enable the continuing provision of WGs focusing on reasoning and problem solving.
* To explore how best to sustain more “established” NCPs in terms of provision and evaluation.
* This year, central support through WGL days will be available to leads new to this WG *(with a requirement for existing WGL’s to attend only one central day).* In future years as the Work Group attains full ‘established’ status it may be that there will exist a sufficient body of WGL’s with experience of running this WG to meet the demand for any hub wishing to offer it.
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| **C. Work Group outcomes (for typical WGs within the project)** |
| **Professional learning -** *Teachers attending the workshops and other teachers in their departments will increase their experience and understanding of:** the role of reasoning and problem solving in the new curriculum and the teaching and learning needed to support pupils develop these skills across all teaching.
* how these skills are tested in the new GCSE and what teaching and learning approaches can support current KS4 pupils address these challenges
* effective collaborative approaches to embedding developments more deeply
 |
| **Practice development -** *Teachers attending the workshops and other teachers in their departments will have gained:** improved confidence in planning and delivering lessons reflecting teaching and learning approaches that support greater reasoning and problem solving in all lessons.
* broadened their repertoire of activities/approaches and resources that develop pupils’ mathematical reasoning and problem-solving skills across all teaching, including supporting pupils address challenges of new GCSE questions.
* experienced department processes for collaborative development
* opportunities to lead and develop PD in their own departments
* the opportunity to evaluate the impact of participation in the WG and will have identified actions to continue improvement in this aspect of teaching and learning
 |
| **Whole school/departmental policies and approaches -** *Teachers and departments will have:** opportunity to produce resources that exemplify key teaching and learning approaches to support work in this area
* considered how collaboration and PD might affect wider department PD approaches
* considered next steps for further implementing changes as a result of participation in the WG
 |
| **Pupil outcomes -** *Pupils may begin to demonstrate:** improved confidence when they engage in mathematical reasoning and problem solving.
* the use of these skills to solve problems but also deepen their understanding of mathematics content itself.
* Improved attitudes towards mathematics and the value of reasoning and problem-solving skills
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| **D. Work Group models** |
| This NCP has tried and tested the single Work Group Model, which follows a workshop gap task cycle consisting of four workshops followed in each case by a gap task.* Each workshop will provide an opportunity to engage collaboratively with generic approaches aimed at generating opportunities for all pupils to reason problem solve across the curriculum as part of every lesson.
* Principally the PD will arise from focussing on the impact of these approaches on pupils’ skills and learning in this area. This will be done through a form of lesson study suitable for the project and will be key to wider department engagement.
* Subsequent workshops will provide important PD feedback opportunities on impact on learning observed in the lesson study. Support of an HEI co leader is particularly beneficial here).
* Ideally each school should provide two teachers to attend workshops and lead developments back in the department alongside the full support of the subject leader

*All the materials, resources, approaches and workshop plans will be provided.* |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Work Group/Cohort Leads** |
| * A full 3-day central WGL programme will continue but will just be available to leads who are **new to leading this Work Group.**
* Where a **WGL has previously run this WG** having been through a complete cycle of national WGL workshops then they need only attend **one central WGL** day.
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| **G. Participants in the Programme/Work Groups** |
| * Preferably two teachers from a department in order to maximise PD back in school.
* One experienced (some responsibility in the department and one lessexperienced.
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| **H. Participation Data** |
| Hubs are not required to participate in this project. |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| As described in section F:* three central WGL days for leads new to this WG
* one day provision for existing WGL’s
* access to online community
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| **J. Finances** |
| Maths Hubs will receive a unit grant of £4200 for each Work Group they lead. |

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| **K. Reflection, evaluation and reports** |
| As this NCP is established there is no Lead Evaluator. However, participants and Work Group Leads are still required to carry out Work Group evaluation |

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| **Title** | ***Y5–Y8 Continuity*** |
| **Phase** | Primary/Secondary | **Strategic priority** |  |
| **Project year** | 3rd | **Project code** | NCP 19-18 |
| **Required participation** | No | **Type** | Work Groups |

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| **A. Project summary** |
| The project aims to improve communication between Key Stages 2 and 3 by taking an aspect of the mathematics curriculum or a pedagogical approach as the focus for the work.Teachers from different phases work together collaboratively to develop a consistent approach to their chosen aspect through discussion, joint lesson design and delivery, observation and the development of documentation to support continuity. As a result, channels of communication are established and there is an increased focus on curriculum and pedagogical continuity at key transition points which supports children as they move from KS2 to KS3. |

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| **B. Project purpose** |
| * Developing the leadership skills of WG Leads and supporting them to run WG
* Providing a quality assured and tested model WGs
* Collective evaluation to inform future project years or other projects
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| **C. Work Group outcomes (for typical WGs within the project)** |
| **Professional learning*** Teachers will gain knowledge, understanding and experience of the curriculum at KS2 and KS3, and a clear understanding of what pupils leaving KS2 are expected/able to do at all levels of attainment.
* Teachers will gain understanding of representations and structures used in both Key Stages and how these support the development of conceptual understanding and mathematical reasoning
* Teachers involved in the work groups will share and disseminate good practice within their own schools and departments
 |
| **Practice development*** Shared approaches to planning and delivery of the mathematics curriculum across KS2 and KS3
* Participation in Lesson Study as a model for CPD
 |
| **Whole school/departmental policies and approaches*** Shared policies on aspects of the teaching of mathematics across schools
* Consistent use of resources and representation (especially for children working below ARE at the end of KS2) to give them the best chance of making good progress as they move from KS2 to KS3
* Progression documents produced across phases to ensure continuity in approaches and representation across KS2 and KS3 in local areas
 |
| **Pupil outcomes*** Improved confidence and engagement in mathematics at KS2 and KS3
* All pupils make good progress across the KS2/3 transition
* Pupils seeing mathematics as an interesting and exciting subject at KS2 and KS3
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| **D. Work Group models** |
| Evaluation of previous programmes has shown that Multiplicative Reasoning is a productive curriculum focus for this programme which works effectively as a vehicle to produce cross-phase collaboration and continuity. Therefore, WGL workshops will be designed to utilise this as a focus for the development of WGLs’ subject knowledge and pedagogical knowledge. However, experience also tells us that some hubs prefer to choose a different focus, and we anticipate that this will be the case again in 2019-20. Therefore, hubs will have the freedom to decide upon their own focus.The tried and tested Work Group model follows a workshop gap task cycle consisting of three workshops followed in each case by a gap task. The gap tasks are based around established lessons which feature principles of teaching for mastery. There will be an additional 4th workshop day for WGLs who are new to the project. Experienced WGLs will be invited to this extra day, but their attendance will be optional.* Each workshop will provide an opportunity for KS2 and KS3 teachers to study together some key ideas and approaches through exploring a set of researcher designed (and trialled) lessons which have extensive PD commentaries.
* This will then form the basis of a lesson study gap task which enables involvement of wider department.
* Subsequent workshops will provide important PD feedback opportunities on impact on learning observed in the lesson study. (Support of an HEI co leader is particularly beneficial here).

All the materials, resources and workshop plans will be provided (as they are based on the materials and approaches of the KS3 Multiplicative Reasoning project). <https://www.ncetm.org.uk/resources/48093> |

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| **E. Project Co-ordination Team (PCT)**  |
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| **F. Work Group Leads** |
| Essential:* Work groups should be led by an experienced mathematics teacher/consultant who has led PD in either a primary or secondary setting.
* There will be an expectation that where possible the WGL should try out the lessons for themselves prior to presenting them at a workshop (support on the lessons will be given at WGL training days)

Desirable:* Some experience of Teaching for Mastery so that key messages can be shared and are consistent with the NCETM programme
* Some experience of ‘lesson study’ would be useful.

A Work Group Lead is expected to lead three days (or the equivalent) for the Work Group and to collect evaluation data in different forms to contribute to an end of project evaluation, and to attend three or four days central training. |

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| **G. Participants in the Work Groups** |
| The participants will be a mix of teachers from secondary schools and primary schools, ideally where the schools are linked locally.There is an expectation that each Work Group will be planned to have a capacity for 15 teachers.There is an expectation that each Work Group will have a minimum of 5 teachers.  |

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| **H. Participation Data** |
| Hubs are not required to participate in this project this year. |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| There will be four face to face days with Work Group Leads in 2019-20, with the second day targeted at new WGLs. Hubs running more than one work group need only send one WG Lead to the sessions. WG Leads running the project for the second time may be asked to share their experiences with new leads.WGL will have access to the NCETM multiplicative reasoning microsite; workshops will include detailed opportunities to discuss the materials and listen to HEI researchers in this area of teaching and learning.WGLs will be supported via an online community.There will be two 1-hour webinars at appropriate times between the face to face days, to help WGLs to stay in touch and share good practice.

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| Date (month) | Length | No. of venues | Key function of workshop |
| *Sep 2019*   | 1 day  | 1  | To share: * aims of the work group
* organisational information
* key points from the evaluation of the 2018-19 project
* evaluation process for the 2019-20 work groups

Introduce project, materials; support lesson study; prepare for delivery of 1st hub workshop  |
| *December 2019*  | 1 day  | 1  | To share: * successes so far
* examples of documentation produced in 2018-19 work groups
* strategies for continuing engagement with schools
* reminder of evaluation expectations and evidence collection

Introduce lesson set 2; prepare for delivery of 2nd hub workshop  |
| *April 2020*  | 1 day  | 1  | Prepare for delivery of 3rd (final) hub workshop  |
| June/July 2020  | 1 day  | 1  | NCP evaluation: a chance to spend time organising evidence, beginning the evaluation paperwork and deciding on next steps for the group  |

**9 or 10 days WGL time in total**:* three/four days attending central WGL training (WGL expenses for attending face to face days will be paid by the MHNF)
* three days (or equivalent) face to face sessions with work group schools as a whole group (could be half a day per half term)
* two days preparation time for face to face sessions
* one day WGL evaluation of the Work Group
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| **J. Finances** |
| Maths Hubs will receive a unit grant of £4200 for each Work Group they lead. |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **Challenging topics at GCSE** |
| **Phase** | Secondary | **Strategic priority** |  |
| **Project year** | 3rd  | **Project code** | NCP 19-19 |
| **Required participation** | No | **Type** | Work Group  |

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| **A. Project summary** |
| This WG focuses on teachers working together in workshops to unpick a challenging topic, developing insight into the associated difficulties and misconceptions to support teaching in the short term but also consider the implications for longer term curriculum design. Any work undertaken will be shared more widely across maths hubs so that different topic areas can be accessed.Feedback from teachers and GCSE exam analysis indicate there are key areas of the curriculum students continue to find challenging. While teachers will need to address students’ immediate difficulties with regard to such a topic there is also the recognition that these issues are often rooted in earlier learning.The ‘toolkit’ approach offers the opportunity for participating departments if they wish, to use this approach to lead a wider department improvement programme. Addressing department professional development around the review of a key area of the curriculum and the quality of its teaching and learning. The generic nature of the toolkit approaches continues to be developed as part of the WG activity and participating departments can if they wish help shape this. The resulting toolkit can offer a generic support to leading improvement programmes which are at the heart of maths subject leadership.Within this NCP we are:* Looking to review and improve the quality of T&L in a particular area of the curriculum, developing work through from KS3 into KS4 to improve outcomes at GCSE.
* Developing teachers’ depth of subject knowledge and classroom practice.
* Intending for WG participants, in conjunction with their HoDs, to lead improvement across the department.
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| **B. Project purpose** |
| * Developing the leadership skills of WG Leads and supporting them to run WG/Programme
* Support WGLs to test out and refine the suggested toolkit strategies for department improvement.
* To enable WGLs to share and collaborate on learning from each other the most effective approaches to support their WGs.
* Consider the wider applicability of the toolkit approach to support department improvement planning.
* Find ways to share outcomes on work done on specific challenging topics.
* Collective evaluation to inform future project years or other projects
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| **C. Work Group outcomes (for typical WGs within the project)** |
| **Professional learning*** Deeper insight into the key issues and misconceptions behind the challenging topic
* Unpick a topic to see the maths that underpins learning in the challenging topic
* Deepen subject knowledge and connections within the mathematics curriculum.
* Consider appropriate pedagogy for that topic
 |
| **Practice development*** Identify misconceptions and plan a series of lessons to support pupils demonstrating difficulties in the topic area
 |
| **Whole school/departmental policies and approaches*** Modelling the use of a toolkit approach to support improvement planning to address a challenging topic
* Use this as a vehicle for deepening subject knowledge, improving T&L across the department and developing the scheme of work
* Support subject leadership through the generic use of the toolkit approach.
 |
| **Pupil outcomes*** Deepen pupil understanding of the topic area and the underlying mathematics
* Experience more coherent provision from KS3 to GCSE for the chosen topic
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| **D. Work Group/Programme models/plans** |
| There is an expected common model and gap task framework across this NCP. |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Work Group/Cohort Leads** |
| * One WG Lead required.
* Ideally an experienced PD lead as the workshops will need development and content input from the WGL
* Experience of teaching KS3 and KS4 maths but may or may not be teaching currently.

The Secondary lead within the hub should support the WGL to a greater or lesser extent, depending on the previous PD experience of the WGL. |

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| **G. Participants in the Work Groups** |
| Each WG consists of at least four schools, ideally with two teachers attending from each school. |

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| **H. Participation Data** |
| Hubs are not required to participate in this NCP. |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| * There are three central NCP Workshops to support Work Group Leads in delivering this NCP.
* Travel expenses to the central workshops will be paid for by the MHNF.
* The project community is supported by a project online community allowing WG Leads from across the country, working on the same topic, to share plans and resources.
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| **J. Finances** |
| Maths Hubs will receive a unit grant of £4200 for each Work Group they lead. |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **Supporting GCSE Mathematics as a Post-16 Resit** |
| **Phase** | Post 16 | **Strategic priority** |  |
| **Project year** | 3rd  | **Project code** | NCP19-20 |
| **Required participation** | No | **Type** | Work Groups  |

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| **A. Project summary** |
|  This project will run again in 2019/2020. There are two broad aims for this project. First, to explore effective ways of teaching key content to GCSE resit students. Second, to explore effective ways of working with teachers of post-16 resit GCSE. * Participants will deepen their knowledge and understanding of the curriculum demands of GCSE maths and their awareness of pedagogical approaches that best support students taking GCSE for the second time.
* Participants’ departments will, through shared good practice, become more effective at teaching GCSE resit, for example by wider and more confident use of teaching approaches such as bar-modelling, multiplicative reasoning or realistic contextualisation.
* Exploring the scope and content of a one-year SoW (effectively 8 months).
* Increased localised support and collaboration between FE colleges, sixth form colleges and 11-18 schools.

*The FE Centres for Excellence are planning project trials in 2019/20 focussed on Post-16 GCSE Resits with a proportion of FE and Sixth Form Colleges. Participation in these trials by a College or by a potential Work Group Lead will mean that they cannot participate in this Maths Hubs NCP as they are evaluating impact of their programmes. However, the planning for these trials is currently at any early stage and it is not known who this may affect, so there is a need to have a flexible approach at this stage when identifying potential Colleges for participants and potential Work Group Leads. Being aware of this need to be flexible at this stage will help in developing a positive long-term working partnership with the FE Centres for Excellence.* |

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| **B. Project purpose** |
| * Developing the leadership skills of Work Group Leads and supporting them to run Work Groups
* Developing and designing/refining model for Work Groups
* Collective evaluation to inform future project years or other projects
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| **C. Work Group/Programme outcomes (for typical WG/Programmes within the project)** |
| **Professional learning*** Improved awareness of new GCSE qualification structure, themes, content and issues;
* Increased awareness of and effective use of appropriate pedagogies to help students make connections and deepen understanding;
* Increased understanding of ways of working within this sector.
 |
| **Practice development*** Teaching and learning approaches/pedagogy promote engagement of students;
* Teachers feel more competent in teaching the new GCSE as a resit in Post-16 over 8 months.
 |
| **Whole school/departmental policies and approaches*** Increased localised support and collaboration with 11-16 schools;
* Sharing of practice and resources which are effective with this group of students.
 |
| **Pupil outcomes*** Increased student engagement with, and conceptual understanding of, maths;
* Better student outcomes at GCSE.
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| **D. Work Group/Programme models/plans** |
| There are no required Work Group models.There is a suggested Work Group model of three days (or equivalent) of direct Work Group meeting time.A variety of models have been adopted including; three full day face to face sessions, up to six part-day/twilight sessions and a mixture of these with some online meetings too have been used successfully. |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Work Group/Cohort Leads** |
| *Potential Work Group Leads who are part of the FE Centres for Excellence trials in 2019/20 cannot participate in this NCP.*Indicative requirements:* Expertise experience – PD Lead, experience of teaching new GCSE and Post-16 GCSE resit students, ideally in a FE/Sixth Form college context.
* Current role – leading PD in own college/school context or more widely, teaching new GCSE and Post-16 GCSE resit students, knowledge of FE context of GCSE resit students.
* Project level commitment: 3 days national support workshops for Work Group Leads.
* Hub level commitment: 3 days (or equivalent) of Work Group meeting across the academic year plus any planning time, in-school activity between meetings, contribution to Maths Hubs Work Group evaluation processes and individual Maths Hub requirements for general Work Group Lead meetings and support.
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| **G. Participants in the Programme/Work Groups** |
| *Potential participants who are part of the FE Centres for Excellence trials in 2019/20 cannot participate in this NCP.*The target group of participants in this NCP are teachers of Post-16 GCSE Resit Maths and/or any Head of Department where Post-16 GCSE Resit Maths is taught. Participants may be based in FE colleges, sixth form colleges, schools with post-16 provision or other post-16 settings. |

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| **H. Participation Data** |
| Hubs are not required to participate in this project this year. |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| National Workshop 1 Support for new WGLs, introduction to NCP structure and planning at hub level. Set out the aims of the NCP. Share existing models of effective practice. Share evaluation and process for this year. Initial planning.National Workshop 2 Progress to date, emerging good practice and issues, initial evaluation to inform planning for 20/21.National Workshop 3 Evaluation, feedback, planning for 19/20, recommendations on model(s) in the future.Travel expenses to the National Workshops can be claimed from the Maths Hubs Network Fund (MHNF) through your Maths Hub.NCP19-20 is supported by the Supporting Post 16 GCSE Resit online community and document sharing for Work Group Leads and PCT members. |

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| **J. Finances** |
| Maths Hubs will receive a unit grant of £4200 for each Work Group they lead.Travel expenses to the National Workshops can be claimed from the MHNF through your Maths Hub. |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **Supporting Core Maths** |
| **Phase** | Post 16 | **Strategic priority** |  |
| **Project year** | 3rd (2nd with AMSP) | **Project code** | NCP19-21 |
| **Required participation** | No | **Type** | Work Groups |

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| **A. Project summary** |
| This NCP consists of direct partnership working between the Maths Hubs Network and the Advanced Mathematics Support Programme (AMSP). The success of Core Maths depends in part on the growth of the pool of teachers, schools and colleges with the necessary expertise, experience and enthusiasm to teach it. This project will contribute to the wider national effort to grow that pool and embed Core Maths confidence and culture within school and college maths departments.* Participants will understand the philosophy of Core Maths, with its approach to maths through contextualised problem-solving, appreciate the different Core Maths qualifications available and be able to choose the course appropriate for their students.
* Through collaboration and experimentation, participants will develop improved teaching approaches that fit the open-ended problem-solving skills students need to develop and also share these with departmental colleagues.
* Participant departments will support the role of Core Maths in promoting contextualised problem-solving and links to other teaching.
* Students in participant schools and colleges will take and succeed at Core Maths in increasing numbers.
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| **B. Project purpose** |
| * Developing the leadership skills of Work Group Leads and supporting them to run Work Groups
* Developing and designing/refining model for Work Groups
* Collective evaluation to inform future project years or other projects
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| **C. Work Group outcomes (for typical WGs within the project)** |
| **Professional learning*** Participants will understand the philosophy of Core Maths, with its approach to maths through contextualised problem-solving.
* Participants will explore a range of common Core Maths topics (e.g. Fermi problems, critical analysis of numbers in the media).
* Participants will become familiar with the different Core Maths courses and be able to choose the one appropriate for their students.
* Participants will develop knowledge and understanding of using pre-release materials.
 |
| **Practice development****For those already teaching Core Maths:** * Participants will teach effectively some mathematical concepts and processes through contextualised problem-solving.
* Participants will promote and teach a Core Maths course in a way that engages qualified students.
* Participants will make effective use of the existing Core Maths resources.
* Participants will lead others in their own department to ensure an effective delivery of the course.
* Participants work collaboratively with colleagues from other institutions within the Work Group and beyond if applicable.

**For those not yet teaching Core Maths:*** Participants will share information about Core Maths with their departments.
* Participants will trial existing Core Maths resources with Key Stage 4 students and/or with Year 12/13 students who are studying other subjects that can be supported by Core Maths (maths in psychology, geography etc).
* Participants will take a leading role in helping make school or college decisions related to Core Maths.
 |
| **Whole school/departmental policies and approaches*** The whole school mathematics policy of establishing Level 3 mathematics pathways will be supported.
* Maths teaching capacity and quality across the school/college will have been improved.
* The school/college will have clear ways of communicating and promoting its Core Maths offer.
* Support senior leadership in understanding the benefits of Core Maths.
* Support the role of Core Maths in promoting problem solving and links to GCSE.
 |
| **Pupil outcomes** (for those already teaching Core Maths)* Students will complete the course
* Participating students will have greater appreciation of relevance of maths to their lives.
* Students will have increased their confidence in using maths.
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| **D. Work Group/Programme models/plans** |
| There are no required Work Group models. There is a suggested Work Group model of three days (or equivalent) of direct Work Group meeting time.A variety of models of activity have been adopted including; three face to face days, up to six half day/twilight sessions with a mixture of full and half days/twilights proving popular.There is the possibility for work groups with a different focus:1. A general Core Maths work group with a broad range of teachers experience from new to Core Maths to several years of teaching.
2. A work group focussed on new or recent practitioners of Core Maths.
3. A work group focussed on experienced practitioners.

The ideal approach is an external model where participant teachers attend a common external venue with a hub nominated and based Work Group Lead with the possibility of input to individual Work Group meetings from AMSP personnel where desired and appropriate. An internal model where the Work Group Lead attends a particular school/college and works directly with a group of teachers has been utilised where recruitment has been a major issue, but this ought to involve participants from more than one school or college in order for it to be considered a Work Group. |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Work Group Leads** |
| Indicative requirements:* Expertise/experience – strong knowledge of Core Maths philosophy, pedagogy and qualifications, experience of teaching Core Maths, knowledge of Post 16 context and Level 3 pathways;
* Current role – existing or previous Core Maths WGL, CMSP RA, CMSP CML, Core Maths Early Adopter, Core Maths Early Developer, PD Lead, AMSP Area Co-ordinator, leading Core Maths teaching/PD in own college/school context or more widely, teaching Core Maths.

Maths Hubs should recruit a Work Group Lead in Term 3 18/19 and prior to National Workshop 1 for Work Group Leads recruited in early 19/20.Project level commitment: 3 days central NCP workshops for Work Group Leads. Hub level commitment: 3 days (or equivalent) of Work Group meeting across the academic year plus any planning time, in-school activity between meetings, contribution to Maths Hubs Work Group evaluation processes and individual Maths Hub requirements for general Work Group Lead meetings and support. Assistant Maths Hub Leads (Level 3) in participating Maths Hubs will either support WGLs in this project or may be the WGL in addition to their Assistant Maths Hub Lead (Level 3) role.Maths Hubs Administrators/Project Managers and the AMSP (via their national website and their Area Co-ordinator network) will assist WGLs with co-promotion and co-recruitment of participants. |

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| **G. Participants in the Programme/Work Groups** |
| The target group of participants in this NCP are all experienced, recent or potential teachers of Core Maths. These may be teachers in post-16 settings whose main subject is maths or whose main subject is not maths and who are unable to access local TSST provision for Core Maths.There is an expectation that each Work Group will be planned to have a capacity for 15 teachers.There is an expectation that each Work Group will have a minimum of 5 teachers, but this is a local hub decision based on the actual participants and their actual schools.There is no specific recruitment process for this project. Recruitment will be supported by the AMSP national website and the AMSP Area Co-ordinator and Regional Lead network in addition to the usual Maths Hubs and NCETM processes. It is desirable to maintain a register of interest prior to actual Work Group commitment and sign up.The recruitment window for participants in this NCP runs to 31st October 2019 with a view to the project Work Groups commencing during Term 1.Publicity materials produced for this project include:* [Information Sheet](https://www.ncetm.org.uk/files/93748152/18-19%2BDeveloping%2BA-Level%2BPedagogy.docx)
* [Level 3 Poster](https://www.ncetm.org.uk/files/100747196/NCETM%2BL3Poster%2BDigital.pdf)
* [What Maths Hubs Are Doing Post-16](http://www.mathshubs.org.uk/what-maths-hubs-are-doing/post-16/)
* [AMSP Core Maths Professional Development](https://dev.amsp.org.uk/events/developing-alevel-pedagogy-work-group)
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| **H. Participation Data** |
| The Maths Hub Network is funded for 37 NCP19-21 Core Maths Work Groups in 19/20 and the aim is that all (or the great majority of) Maths Hubs will run this NCP. (Alongside this the aim, at Level 3, is that approximately half of all Maths Hubs will also participate in the NCP19-23 Developing Pedagogy project, with the other half of the network participating in NCP19-22 Embedding Technology.) |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| NCP National Workshop 1: Support for new WGLs, introduction to NCP structure and planning at hub level.NCP National Workshop 2: Mid-year feedback on progress by WGLs, further planning and support for WGLs.NCP National Workshop 3: Evaluation, feedback, planning for 19/20, recommendations on model(s) in the future.Travel expenses to the National Workshops can be claimed from the Maths Hubs Network Fund (MHNF) through your Maths Hub.NCP19-21 is supported by the Supporting Core Maths online community and document sharing for Work Group Leads, Assistant Maths Hub Leads (Level 3) in Maths Hubs, PCT members and the AMSP. |

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| **J. Finances** |
| Maths Hubs will receive a unit grant of £2100 for each Work Group they lead.This NCP is co-funded by the Maths Hubs core grant and the Advanced Maths Support Programme (AMSP) and the full funding per Work Group is £4200 = £2100 AMSP + £2100 Maths Hub.AMSP co-funding is claimable from the AMSP via MEI.There is no expectation that any subsidies will be paid to participants’ schools/colleges. |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **Embedding Technology in Level 3 Mathematics Teaching** |
| **Phase** | Post 16 | **Strategic priority** |  |
| **Project year** | 3rd | **Project code** | NCP19-22 |
| **Required participation** | No | **Type** | Work Groups |

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| **A. Project summary** |
| This NCP provides national support for the effective embedding of technology in the teaching of Level 3 Mathematics (Core Maths, A Level Mathematics and/or Further Mathematics) to enhance teaching in order to develop students’ conceptual understanding.This NCP and its Work Groups aim to develop and sustain regional communities of practice involving collaboration between teachers in embedding technology into their teaching of Core Maths, A level Mathematics and/or Further Mathematics, whilst also developing participants as technology champions in their own school or college.There is a range of currently available mathematics teacher PD around specific technology skill development and application to teaching but little evidence of sustainable, widespread embedding of technology in teaching and learning in all Level 3 mathematics classrooms. This NCP endeavours to address the DfE 2017 A Level Content statement “The use of technology, in particular mathematical and statistical graphing tools and spreadsheets, must permeate the study of AS and A level mathematics” and the Smith Review Report Recommendation 14: “The DfE should seek to improve the evidence base on the role and effectiveness of technology in the teaching of 16-18 mathematics”. The Embedding Technology NCP consists of direct partnership working between the Maths Hubs Network and the Advanced Mathematics Support Programme (AMSP) and is a continuation and extension of Maths Hubs NCP18-18 from 18/19. This NCP offers up to around 19 Work Groups across all 9 regions of England in partnership with the AMSP with hub participation planned individually and regionally by Assistant Maths Hub Leads (Level 3). |

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| **B. Project purpose** |
| * Developing and designing/refining model Work Groups with associated PD materials
* Developing the leadership skills of Work Group Leads and supporting them to run Work Groups
* Collective evaluation to inform future project years or other projects
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| **C. Work Group outcomes (for typical Work Groups within the project)** |
| **Professional learning*** Knowledge of where, when and how to use technology.
* Confidence and competence to use pre-prepared technology.
* Confidence to develop own technology skills.
 |
| **Practice development*** Embedding technology in A Level Mathematics teaching.
* Sign-posting to resources
* Development of participants as technology champions in their own school or college.
 |
| **Whole school/departmental policies and approaches*** Change in departmental sustained/embedded use of technology
* Use of technology within teacher CPD
 |
| **Pupil outcomes*** Improved conceptual understanding and engagement with mathematics through technology
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| **D. Work Group models** |
| There are no required Work Group models.There is a suggested Work Group model of three days (or equivalent) of direct Work Group meeting time.A variety of models of activity have been adopted previously including; three face to face days, up to six twilight sessions and a mixture of these with some online meetings utilised to minimise travel and maximise contact.The ideal approach is an external model where participant teachers attend a common external venue with a hub nominated and based Work Group Lead with the possibility of input to individual Work Group meetings from AMSP personnel where desired and appropriate. An internal model where the Work Group Lead attends a particular school/college and works directly with a group of teachers has been utilised where recruitment has been a major issue, but this ought to involve participants from more than one school or college in order for it to be considered a Work Group. |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Work Group Leads** |
| Expertise/experience – strong knowledge of A level Mathematics/Core Maths, pedagogy and qualifications, experience of teaching A level Maths/Core Maths, knowledge and skills in the application of technology to teaching and learning in A level Mathematics/Core Maths.Current role – previous 18/19 NCP18-18 Work Group Lead, PD Lead, AMSP Area Co-ordinator, leading Level 3 Maths teaching/PD in own college/school context or more widely, teaching Level 3 Maths. Maths Hubs should recruit a Work Group Lead in Term 3 18/19 and prior to national Workshop 1 for Work Group Leads in early 19/20.Project level commitment: 3 days national NCP workshops for Work Group Leads. Hub level commitment: 3 days (or equivalent) of Work Group meeting time across the academic year plus any planning time, in-school activity between meetings, contribution to Maths Hubs Work Group evaluation processes and individual Maths Hub requirements for general Work Group Lead meetings and support.Assistant Maths Hub Leads (Level 3) in participating Maths Hubs will either support WGLs in this project or may be the WGL in addition to their Assistant Maths Hub Lead (Level 3) role.Maths Hubs Administrators/Project Managers and the AMSP (via their central website and their Area Co-ordinator network) will assist Work Group Leads with co-promotion and co-recruitment of participants. |

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| **G. Participants in the Work Groups** |
| The target group of participants in this NCP are teachers of Level 3 Mathematics who wish to lead the embedding of technology in their departments.Teachers who will find this Work Group particularly useful development include those who have already completed other technology PD courses focussed on individual teachers and skills in particular technologies.There is an expectation that each Work Group will be planned to have a capacity for 15 teachers. There is an expectation that each Work Group will have a minimum of 5 teachers, but this is a local hub decision based on the actual participants and their actual schools.There is no specific recruitment process for this project. Recruitment will be supported by the AMSP national website and the AMSP Area Co-ordinator and Regional Lead network in addition to the usual Maths Hubs and NCETM processes. It is desirable to maintain a register of interest prior to actual Work Group commitment and sign up.The recruitment window for participants in this NCP runs to the 31st October 2019 with a view to the project Work Groups commencing during Term 1. Publicity materials produced for this project include:* Info Sheet
* Level 3 Poster
* [What Maths Hubs Are Doing Post-16](http://www.mathshubs.org.uk/what-maths-hubs-are-doing/post-16/)
* [AMSP A Level Professional Development](https://amsp.org.uk/teachers/a-level/professional-development)
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| **H. Participation Data**  |
| Maths Hubs decide whether to participate in this Level 3 project and are not required to participate.The initial aim is for approximately half of all Maths Hubs to participate in NCP19-22 Embedding Technology, with the other half of the network participating in NCP19-23 Developing Pedagogy and all hubs (or the great majority of hubs) participating in NCP19-21 Supporting Core Maths. |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| NCP National Workshop 1 Support for new WGLs, introduction to NCP structure and planning at hub level. NCP National Workshop 2 Mid-year feedback on progress by WGLs and support for WGLs.NCP National Workshop 3 Evaluation, feedback, planning for 20/21, decision on continuation and model(s) in the futureTravel expenses for Work Group Leads to the three National Workshops can be claimed from the Maths Hub Network Fund.NCP19-22 is supported by the Embedding Technology online community   |

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| **J. Finances** |
| The unit grant per Work Group from the Maths Hubs core grant allocation is £2100. This NCP is co-funded by the Maths Hubs core grant and the Advanced Maths Support Programme (AMSP) and the full funding per Work Group is £4200 = £2100 AMSP + £2100 Maths Hub. AMSP co-funding is claimable from the AMSP via MEI. There is no expectation that grant subsidies will be paid to participants’ schools/colleges. |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **Developing Pedagogy (In A Level Mathematics Teaching)** |
| **Phase** | Post 16 | **Strategic priority** |  |
| **Project year** | 2nd | **Project code** | NCP19-23 |
| **Required participation** | No | **Type** | Work Groups |

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| **A. Project summary** |
| This NCP provides national support for the effective development of pedagogy in the teaching of A Level Mathematics to enhance teaching and conceptual understanding of students.There is a range of currently available mathematics teacher PD around subject knowledge and pedagogy for new teachers of A Level Maths but no extended professional development for experienced teachers or leaders of A Level Maths teaching around the overarching themes or other aspects of pedagogy of the new A Level Maths specification. There is a strong focus on pedagogy through the overarching themes of the new linear A Level Maths specification, and changes to pedagogy in Statistics teaching, assessment and the use of technology.This NCP and its Work Groups aim to develop and sustain regional communities of practice involving collaboration between teachers in developing pedagogy in their teaching of A level Mathematics.The focus of this NCP is on developing pedagogy in A level Mathematics teaching and development of participants as leaders of A level teaching in their own school or college.The Developing Pedagogy NCP consists of direct partnership working between the Maths Hubs Network and the Advanced Mathematics Support Programme (AMSP) and is a continuation and extension of Maths Hubs NCP18-19 from 18/19.This NCP offers up to around 18 Work Groups across all 9 regions of England in partnership with the AMSP with hub participation planned individually and regionally by Assistant Maths Hub Leads (Level 3). |

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| **B. Project purpose** |
| * Developing and designing/refining model Work Groups with associated PD materials
* Developing the leadership skills of Work Group Leads and supporting them to run Work Groups
* Collective evaluation to inform future project years or other projects
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| **C. Work Group outcomes for typical Work Groups within the project** |
| **Professional learning*** Know the content and requirements of the new A-Level Mathematics.
* Understand the purpose of the over-arching themes and their impact on teaching and learning the new A-Level Mathematics.
* Be confident in teaching new aspects of the content (particularly mechanics and statistics).
 |
| **Practice development*** Plan sequences of lessons which meet the requirements of the new A-Level, including addressing the overarching themes.
* Support colleagues in their own school / colleges in embedding themes from the course in their planning for the new A-Level.
 |
| **Whole school/departmental policies and approaches*** Schools/colleges will have improved the capacity of staff to deliver A-Level Mathematics, and they will be able to prepare lessons that meet the requirements of the new A-Level and the overarching themes.
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| **Pupil outcomes*** Appreciate the links between mathematical topics within the new A-Level content.
* Be better prepared for reasoning / proof, problem solving and modelling elements of the new style exams.
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| **D. Work Group models/plans** |
| There are no required Work Group models.There is a suggested Work Group model of three days (or equivalent) of direct Work Group meeting time.A variety of models of activity have been adopted including; three face to face days, up to six half day/twilight sessions with a mixture of full and half days/twilights proving popular.The ideal approach is an external model where participant teachers attend a common external venue with a hub nominated and based Work Group Lead with the possibility of input to individual Work Group meetings from AMSP personnel where desired and appropriate. An internal model where the Work Group Lead attends a particular school/college and works directly with a group of teachers from one (or more) school(s)/college(s) has been utilised where recruitment has been a major issue, but this ought to involve participants from more than one school or college in order for it to be considered a Work Group. |

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| **E. Project Co-ordination Team (PCT)**  |
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| **F. Work Group Leads**  |
| Expertise/experience – strong knowledge of A level Mathematics, pedagogy and qualifications, experience of teaching A level Maths, knowledge and skills in the teaching and learning in A level Mathematics.Current role – previous 18/19 NCP18-19 Work Group Lead, PD Lead, AMSP Area Co-ordinator, leading A level Maths teaching/PD in own college/school context or more widely, teaching A level Maths.Maths Hubs should recruit a Work Group Lead in Term 3 18/19 and prior to national Workshop 1 for Work Group Leads in early 19/20.Project level commitment: 3 days national support workshops for Work Group Leads.Hub level commitment: 3 days (or equivalent) of Work Group meeting across the academic year plus any planning time, in-school activity between meetings, contribution to Maths Hubs Work Group evaluation processes and individual Maths Hub requirements for general Work Group Lead meetings and support.Assistant Maths Hub Leads (Level 3) in participating Maths Hubs will either support WGLs in this project or may be the WGL in addition to their Assistant Maths Hub Lead (Level 3) role.Maths Hubs Administrators/Project Managers and the AMSP (via their national website and their Area Co-ordinator network) will assist WGLs with co-promotion and co-recruitment of participants. |

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| **G. Participants in the Work Groups** |
| The target group of participants in this NCP are existing leaders of A level teaching or experienced teachers of A level Mathematics who wish to lead the development of pedagogy in A level teaching with other colleagues. Teachers who will find this Work Group particularly useful include those who have already completed other AMSP A Level or FM subject knowledge and pedagogy courses (or similar) and are in a position to work with other colleagues. There is an expectation that each Work Group will be planned to have a capacity for 15 teachers. There is an expectation that each Work Group will have a minimum of 5 teachers, but this is a local hub decision based on the actual participants and their actual schools. There is no specific recruitment process for this project. Recruitment will be supported by the AMSP national website and the AMSP Area Co-ordinator and Regional Lead network in addition to the the usual Maths Hubs and NCETM processes. It is desirable to maintain a register of interest prior to actual Work Group commitment and sign up.The recruitment window for participants in this NCP runs to 31st October 2019 with a view to the project Work Groups commencing during Term 1.Publicity materials produced for this project include: - [Info Sheet](https://www.ncetm.org.uk/files/93748152/18-19%2BDeveloping%2BA-Level%2BPedagogy.docx) [Level 3 Poster](https://www.ncetm.org.uk/files/100747196/NCETM%2BL3Poster%2BDigital.pdf) [What Maths Hubs Are Doing Post-16](http://www.mathshubs.org.uk/what-maths-hubs-are-doing/post-16/) [AMSP A Level Professional Development](https://dev.amsp.org.uk/events/developing-alevel-pedagogy-work-group) |

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| **H. Participation Data** |
| Maths Hubs decide whether to participate in this Level 3 project and are not required to participate.The initial aim is for approximately half of all Maths Hubs to participate in this NCP19-23 Developing Pedagogy project, with the other half of the network participating in NCP19-22 Embedding Technology and all (or the great majority of) Maths Hubs participating in NCP18-21 Supporting Core Maths. |

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| **I. NCP National Workshops, Webinars and Online Communities**  |
| NCP National Workshop 1 Support for new WGLs, introduction to NCP structure and planning at hub level.NCP National Workshop 2 Mid-year feedback on progress by WGLs, further planning at hub level and support for WGLs. NCP National Workshop 3 Evaluation, feedback, planning for 20/21, decision on continuation and model(s) in the future.Travel expenses for Work Group Leads to the three National Workshops can be claimed from the Maths Hub Network Fund through your Maths Hub.NCP19-23 is supported by the Developing Pedagogy online community |

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| **J. Finances** |
| The unit grant per Work Group from the Maths Hubs grant allocation is £2100.This NCP is co-funded by the Maths Hubs core grant and the Advanced Maths Support Programme (AMSP) and the full funding per Work Group is £4200 = £2100 AMSP + £2100 Maths Hub.AMSP co-funding is claimable from the AMSP via MEI.There is no expectation that grant subsidies will be paid to participants’ schools/colleges. |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |

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| **Title** | **Specialist Knowledge for Teaching Mathematics Programmes (In-service: Primary, TA, Early Years)** |
| **Phase** | EY/Primary/Primary TA | **Strategic priority** |  |
| **Project year** | 3rd | **Project code** | NCP19-24 |
| **Required participation** | No | **Type**  | Programme cohorts |

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| **A. Project summary** |
| To develop the use of Subject Knowledge for Teaching Mathematics programmes for teachers of Early Years, Primary and Primary TAs to enable them to understand, teach and support pupils in mathematics in the classroom.This is a continuation of NCP17-14 and NCP18-20/21 and the EY SK pilot. This year the developed resources will be trialled across the Maths Hub Network with the aim of refining the materials to create a standardised modular programme which can be designed to address local needs.There will be a standardised programme plan which will include key core content and pedagogy for each phase. |

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| **B. Project purpose** |
| * Developing the leadership skills of WG Leads or Cohort Leads and supporting them to run a Programme
* Providing quality assured and tested model programmes with associated PD material
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| **C. Programme outcomes (for typical Programmes within the project)** |
| **Professional learning*** A key focus will be on improving the participants’ ability to “do” mathematics but also to ensure they have the appropriate pedagogical knowledge to teach their pupils well. Subject knowledge will be linked to pedagogy.
* Teachers will develop enhanced mathematics subject knowledge with a particular emphasis on mathematical structures in key areas of mathematics
 |
| **Practice development**Classroom practice will develop through a series of gap tasks where teachers try out activities to promote depth of understanding, reasoning and fluency; these might include pupil interviews, lesson study and work scrutiny. Research and evidence are used to inform their practice and teachers are encouraged to share these more widely in schools to support discussion on current policies and approaches. Teachers develop an “all can achieve” mindset as they realise that with the teaching for mastery approach children have time to grasp concepts and explore them in more depth. Impact on classroom practice will include changes in and a focus on:* planning for learning,
* teaching for learning,
* assessing learning
 |
| **Whole school/departmental policies and approaches**The programme will have an impact on year group planning and increased use of manipulatives and representations. School calculation policies and lesson planning formats may be looked at with a view to ensuring that teaching for mastery and coherence are consistent across these. Teachers’ understanding of lesson design will deepen to include better questioning and opportunities for mathematical talk. |
| **Pupil outcomes**Increased pupil understanding of mathematics based around a consistency of methodology and teaching for mastery principles.Pupils will develop a deep understanding of the mathematical ideas they are taught so that they fully meet the aims of the National Curriculum (i.e. fluency, reasoning and problem solving)Pupils will benefit from increased opportunities to explore concepts in more depth, and to develop a greater understanding of the connections in mathematics. They will be more confident in their mathematics and be able to explain their reasoning using appropriate language. Enjoyment and motivation to succeed will be seen in the classroom. |

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| **D. Programme models** |
| Core content across all the programme cohorts, supported by slides and guidance notes, will ensure consistency with the pedagogy associated with the Teaching for Mastery programme. There will be a range of modules which can be selected to address local needs enabling Maths Hubs to offer a coherent SKTM offer. |

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| **E. Project Co-ordination Team (PCT)** |
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| **F. Cohort Leads** |
| Primary: An accredited PD Lead, with an understanding of the principles of Teaching for Mastery preferably with direct involvement in the NCETM TfM programmeEarly Years: An accredited EY PD Lead, or an experienced EY practitioner who is participating in the PD Lead programme in 19/20 |

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| **G. Participants in the Programmes** |
| This NCP is aimed at individuals or groups of individuals who would like to develop their specialist knowledge for teaching mathematics. This may be particularly relevant for teachers/TAs new to teaching mathematics. It is expected that hubs aim to have an average of at least 15 participants for each programme cohort. These participants do not count towards the wider quota/target for numbers of Work Group schools. |

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| **H. Participation Data** |
| This is not a compulsory NCP however hubs should note that they should have a coherent EY offer and may choose the EY phase of this NCP to contribute to that offer. Also, at the first phase of planning hubs can plan up to no more than five cohorts across the different types of programme (e.g. 2 EY, 2 Primary Teacher, 1 TA) |

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| **I. NCP National Workshops, Webinars and Online Communities** |
| There will be three NCP national one day Cohort Lead workshops. Travel expenses are claimable from the MHNF. |

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| **J. Finances** |
| Following discussions at the Maths Hubs Council, which were inconclusive, and further discussions with DfE officials the approach to financing these programmes has now been agreed. Each programme run by a Maths Hub will draw down a unit grant of £3500. (Note – it is expected that hubs aim to have an average of at least 15 participants on their programmes). The issue of charging remains unresolved with many hubs objecting on principle. So, at this point, which the Early Career Framework policies continue to develop, Maths Hubs will not be able to charge for these programmes. |

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| **K. Reflection, evaluation and reports** |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Cohort Leads and the PCT. |

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| **Title** | **Developing working partnership with ITT providers** |
| **Phase** | All | **Strategic priority** |  |
| **Project year** | 2nd | **Project code** | NCP19-25 |
| **Required participation** | Yes | **Type** | Work Group |

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| **A. Project summary** |
| All Maths Hubs will run this Work Group in 2019/20. The aim is to further develop the work already being carried out in many Maths Hubs who are working with local ITT providers. This will ensure that ITT providers and local hubs are able to work together to establish what the needs are in the training of the future teaching workforce and how hubs can work in partnership with ITT to support the development of mathematics teaching across the training period, as they enter the profession and beyond.In each hub there will be a Work Group Lead who is already a member of the ITT community. The WG lead will be pivotal in facilitating the development of a network of ITT providers and the hub. It is expected that this group will collaborate to identify how they can mutually support each other to ensure trainee teachers are well equipped to understand the principles of best practice in the learning and teaching of mathematics in their relevant phase and are aware of how to access further professional development in mathematics as they enter the profession.By the end of June 2020, we would expect all hubs to have a full list of all their ITT providers, (ITE, SCITT, School Direct etc.), to know how future teachers are prepared for the teaching of mathematics and for local ITT providers to be aware of / involved with the wider work of the hub. |

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| **B. Project purpose** |
| The purpose of this project is to support the development of sustained work undertaken in establishing and maintaining a network of best practice between ITT providers and local hubs. The Work Group Lead is a facilitator of the network that will be responsive to ensuring hubs and ITT providers are communicating and sharing best practice. E.g. trainees accessing Primary / Secondary Mastery Specialists, participating in a Teacher Research Group, HEI specialists supporting hub developmental work, research links shared etc. |

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| **C. Work Group outcomes (for typical WGs within the project)**  |
| **Professional learning**For ITT providers: an understanding of the work of their local Maths Hub and the National Maths Hubs Network, including Teaching for Mastery (TfM), and the potential impact on their trainees.For Maths Hubs: to ensure that there is the opportunity for collaboration and professional discussion of practices across ITT providers |
| **Practice development**For ITT providers: to review their practice and programme planning in collaboration with the work of their local Maths Hub and/or pedagogy related to TfM.For Maths Hubs: to learn from the research informed practice and expert knowledge of experienced ITT providers, and review how that informs the focus of Work Groups. |
| **Institutional policies and approaches**For ITT providers: a greater awareness of the expectations in schools that are adopting a teaching for mastery approach will be evidenced in ITT providers’ planningFor Maths Hubs: a greater awareness of the knowledge and expertise to inform the future work of the hub |

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| **D. Work Group models** |
| This WG will continue to evolve and learn from examples across the hubs. Currently it is expected that there would be a flexible approach within hubs. Possible models may include:* local network meetings that lead to additional partnership work
* conferences for ITT/NQT
* Maths Hubs representatives talking to trainees for whole or part days about TfM and the work of Maths Hubs
* Maths Hubs involved in planning or delivering the maths specific content of the ITT
* conferences for ITE Providers (it is expected that the NCETM will organise and run these for EY / Primary & Secondary across the country – locations TBC but expected to be in areas that have proved trickier to engage)
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| **E. Project Co-ordination Team (PCT)**  |
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| **F. Work Group Leads** |
| The Work Group Lead should be a member of the ITT community with current responsibility for planning and/or delivering programmes for trainee teachers. There are three NCP national workshops for WGLs. |

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| **G. Participants in the Work Groups** |
| Participants in this WG should be directly involved in ITT with a responsibility for mathematics. It is expected that these participants will represent the various ITT providers across the hub region so may include HEI, SCITT, School Direct and represent different phases of ITT including EYTS, QTS (Primary and Secondary), and post-16.WG leads may decide to meet with phases / sectors as smaller groups dependent upon what they decide best meets the needs of the WG.  |

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| **H. Participation Data** |
| All hubs are required to participate in this NCP. The WG size will vary according to hub as it is dependent on the number of ITT providers in each locality.An initial database of ITT providers sourced from a Government list indicates 242 providers, these are not spread evenly geographically.  There is an Excel spreadsheet that indicates the providers in each locality (<https://www.ncetm.org.uk/community/19386>)  |

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| **I. NCP National Workshops, Webinars and Online Communities**  |
| There will be 3 national workshops linked to this project. These will be held centrally in Birmingham:* October 2019
* Jan 2020
* July 2020

There will be a number of central conferences for ITT providers, in addition to the national workshops for WG Leads, organised by NCETM in partnership with hubs. It is expected that these will be for Early Years, Primary and SecondaryTravel expenses for workshop attendance should be paid by MHNFThere will be an online community to share the materials from workshops and to share best practice.  |

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| **J. Finances** |
| Maths Hubs will receive a unit grant of £4200 for each Work Group they lead. |

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| **K. Reflection, evaluation and reports**  |
| A Lead Evaluator will be assigned to this project who will co-ordinate the evaluation strategy, working alongside the PCT. Evaluation will require input from participants, Work Group Leads and the PCT. |