


## Boolean Secondary PD Opportunities 2021/22

The Boolean Maths Hub provides continuous and collaborative professional development opportunities, fully funded by the DfE, in order to develop the teaching and learning of mathematics and to improve outcomes for all children and young people.

| <b>What are the priorities for your department this year?</b>  | <b>What FREE professional development opportunities are available with Boolean Maths Hub?</b><br><i>(Click the work group title for full details and how to apply)</i>   | <b>What have teachers said about the impact of this work group?</b>   |
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| <p><b>Supporting an Early Career Teacher</b></p> <p>(Subject specific PD for NQT &amp; RQT - teachers in their first two years of teaching)</p>  | <p><b><u>Specialist Knowledge for the Teaching of Mathematics (Secondary Early Career Teachers)</u></b></p> <p>The aim of this community is to work deeply on one area of maths, drawing in the associated pedagogy, and will include lesson analysis and lesson design.</p> <p>This programme will take place across the equivalent of four days.</p>   | <p><i>This is what I needed as an NQT to openly put my issues across and not just find a solution from one person but to <b>share good practice</b>.</i></p> <p><i>Alongside improving my own practice and outcomes for my pupils, I will be able to disseminate the knowledge across my department, so that we can <b>work collectively to improve our pedagogical content knowledge</b> moving forward.</i></p> |
| <p><b>Improving the transition from Primary to Secondary</b></p> <p>Understanding how best to prioritise key aspects of the curriculum to ensure pupils are ready to progress from Key Stage 2 to Key Stage 3.</p> | <p><b><u>Years 5-8 Continuity Work Group</u></b></p> <p>This project aims to strengthen the transition from primary to secondary school by focussing on curriculum and pedagogical continuity over Years 5 to 8. Following the disruption to education caused by the Covid crisis, this transition is more crucial than ever.</p> <p>There will be the equivalent of three days of face-to-face (or online) Work Group meetings, with school-based tasks for participants to complete and reflect upon between each meeting.</p> | <p><i>It was <b>helpful to look at the curriculum in year 6 and year 7</b> and use this as next steps or just give a better perspective.</i></p> <p><i>I have a <b>better understanding</b> of the curriculum in up-coming years especially secondary in order to 'tee up' the children for success down the road.</i></p>  |
| <p><b>Developing a well-led, high-performing department and an understanding of Teaching for Mastery</b></p>   | <p><b><u>Secondary TfM Development Work Group</u></b></p> <p>High quality, professional development through collaborative working and bespoke support for individual departments.</p> <ul style="list-style-type: none"> <li>collaborate with colleagues from other local schools to share best practice</li> </ul>  | <p><i>Having a member of staff, from the maths department, involved in the mastery development workgroup has <b>greatly improved the teaching and learning</b> across the department and across the MAT.</i></p>  |

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| <p>The Five Big Ideas of Teaching for Mastery:</p> <ul style="list-style-type: none"> <li>- Coherence</li> <li>- Variation</li> <li>- Representation &amp; Structure</li> <li>- Mathematical Thinking</li> <li>- Fluency</li> </ul> | <ul style="list-style-type: none"> <li>• get individual school support and guidance from a local leader of maths education (LLME)</li> <li>• take away ideas to help your students become more confident mathematicians, ready to tackle GCSEs and A levels</li> <li>• introduce and embed teaching for mastery in your classroom and department</li> </ul> <p>Two teachers will become 'Mastery Advocates' and will work closely with a Secondary Mastery Specialist through termly collaborative Work Group meetings and bespoke school visit support.</p> <p><b>£2000 participation grant for schools.</b></p>   | <p><i>I have a clearer picture of what <b>mastery</b> is...and what it is not.</i></p> <p><i>My lessons are more geared towards using <b>small steps, choosing examples carefully and uncovering misconceptions.</b></i></p> <p><i>The mastery specialist has <b>modelled how to support others</b> in developing their practice by supporting us adeptly.</i></p>  |
| <p><b>Developing reasoning and problem-solving strategies for GCSE</b></p>  | <p><u><b>Mathematical Thinking for GCSE Work Group</b></u></p> <p>The focus of this project is to address the reasoning and problem-solving elements of the GCSE that exam boards report as often poorly answered.</p> <p>In collaboration with other teachers, attendees will explore how:</p> <ul style="list-style-type: none"> <li>• different types of tasks can allow students to develop their mathematical thinking for all attainment levels</li> <li>• modelling mathematical thinking can help students develop internal questioning skills that will help them tackle unfamiliar exam questions</li> <li>• the use of specific teaching and learning strategies can support and encourage mathematical thinking in the classroom</li> </ul> <p>The attendees will use the professional learning to lead development of mathematical thinking within their own department</p> <p>The Work Group is structured around four workshops (equivalent of three days' time) with school-based tasks for participants to complete and reflect upon between each session.</p> | <p><i>Bringing back the passion!! .....I have used strategies with a low set which I won't have had the confidence to before and they didn't mess around like I thought they would.</i></p> <p><i>I trialed a few different strategies.... I found the students were a lot <b>more resilient</b> and willing to have a go.</i></p> <p><i>It was great to see students of varying ability levels <b>exploring ideas</b> and actually creating their own.</i></p> <p><i>I could hear them all (the students) having these lovely conversations and actually <b>thinking</b> about what they needed to work out.</i></p> |
| <p><b>Developing subject knowledge for a non-specialist teacher</b></p>   | <p><u><b>Specialist Knowledge for Teaching Mathematics (Secondary Non-specialist Teachers)</b></u></p> <p>The programme will support non-specialist teachers in developing specialist knowledge (content and pedagogical) for teaching maths, thus enabling them to understand, teach and support pupils in the maths classroom.</p> <ul style="list-style-type: none"> <li>• Six days, or the equivalent, of face-to-face or online expert input, plus further local support</li> <li>• The opportunity to be part of a vibrant and supportive online community</li> <li>• Access to high quality resources.</li> </ul>  | <p><i>By the end of the training, I gained more than I expected. My <b>confidence</b> in teaching a variety of topics has increased. I can now recognise <b>links between different topics</b> as well as help pupils think outside the box rather than completing tasks mechanically using an algorithm. I now feel more <b>empowered</b> to teach key concepts in interesting ways.</i></p> <p><i>My degree is not in Maths so I found this very useful in not just <b>enhancing my subject knowledge</b> but</i></p>   |

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|  |  | <i>also in providing me with the needed support in lesson ideas and <b>teaching strategies</b>. Being a small group, we all were able to easily and comfortably address our concerns as all the feedback was given in a <b>professional</b> and <b>non-judgemental</b> manner.</i> |
| <b>Developing subject leadership</b>   | <p><b><u>Secondary Subject Leadership</u></b></p> <p>Focused support for secondary heads of department/subject leaders, to enable them to better understand and implement teaching for mastery approaches across their department, and to develop in their role as leaders of both pupil learning and teacher professional development.</p> <p>Collaborative work group sessions, within and between departments, exploring common themes, with bespoke adjustments appropriate to local contexts and needs.</p> <p>This programme will take place across the equivalent of four days.</p>   | <p>These are new work groups for 2021-22.</p>  |
|  | <p><b><u>Secondary Maths MAT Leads: leading and developing mathematics teaching</u></b></p> <p>Focused support for those who lead mathematics across multiple schools within a MAT to enable them to better understand and develop effective maths pedagogy approaches across those schools.</p> <p>The project will also support participants to develop their role as a leader of system change, curriculum change, and teacher professional development.</p> <p>This is a centrally led programme offered nationally.</p> <ul style="list-style-type: none"> <li>• three one-day national/regional workshops</li> <li>• online community</li> <li>• participants carrying out and evaluating their own improvement initiatives, both in and between sessions.</li> </ul> <p><b>£800 participation grant + travel expenses</b></p> |  |
| <b>Improving teaching and learning at Post-16</b> <ul style="list-style-type: none"> <li>- Core maths</li> <li>- A Level Pedagogy</li> <li>- Covid-recovery</li> </ul> | <p><b><u>A Level Pedagogy</u></b></p> <p>National support for the effective development of pedagogy in the teaching of A level Mathematics to support Covid recovery, to enhance the quality of teaching and the conceptual understanding of students, and the development of participants as leaders of A level teaching professional development in their own school or college.</p>   | <p><i>I got so much out of today's session and will be <b>sharing with my colleagues</b> tomorrow.</i></p> <p><i>We had a really good discussion about <b>cognitive load</b> in our department meeting.</i></p>  |

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| <p>Our P16 work groups are in provided in partnership with the AMSP</p>  <p>Advanced Mathematics Support Programme</p> | <p>The aim is to develop and sustain local communities of practice involving collaboration between teachers in developing pedagogy in their teaching of A level Mathematics.</p> <p>This project will have three days (or equivalent) of direct meeting time. The work group will be designed to meet the specific needs of the range of experience of participants.</p>   | <p><i>It is so good to <b>share ideas with colleagues from other schools and colleges</b> – we will definitely be using some of these <b>resources</b> next year.</i></p> |
|   | <p><u><b>New to Teaching Core Maths</b></u></p> <p>Supporting teachers, who are new to teaching Core Maths, in developing specialist knowledge for teaching Core Maths and to increase their confidence in teaching the course.</p> <p>The programme has a primary focus on Core Maths subject knowledge and pedagogy and will be based on these six key themes which are common to all the Core Maths specifications:</p> <ul style="list-style-type: none"> <li>• Using contextualised problem-solving</li> <li>• Applying Fermi estimation and modelling</li> <li>• Developing critical analysis</li> <li>• Making sense of finance</li> <li>• Using the pre-release materials</li> <li>• Exploring statistics.</li> </ul> <p>Technology and online teaching will be underlying themes throughout the programme. There will be three days (or equivalent) of direct meeting time.</p> | <p>This is a new work group for 2021-22.</p>  |

Further information can be found on our website [www.booleanmathshub.org.uk](http://www.booleanmathshub.org.uk).

Please contact [booleanmathshub@clf.cabot.ac.uk](mailto:booleanmathshub@clf.cabot.ac.uk) with any questions or queries.