Mathematics
Mastery

Mathematics Mastery Secondary

Working hand in hand with schools to deliver immediate impact and sustained subject excellence



Ark Curriculum+

Hello!

Welcome to Mathematics Mastery Secondary.

At Ark Curriculum Plus, we believe all students deserve access to a rich, ambitious maths curriculum that helps them succeed, whatever their starting point.

As the next phase of curriculum reform takes shape, schools using Mathematics Mastery Secondary will be well placed to respond. The programme's coherent sequencing, deep mathematical thinking, emphasis on oracy, reasoning and problem-solving, underpinned by an inclusion-first approach, provide strong foundations for the changes ahead.

Supporting this is a subject excellence programme that provides a well-sequenced and ambitious curriculum, aligned with expert implementation support from subject specialists. Teacher knowledge and autonomy remain at the heart of the approach, equipping teachers with the subject knowledge, powerful pedagogies and integrated assessment insights they need to tailor learning to their students' needs.

The programme repurposes teachers' time, enabling them to focus on the things that make great teaching and learning: co-planning, intellectual preparation, adaptive teaching and responsive use of formative assessment.

Recognised as an EEF Promising Programme, Mathematics Mastery Secondary is informed by a wide research base and evidence of impact. It is tested every day by teachers and subject leaders in Ark schools and continually refined through feedback from our partner schools.

How does it work?

Success starts with confident teachers consistently delivering brilliant maths lessons. That's why you'll have a dedicated subject expert guiding you through our 5-Step Improvement Process, alongside face-to-face induction, flexible CPD and immediate access to practical planning, teaching and assessment resources.

We partner with hundreds of schools, including some of the largest MATs in the country, united by a shared mission to help all students make progress in mathematics and enjoy it.

I hope you will join us!

RACHEL SMEDLEY
HEAD OF MATHEMATICS SECONDARY
ARK CURRICULUM PLUS



Put simply, what we do works!

Independent evidence, student results and feedback from partner schools shows our programme works.

Since developing Mathematics Mastery Secondary in 2013, feedback and insights from partner schools have enabled us to continually improve the programme. This has led to proven impact, with the Education Endowment Fund finding that after one year on the programme students made one month of additional progress. Mathematics Mastery is the only full secondary maths curriculum programme in the EEF Promising Programmes.

OUR MASTERY LEADS AGREED:

100%

Having a **dedicated Development Lead** has made implementation easier

82%

Students taught by Early Career Teachers or non-specialists **benefit from higher quality teaching**

82%

The programme's CPD has **strengthened their classroom practice**

WHAT PEOPLE VALUE MOST ABOUT THE PROGRAMME

Helpful in encouraging deep thinking, especially for lower prior attainers."

SENIOR LEADER
OSBORNE CO-OPERATIVE ACADEMY TRUST

The resources help teachers to teach maths content in a way that supports an interconnected understanding of maths, with problem solving as a key component."

MIDDLE LEADER
LIFT SCHOOLS

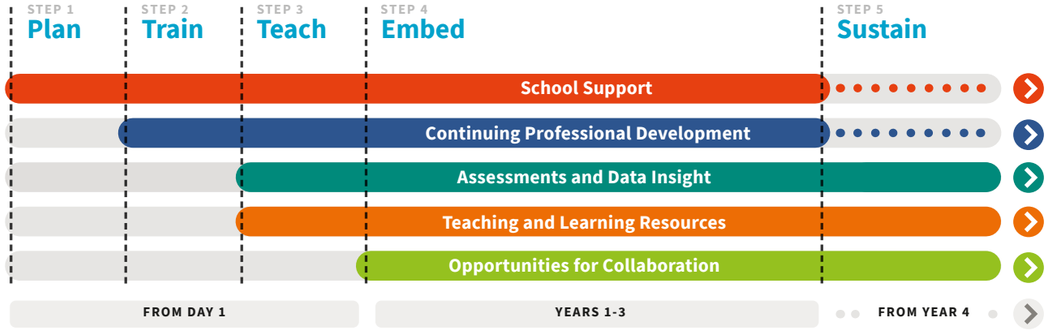


Framework for success

The 2021 EEF School Planning Guide* highlighted that 'the best available evidence indicates that **great teaching** is the **most important lever** schools have to **improve outcomes** for their students'.

To achieve powerful teaching that changes lives, teachers have told us they need to have strong subject knowledge, the best evidence-based pedagogies, rigorous assessment and effective planning, all working together.

Our Subject Excellence Programmes follow the AC+ 5-Step Improvement Process, which is based on over a decade's experience of transforming results in one of the most respected MATs and hundreds of schools nationwide. Improvement is a journey – that's why you will have a dedicated subject expert to guide you step by step, helping you achieve and sustain excellence.



STEP 1
Plan

You will receive a structured **diagnostic call** and your AC+ subject expert will help you to prepare an improvement plan to identify areas of focus to achieve the greatest impact with all your teachers.

OUTCOMES
SLT confidence | Clear plan agreed

STEP 2
Train

Your subject leads and teachers will receive face-to-face **induction training** and cutting-edge **online training**, getting everyone engaged and immediately building confidence.

OUTCOMES
Teacher confidence

STEP 3
Teach

Curriculum-integrated **subject-specific CPD**, **planning and teaching resources**, **assessments** and precise **diagnostic data** supports your teachers to repurpose their time into higher value activities. The best practice resources strengthen the quality of teaching and provide consistency across your school.

OUTCOMES
Consistency | Repurposed time | Ambitious curriculum

STEP 4
Embed

Once the foundations are set, we work with you to attain excellence in subject teaching. We provide **in-school leadership and teacher coaching** and offer support through **school visits**, **joint learning walks** and an **intensive programme leadership course**. Teachers access a **programme of subject pedagogy** and **on-demand videos**. This approach ensures outstanding subject teaching in your school.

OUTCOMES
Pupil progress | Pedagogical expertise

STEP 5
Sustain

Longer term, we collaborate to build sustained impact. **Induction** and **CPD** support new staff. Regular **teaching resources** and **CPD** updates keep your offerings current and informed. **Benchmarked assessments** provide ongoing confidence. You'll remain part of a **network** of similar schools, staying up-to-date on new research. Together, we'll annually evaluate programme success, maintaining maximum impact for your pupils.

OUTCOMES
Consistency | Pedagogical expertise | Pupil progress

** Access the 2021 EEF School Planning Guide: https://educationendowmentfoundation.org.uk/news/introducing-eef-school-planning-guide-2020-21*

A fully integrated programme

All the components of Mathematics Mastery Secondary work together to ensure your school, staff and students get real impact from the evidence-led subject excellence programme.



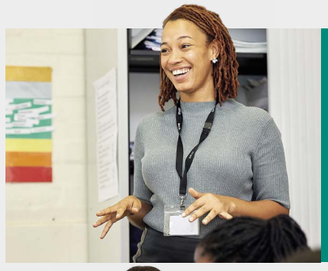
SCHOOL SUPPORT

From day one, your dedicated subject expert collaborates with teachers to create a tailored improvement plan for your school. They'll then support you to success through the five steps over multiple years.



CONTINUING PROFESSIONAL DEVELOPMENT

Teachers and leaders get immediately actionable CPD at point of need. It supports subject knowledge, pedagogic delivery, curriculum design and more. Flexibility is key, with online or in-person sessions.



ASSESSMENTS AND DATA INSIGHT

Formative assessments for data-led instruction are available in each lesson, unit, term and year. Standardised assessments, directly linked to the curriculum, identify pupil learning gaps for targeted intervention.



TEACHING AND LEARNING RESOURCES

Curriculum-integrated planning tools and resources ensure successful programme delivery. From day one, you access carefully sequenced support for consistent, impactful, engaging lessons, built on best-practice pedagogies.



OPPORTUNITIES FOR COLLABORATION

You join a subject teaching network, fostering the exchange of best practices. Teachers and leaders connect at in-person CPD events, including induction, creating a community of practice.

Dedicated school support

From day one, you'll have a dedicated Mathematics Mastery Secondary subject expert from our team of educators. They each have a background in or currently teach secondary maths. They'll collaborate with your leaders and teachers to create a tailored improvement plan for your school. Then they'll help **introduce**, **embed** and **sustain** the programme over multiple years, ensuring a lasting positive impact on your students.

M360 diagnostic call

After a thorough review, a diagnostic call with your subject expert helps identify key focus areas for maximum impact to build an improvement plan to achieve these goals consistently with all teachers.

School visits

Your subject expert will regularly visit your school for joint learning walks with the Mastery Lead to observe programme delivery. You can also involve them in co-planning or they can run customised CPD workshops.

Online development sessions

Our regular one-to-one sessions offer coaching and mentoring for your Mastery Lead. These are carefully designed to work for each stage of your implementation journey.

Support for you

Get in touch with your subject expert by phone or email, whenever you need advice or have questions. No query is too small and no problem too big. We are here to help!

Meet some of our team on page 22

"School visits have been very insightful and helped shape what focuses should be prioritised first, how best to implement, and how to support teachers and improve delivery of the curriculum."

JESS BROWN
MASTERY LEAD

CORPUS CHRISTI CATHOLIC COLLEGE



100%

of Mastery Leads say that their AC+ subject expert **provides tailored, responsive support** that meets the specific needs of their school.

Actionable CPD
at point of need

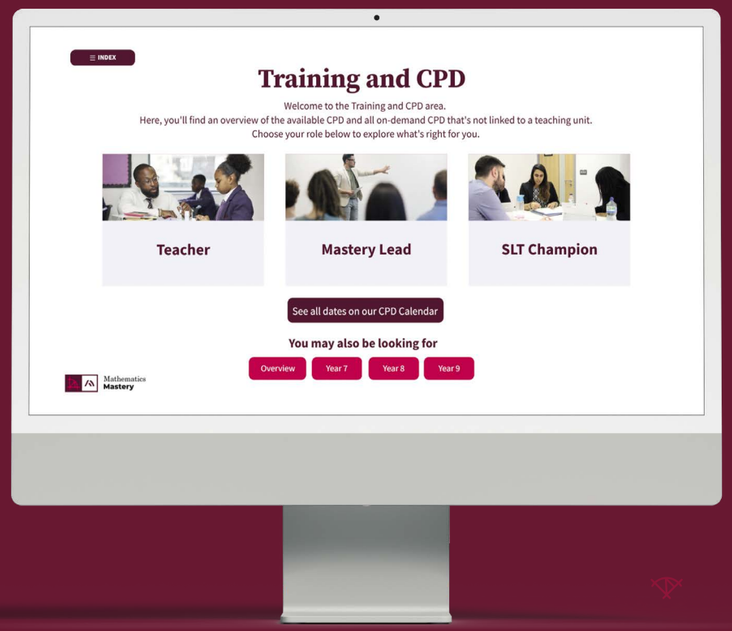
CPD that is relevant and immediately actionable

Mathematics Mastery Secondary provides targeted continuing professional development that's **immediately actionable**, covering subject knowledge, pedagogy, curriculum design, assessment and more. It's **flexible** – accessible online just when you need it or through inspiring and practical in-person sessions that foster a **community of practice**.

> *Excellent teaching modules, guided by very supportive trainers / presenters."*
>
> **TEACHER**
> **LIFT SCHOOLS**

92%

of Mastery leads agree that the CPD has strengthened their classroom practice



Induction training

Everyone joining the programme takes part in **induction training**. New schools have **four in-person places**. It's a wonderful way to get your team excited and prepared for their journey on the programme and to set them up for success. Plus, all modules are available on-demand (in our bespoke MyMastery platform) to revisit when required.

'Teaching Mastery' badging

Teachers enjoy online, termly **CPD that builds subject and pedagogical expertise**. For each completed module they gain a badge – a great way to evidence their professional development as steps towards further qualifications like NPQs.



Termly 'Preparing to Teach' webinars

Strengthening teachers' **topic-specific subject knowledge** for the upcoming term, our webinars support teachers in effective programme delivery. Breakouts focus on common challenges within similar teaching contexts and year groups. It's a chance to share good practice and collaborate with other partner schools.

Leadership certification

Your Mastery Lead receives termly online CPD and ongoing mentoring from their subject expert. They will earn the ***Ark Curriculum Plus Certificate in Programme Leadership***, providing recognition for both them and your school.



In-school visits

Your subject expert can deliver some of the above CPD sessions during one of their visits, providing more **bespoke training** to meet your school needs.

> *The part I most value about the CPD is the chance to consider different ways of approaching the teaching of mathematical ideas."*
>
> **DAN JONES**
> LEAD TEACHER
>
> **CO-OP ACADEMY FLORENCE MACWILLIAMS**

> *I value the opportunity to discuss the curriculum and how to best use resources, or the impact other schools have had on delivering the curriculum if they are further through the journey than we are as a school."*
>
> **JESS BROWN**
> MASTERY LEAD
>
> **CORPUS CHRISTI CATHOLIC COLLEGE**

Assessment
to inform teaching

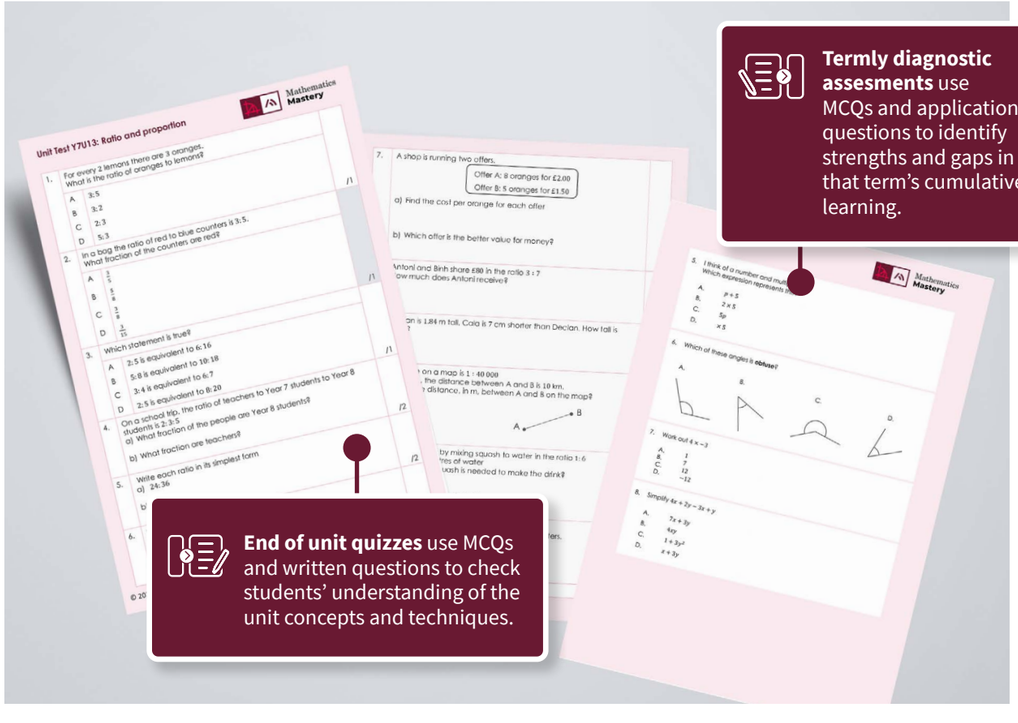
Mathematics Mastery Secondary includes formative assessments within lessons, units, and at the end of term, along with curriculum-aligned standardised assessments. They help pinpoint student learning gaps and guide effective interventions.

Formative assessments

We provide a fully planned and integrated formative assessment model that complements and advances the skills students develop during their Mathematics Mastery lessons.

THIS INCLUDES:

- Regular **Quick checks** to gauge understanding within the lesson.
- An **Exit Ticket** to check learning at the end of each lesson.
- A **Unit quiz** to identify unit learning – and any gaps.
- **Termly diagnostic assessments** to identify gaps in cumulative learning.



Standardised assessments

SMART GRADE

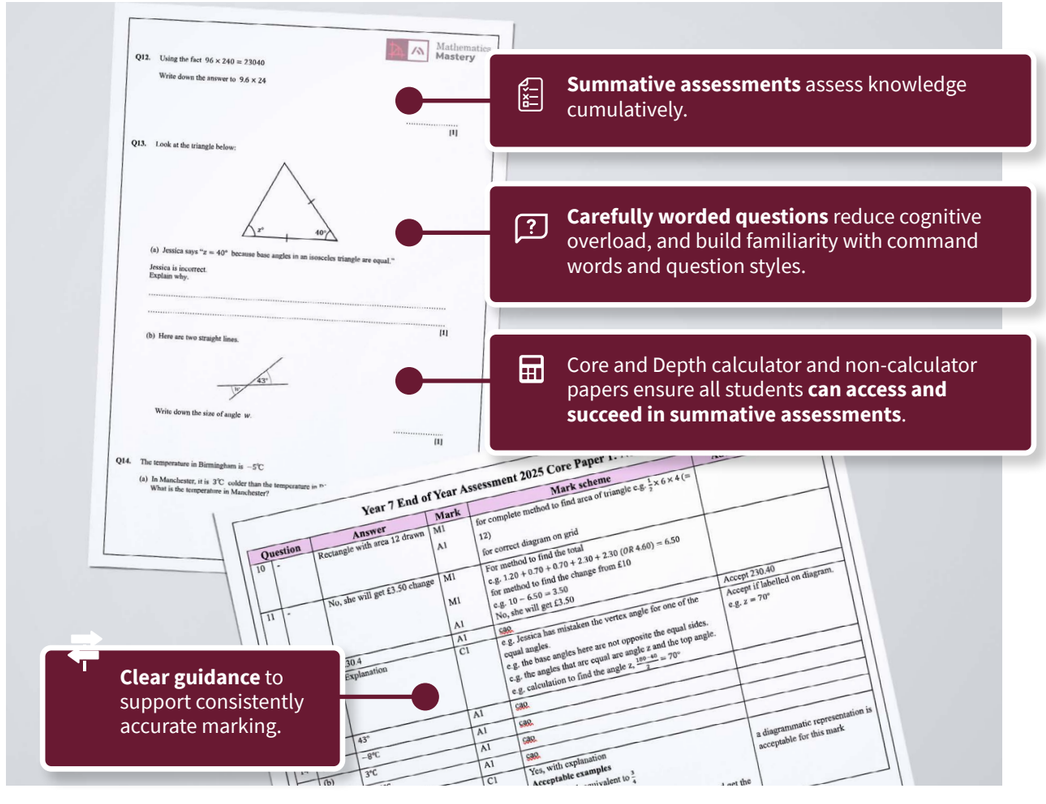
Mathematics Mastery Secondary presents a picture of your school's progress compared to **national data samples**, providing reassurance and a clear view on how and what to improve. You can also compare performance at student, class and trust levels.

Summative assessments on Smartgrade (our partner platform, included free when you join when you join) are **standardised yearly** and provide a large, nationally representative data sample.

UNIQUELY, THE PROGRAMME PROVIDES:

- Standardised assessments using data from **tens of thousands of students,** providing reliable age-related grade boundaries, plus live termly benchmarking to identify strengths and areas for development.
- Fresh Core and Depth, calculator and non-calculator summative assessments every year, with **question-level analysis** for forensic insight into students' strengths and gaps.
- Comparison to **current attainment data** rather than historic – crucial for identifying pandemic-related gaps.

> *"The resources and guidance available are a great support for supply and ECT/ITT staff new to role to support embedding the curriculum."*
>
> **JESS BROWN**
> MASTERY LEAD
> **CORPUS CHRISTI CATHOLIC COLLEGE**



Best-practice teaching and learning resources

We provide all the resources so you can focus on your students!

Built on the five Mathematics Mastery pillars – **high expectations, deep understanding, mathematical thinking, communication**, and **practice** – the curriculum is carefully sequenced with clear, explicit learning objectives. The slides support teachers of all levels of experience, and allow lower prior attaining students to access the lessons, with lots of opportunities for student practice. From day one, your staff will have the support to deliver **consistent, impactful, engaging and pedagogically strong** mathematics lessons, sequenced to support students' development and progress.

THE TEACHING AND LEARNING RESOURCES:

- Promote conceptual and procedural understanding in flexible, practical ways, making maths success accessible to everyone.
- Provide structure and support so that you own the curriculum, with teacher guidance and at-a-glance planning tools.
- Are created with early career teachers (ECTs), non-specialists and specialists in mind, giving the relevant level of guidance for each.
- Include practical tips to adapt your delivery to suit your students' and school's needs.

WHAT'S INCLUDED?

Planning

Scheme of Work

Curriculum map and long term plan

KS3 progression map

Co-planning guidance

Lesson overviews

Teaching

Student booklets

Lesson slides

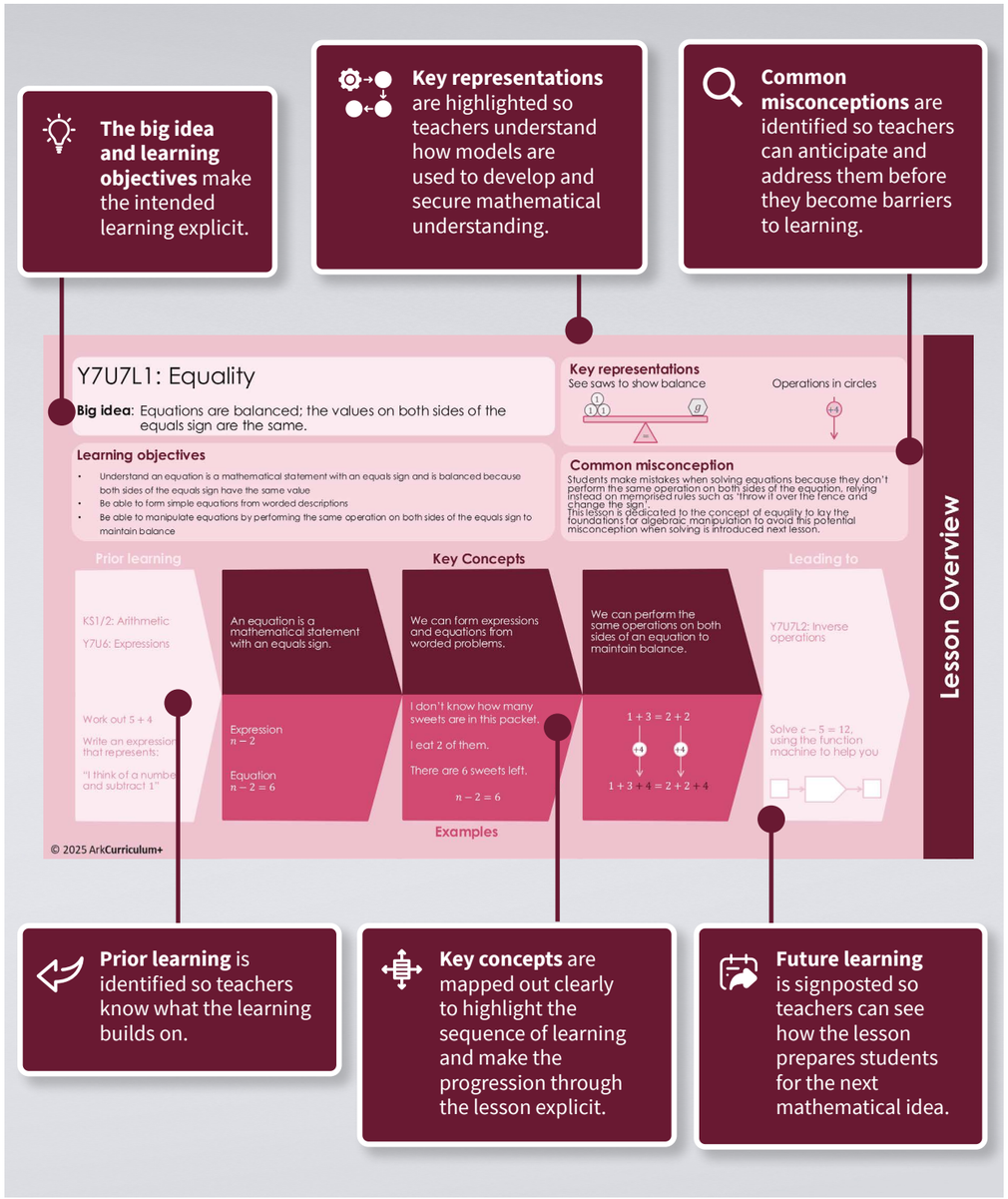
Unit quizzes

Click here to access a free **Programme Preview** and see examples of these resources.



Lesson overview

Designed to support expert teaching, our lesson overviews put the key pedagogical information teachers need in one place. They identify the lesson's big idea, key concepts, representations and common misconceptions, helping teachers prepare quickly, teach with confidence and understand how learning develops across the curriculum.

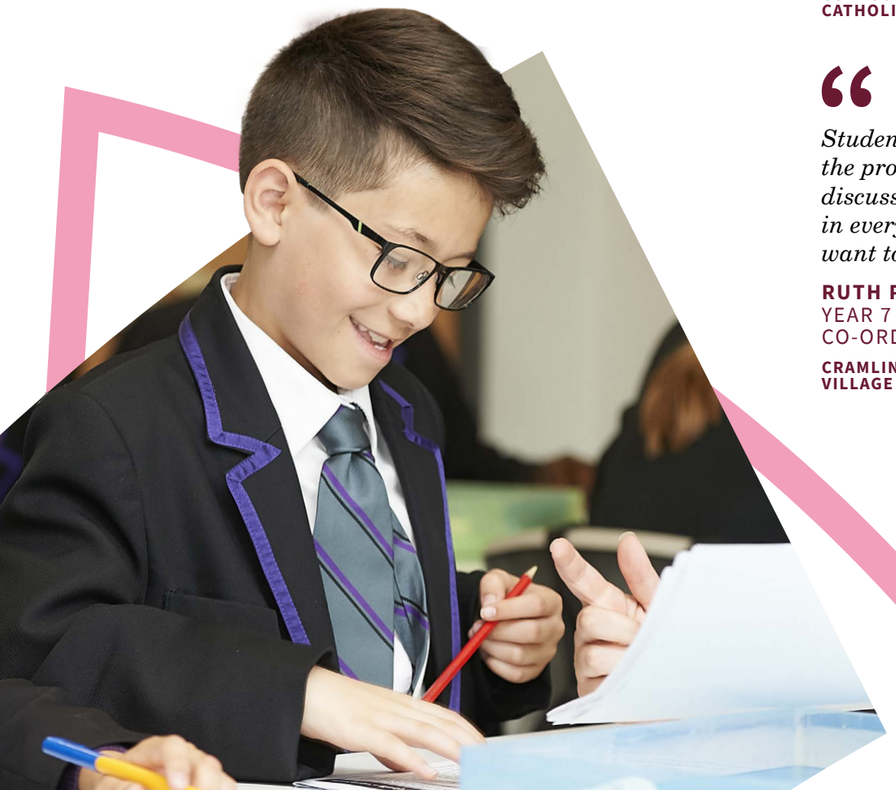


Lesson resources

The Mathematics Mastery lesson structure is unique and allows teachers to take control of the learning, based on what is happening in the classroom that day. Assessment for learning opportunities are threaded throughout, constantly building upon what students are learning at every stage in the lesson.

Do Now → Retrieve → Key learning and model → Check for Understanding → Independent activities → Talk Task → Exit Ticket

Fully editable slide decks are provided for each lesson, including notes and guidance to support teaching and ownership. All resources are created to be Google-friendly. Our pedagogical principles, the five pillars of Maths Mastery (see p19), are embedded in each lesson, building accessible best practice. Mathematical language and communication is elevated through Talk Tasks in every lesson, helping students to develop the skills to interpret, write, and speak like mathematicians.



My students relish the level of depth and challenge in their maths lessons."

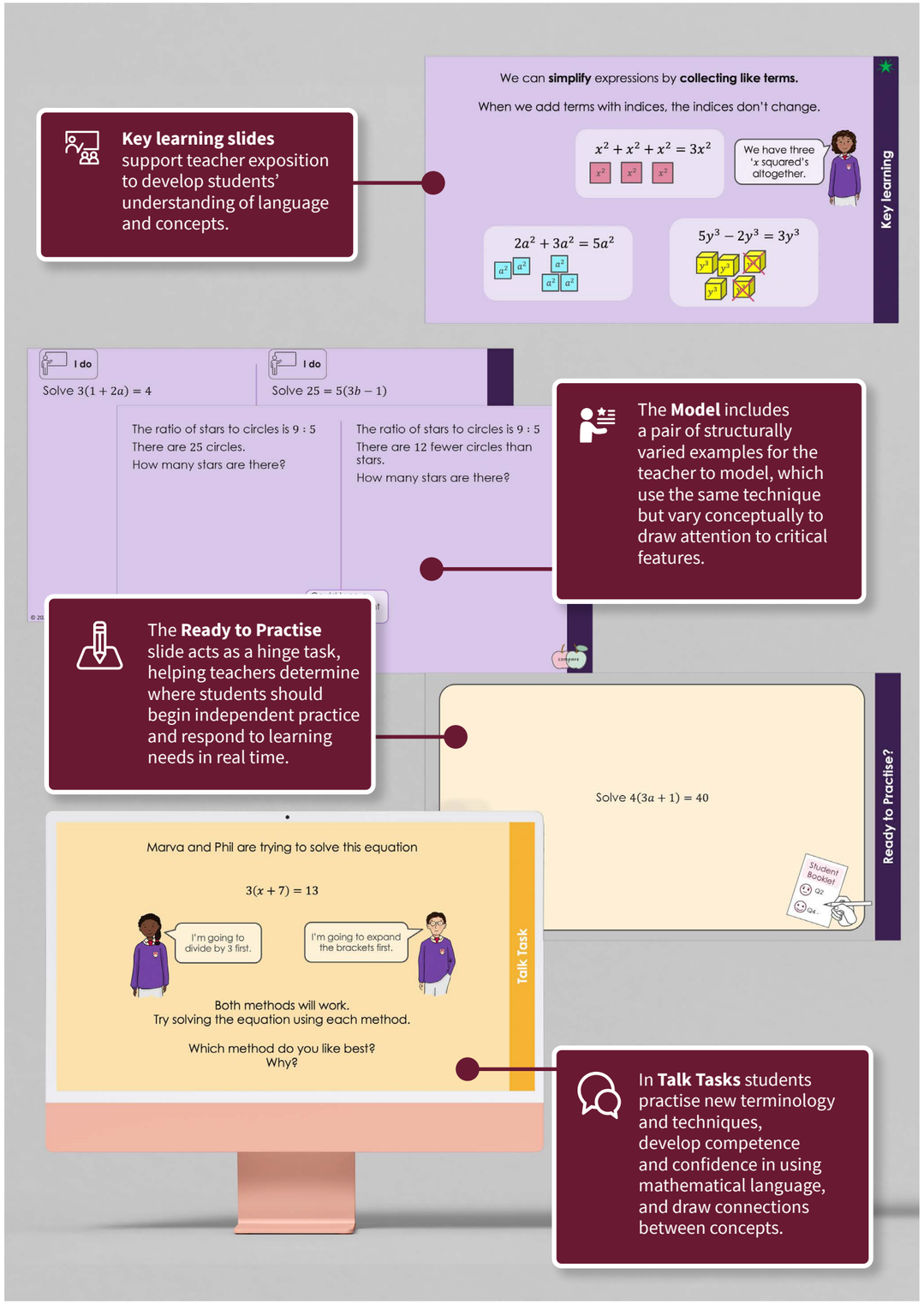
BECKY DONALDSON
HEAD OF MATHS
ARK BOLINGBROKE ACADEMY

Students have improved their ability to articulate what they are doing and make rich connections between topics, supporting improvement of problem solving and reasoning within lessons."

JESS BROWN
MASTERY LEAD
CORPUS CHRISTI CATHOLIC COLLEGE

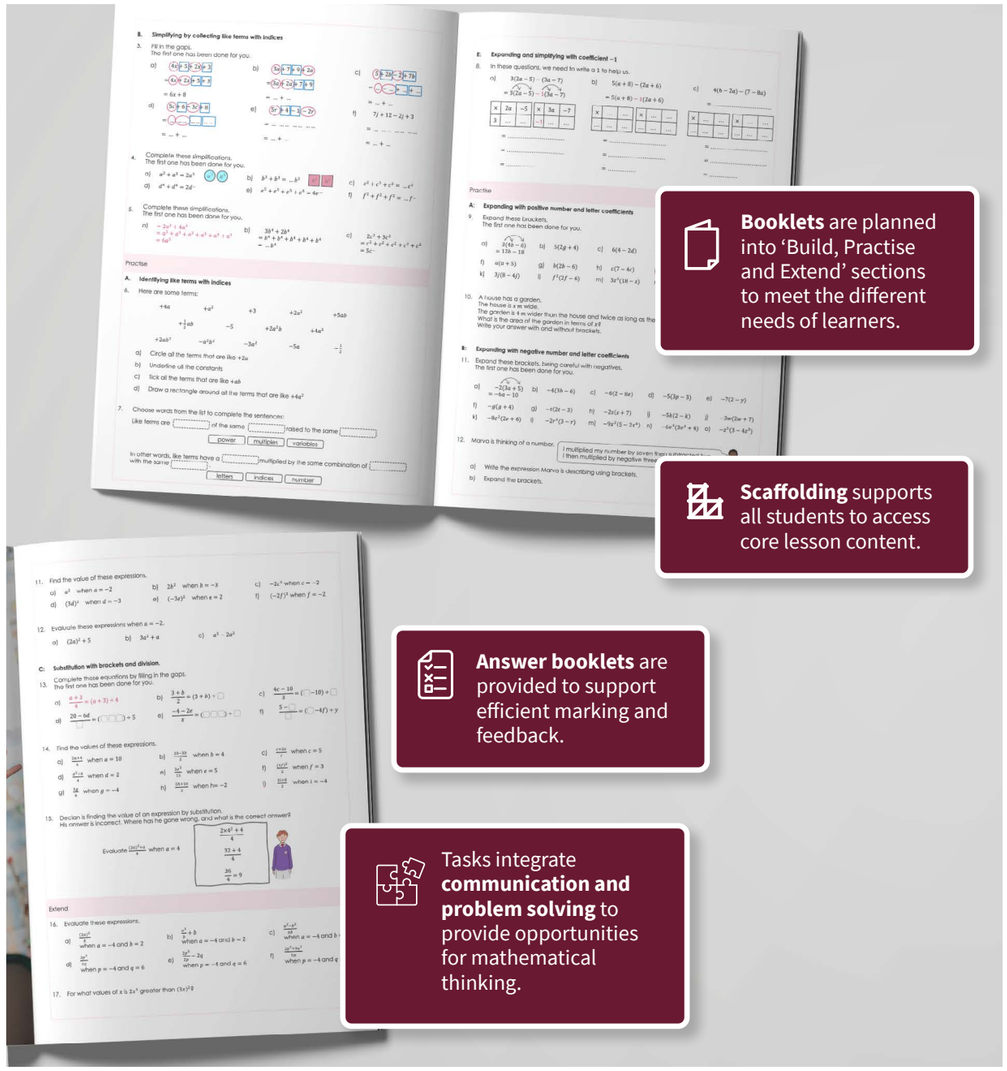
Students really seem to enjoy the problem-solving and discussions we now have in every lesson – they really want to put their ideas in."

RUTH PATRICK
YEAR 7 MATHEMATICS CO-ORDINATOR
CRAMLINGTON LEARNING VILLAGE



Student booklets

A **student booklet** is provided for each unit. These are to support student progress with essential tasks and activities. Every lesson includes independent work with a Build, Practise and Extend structure, enabling students to begin at the most appropriate starting point for their understanding. This ensures extra consolidation where needed while providing greater challenge for those ready to progress further.



Booklets are planned into 'Build, Practise and Extend' sections to meet the different needs of learners.

Scaffolding supports all students to access core lesson content.

Answer booklets are provided to support efficient marking and feedback.

Tasks integrate **communication and problem solving** to provide opportunities for mathematical thinking.

"The reason I like [the Build section] so much is that when you have independent practice, everyone can start regardless of how much they've understood which allows you to get around and circulate."

CATHERINE TIBBETTS ASSISTANT PRINCIPAL
ARK BOLINGBROKE ACADEMY



Evidence of impact

Ongoing, evidence-backed impact – so you can be confident it works.

We're an EEF Promising Programme

We are committed to proving the ongoing impact of Mathematics Mastery so that teachers and school leaders can be assured that they are introducing a programme that works.

The Education Endowment Foundation (EEF) promotes Mathematics Mastery Secondary as a Promising Programme, meaning there is strong evidence that it raises attainment. Mathematics Mastery Secondary is the only complete KS3 maths programme recognised in this way by the EEF. Students made an average of **one month of additional progress** after one year on the programme.

In addition, a Fischer Family Trust (FFT) Education Datalab impact report showed that our programme had a positive impact on helping to **lift GCSE maths grades**. It estimated that schools using the programme saw students progress by around one eighth of a grade further.

"The impact has been phenomenal. A year ago, we had students refusing to go to lessons because they didn't understand maths – they found it boring. Now students are actively engaged in their learning."

LEAD MATHS PRACTITIONER
MIDDLESBROUGH

"The biggest impact of all has been on the quality of mathematics produced by my students – at all attainment levels."

BECKY DONALDSON
HEAD OF MATHS
ARK BOLINGBROKE ACADEMY

"The impact on our pupils has been increased confidence in maths and specifically an ability to articulate their understanding of maths which was previously lacking."

DAN JONES
MASTERY LEAD
CO-OP ACADEMY FLORENCE MACWILLIAMS

"Maths Mastery has a number of different conceptual ways of teaching new concepts to students. It's a really useful way to explain a wide range of concepts, and is especially beneficial for low-attaining students."

HEAD OF MATHS
KING SOLOMON ACADEMY

"Results have gone through the roof at GCSE thanks to the mastery approach."

Be inspired
by like-minded schools

Building a community of practice

Partner schools join a **subject teaching network**, sharing best practice and learning from each other. Attend CPD events, including in-person induction training and live termly subject panels, to collaborate with and be inspired by your peers. Your subject expert may connect you with local or similar context schools, helping you gain insights on delivery or simply see Mathematics Mastery Secondary in action in other settings.

Our annual conference

We host an exclusive annual conference to facilitate sharing and learning between our partner schools and offer access to new research and thinking.

With exciting keynote speakers and practical workshops, you leave feeling **reinvigorated, re-energised and ready to continue making a real difference** to your students' achievement and progress.



> *"There are lots of opportunities to network and collaborate with other Mastery Leads and discuss the benefits of different approaches. The Maths Mastery network has been very supportive and open to collaboration."*

DAN JONES
MASTERY LEAD

CO-OP ACADEMY FLORENCE MACWILLIAMS

100%

of those who completed our conference survey agreed that they'd benefitted from attending the conference

Evidence-informed pedagogy

The five pillars of maths mastery are our pedagogical principles, derived from research and practice.

Together they enable all students to build a deep understanding of maths. That's why they are embedded throughout our subject excellence programme, in our school support, CPD, assessment, and planning and teaching resources.

High expectations	High expectations for all students to be fluent, reason mathematically, and solve problems, regardless of attainment.
Deep understanding	A focus on building conceptual understanding by taking small steps, connecting mathematical concepts, and using powerful representations.
Mathematical thinking	Integrated opportunities to reason with and think deeply about mathematical ideas whilst working on tasks and solving problems.
Communication	Embedded opportunities to verbalise, practise, and refine mathematical language and communication skills.
Practice	Time to process, engage in, and grapple with mathematical concepts and techniques independently and collaboratively, in every lesson.

Standing out from the crowd

The impact of our programmes is clear, but in case you need even more reasons to choose AC+...



Collaboratively designed and refined in classrooms

Grown in collaboration with Ark Schools, one of the highest achieving MATs in the UK, we continually learn and co-create together. Plus, we test what really works live in the classroom, to make improvements that will have the biggest positive impact.

Our programmes support disadvantaged students – Ark Schools students make nearly half a grade more progress than their peers nationally. We're here to help give all students the opportunities that an excellent education provides.

Recognised as an educational leader

We're proud to be recognised as a leader in subject improvement. We work with the Education Endowment Foundation, The Brilliant Club and the Fischer Family Trust, whose research provides robust evidence of our impact. We collaborate with the subject associations, along with universities including Cambridge and UCL.

Accountable to you and your students

We are a non-profit organisation. Our full attention is on supporting our partner schools and making our already impressive programmes the best they can be. We're particularly passionate about helping disadvantaged children and we aim to level the playing field, so that every young person can succeed.

The schools that we work with are charged a financial contribution which goes right back into delivering and developing the programmes. We're not accountable to shareholders – we're accountable to you!

Aligned to Ofsted to support your quality of education

The Education Inspection Framework looks for consistency between the intent of schools' curricula and the ways schools empower their team to realise these plans. We have supported many schools to be expertly prepared for an Ofsted visit by:

- Providing a powerfully sequenced, academically ambitious curriculum for all.
- Equipping subject leads with the confidence to articulate their curriculum intent, implementation and impact.
- Delivering immediately actionable teacher CPD at point of need, supporting subject knowledge, pedagogic delivery, curriculum design and more.

Our expert team

Our team have all been teachers or in school leadership roles. They all love working with Mathematics Mastery Secondary schools because they truly believe in the power of research to inform practice and to narrow the attainment gap. We are members of the Chartered College for Teaching, the Mathematical Association and the Association of Teachers of Mathematics – meaning we engage with the latest research and the subject community directly.



Rachel Smedley



Carys Hopkin



Chloë Adams



Kiran Arora



Dr Liz Henning



Nathan Burns



Gemma Brittle-Smith

"The impact of the entire programme lies in the workshops, teacher development, resources, and ensuring that our teachers understand the concepts behind the math and can effectively deliver them to our students."

LEAD MATHS PRACTITIONER

MIDDLESBROUGH

It's easy to join us

Let us know you're interested by email, phone or by booking a meeting.

We'll have a **virtual meeting or a call** with you to learn more about your school.

Agree you're joining the Mathematics Mastery programme with your senior leadership and sign a contract.

Have a **diagnostic call** to agree the plan for your school's implementation.

Attend induction training and receive full support to introduce the programme in your school.

GET IN TOUCH

Speak to a member of our team about **partnering with AC+** today.

partnerships@arkcurriculumplus.org.uk

020 3116 6363

Or book a call online at a time that suits you: calendly.com/ark-curriculum-plus

OUR OTHER SUBJECT EXCELLENCE PROGRAMMES

PRIMARY

- English Mastery
- Geography Mastery
- History Mastery
- Mathematics Mastery
- Science Mastery

SECONDARY

- English Mastery
- Geography Mastery
- Science Mastery

We look forward to partnering with you!

We work with schools like yours nationwide to deliver immediate impact and sustained subject excellence.

So if you're looking for stronger student outcomes, more confident teachers and consistently high-quality teaching and learning across your school… Relax. With Ark Curriculum Plus, you're in safe hands.

Start your journey to subject excellence today!

Click here to access our **Programme Preview** and see more detail of what you get on the programme.

Ark Curriculum Plus

1EdCity, EdCity Walk, London, W12 7TF
020 3116 6363 partnerships@arkcurriculumplus.org.uk