

A Leader's Journey to Maths Mastery

An audit for school leaders and maths specialists who want to implement maths mastery in their school.

Click here to begin!



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Understanding Mastery



If you've decided to make the move to mastery in your school, but you're unsure where to start, you are not the only one! The term 'Mastery' has been used by educational experts in a number of different ways. Before implementing mastery in your school, it is important to get to grips with exactly what mastery is and why it is a great long-term investment.

To help clear up some of the confusion, the National Centre for Excellence in the Teaching of Mathematics (NCETM) is working with maths experts across the country to develop a consistent understanding of the key principles behind maths mastery. At its core, a mastery approach rejects the idea that some children can't do maths. It recognises that by nurturing positive attitudes and building confidence in mathematics, all children can achieve.

**Tip**

Take a look at our Handy Little Guide to Maths Mastery, which explains the NCETM's key principles behind maths mastery.

pearsonprimary.co.uk/supportmastery

Why invest in mastery?

The benefits of teaching for mastery in maths have been recognised repeatedly by the Department for Education (DfE). Teaching for mastery is fundamental to the government's education reforms and is reflected in the 2014 English national curriculum for mathematics. NCETM, DfE and OFSTED have all endorsed this evidence-based approach which is inspired by some of the highest performing jurisdictions in mathematics education (including Shanghai and Singapore). In 2016, the government announced their plans to inject £41 million into mathematics education across more than £8,000 primary schools (half of the number in England).

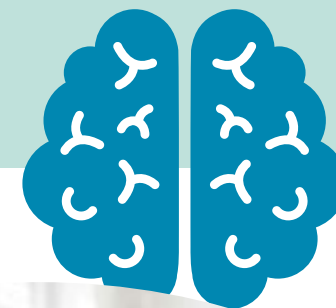
Before rolling mastery out across your school, it's critical to understand why it's important to make this change. Investing in mastery will bring

long-term results in the form of improved outcomes for children. Teaching for mastery rejects the idea that a large proportion of people 'just can't do maths'. It looks to build confidence and to show children that with hard work they can succeed. This new approach raises standards, meaning that more children will leave primary school with a deep and secure understanding of mathematics.

An investment in mastery teaching is also an investment in your staff. Unlike in South-East Asia, primary school teachers in England are rarely maths specialists. Many teachers feel under-confident in teaching mathematics. Deciding to 'switch' to mastery involves a long-term commitment to upskilling teachers, but the training will improve their teaching and, therefore, the outcomes in your school too.

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Changing Mindsets



Once you have decided that investing in mastery is the right decision for your school, it is critical that you bring everyone on board as soon as possible. It is important that the whole school makes the decision to invest in mastery together.

Leadership

For mastery to be successful, buy-in from leadership teams is essential. From Headteachers to school governors and partners, it is important that all your school leaders understand mastery and can see the value in investing in teacher training and learner resources.

Start by presenting the facts, and explaining that the mastery approach is endorsed by the DfE, NCETM and OFSTED. Think about the benefits you think this new approach will have for outcomes in your school. You can also explain that there is funding available to schools across England to implement maths mastery.



2

Changing Mindsets *continued*

The funding landscape

Is funding available for mastery?

Yes! Schools involved with the Maths Hubs programme will benefit from the funding allocated to teacher development and training. In addition, there is direct funding available for schools participating in Teaching for Mastery Work Groups. Schools participating in these groups will receive up to £2000 match funding to invest in high-quality mastery resources. A brand new list of approved resources will be released by the DfE every year for schools to choose from.

How do schools receive funding?

Funding will be cascaded over the next few years. The majority of this funding will pay for primary teachers to be trained as Mastery Specialists, as part of the Maths Hubs programme.

1

Funding is distributed to the Maths Hubs. There are **35 Maths Hubs** across the country in total.



2

Every Maths Hub trains **4 new Mastery Specialists each year** (that's 140 in total per year).



3

Every Mastery Specialist then trains a group of approximately 6 schools per year (840 schools in total per year). These are called Work Groups, or Teacher Research Groups (TRGs).



4

Every school in a Work Group is given **£2000 match funding**.



£2K + £2K = £4K

2

Changing Mindsets *continued*

These facts themselves will be compelling to many leadership teams, but if you face initial resistance, it may be a good idea to reach out to other schools. The launch of the Maths Hubs Programme in 2014 has resulted in the formation of 35 Maths Hubs across England. These are coordinated by the NCETM and each Hub acts as a leadership network involving schools, colleges and other maths education organisations. These Hubs are committed to mastery, and you may find that those involved would be happy to speak to your school leaders. You could also organise a visit to a local school that has already been successful in implementing mastery. This is a good way to introduce mastery to those who are unfamiliar with the concept.

**Tip**

If you're not familiar with the maths hub programme, you can find out more online - including information on how to access your local hub.

www.mathshubs.org.uk



Changing Mindsets *continued*

Teachers

Whilst some teachers will have heard of mastery, and will be enthusiastic from the get go, it is not unusual for others to display a reluctance to change. This is only natural - if teachers feel what they are doing is working, they may find it hard to understand why they need to do things differently. It can help to explore mastery together as a group, unpicking the evidence so that teachers see for themselves that mastery can really work. If some teachers show a real interest in maths mastery, try to work closely with them to build enthusiasm around the school. You could form a group of mastery champions or advocates to help you deliver your plan! It can really help to encourage teachers to talk to local schools so that they can hear first hand how mastery is working in similar schools.



Tip

For those teachers in your school who are really just starting out on the mastery journey, we have created a Handy Little Guide to Maths Mastery, which explains the NCETM's key principles behind maths mastery.

pearsonprimary.co.uk/supportmastery

Parents and Carers

Even at the start of your mastery journey, it's important to think about how you will engage parents and carers along the way. Gaining their support will really help you to achieve consistency and ensure children are supported to achieve their potential. You could send factsheets home, or host an information evening when you have more details to share.



Tip

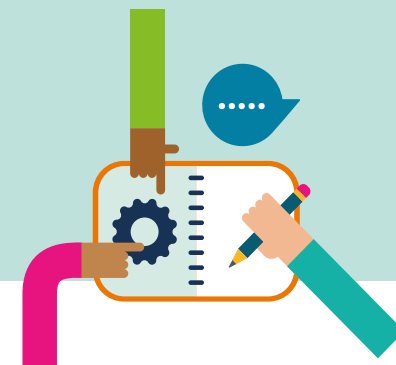
Why not take a look at our Mastery Parent Factsheet? This free resource is a useful tool to introduce parents to mastery!

pearsonprimary.co.uk/supportmastery



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Creating an Action Plan



Once you have buy-in from key stakeholders, you can start thinking about how you are going to implement maths mastery in your school. It may be helpful to conduct an audit to evaluate where you are now in your mastery journey. What is the current level of understanding amongst teachers? Does everyone have the same understanding of mastery? Are teachers already taking steps to implement a mastery approach? What are the challenges you face?

Using the information from your audit, you can create an achievable action plan for your setting with a realistic starting point. Work with other teachers to pick out the top 5 things that could be carried out in each classroom consistently across the school as part of a new whole school mastery approach to maths. Work together to agree the priorities and create an action plan that includes clear objectives, how you will measure success, defined next steps, and an outline of roles and responsibilities.



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Creating an Action Plan *continued*

When developing your plan, keep in mind the following...

Implementation approach

How do you want to begin to implement mastery in your school? It's always a good idea to talk to similar schools or schools in the local area to see what is working for them. Some schools have chosen to implement mastery in every year group from the get go. This approach can create enthusiasm and buy-in among staff, parents and children. However, many schools are starting by implementing mastery in Key Stage 1, and then rolling it out gradually throughout the school. This may be more effective if you find you have significant attainment gaps higher up the school which will make implementing mastery more challenging straight away in Key Stage 2.



Tip

Did you know that Power Maths has been created in partnership with White Rose Maths and is recommended by the DfE!



Resources for teaching

Think about what resources you use now across the school. Are you using consistent resources across the school? Will these still work in the context of whole class teaching? Will they support a coherent and carefully-sequenced learning journey? If not, you may need to consider adapting the resources you use or investing in new products and services.

Whilst some schools will prefer to create teaching materials of their own, many will not have the capacity to do this and will choose to access ready-made resources. There are a number of high-quality products and services available. If you're one of the schools to have received government funded training and support, you will want to consult the DfE's list of approved resources. If you're investing independently, you will need to consider the budget available to you alongside the needs of your school. Think about what is essential: online and interactive materials and or printed resources? Teacher training and support? Speak to the teachers in your school to understand their needs, and try speaking to other schools too to find out what is working well for them.

Ensuring your school has a bank of physical resources to support children's understanding of mathematical structures and representations is crucial too. Which resources do you use and how do you change and develop them over the year groups? Are you managing this consistently as a school?

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Creating an Action Plan *continued*

Growth mindset

At the core of a mastery approach is the belief that everyone can achieve in mathematics. Having a growth mindset is therefore critical to achieving mastery - the two concepts go hand in hand. It is important to actively nurture growth mindsets from an early age. Children's beliefs about their own potential are heavily influenced by the perceptions of their parents, carers and teachers. It is important that your school plan works to make sure that children, teachers and parents really believe everyone can do maths!



Tip

Ensuring that the whole school really believes that all children can achieve in maths is key! Take a look at our Handy Little Guide to Growth Mindset in Maths, which provides handy hints and tips for embedding high expectations throughout your school.



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Teacher Training

Teaching for mastery is likely to be a new concept for many teachers. Teachers following a mastery approach plan carefully, taking into account common misconceptions and difficult learning points. Concepts are built in small, logical steps and are explored through consistent mathematical structures and representations. Because of this, there needs to be consistency in teacher subject and pedagogical knowledge. This makes teacher training more important than ever.



Introducing and developing pedagogy

It's important that teachers really buy-in to mastery from the get-go and that new staff are introduced to the school's chosen approach from day one. There are a number of terms and ideas to get to grips with. Teachers need to not only understand what mastery is, but they also need to grasp the pedagogy and teaching approach sitting behind it. Think about how best to upskill the staff in your school. Upskilling teachers will take time because there are a number of key ideas to explore: growth mindset, whole class teaching, lesson design, procedural fluency and conceptual understanding, same-day intervention and intelligent practice (to name a few).

Make sure that training is practical and that new ideas are followed up so that learning is really embedded within the teaching practice. Whilst you may be able to deliver some training in-house, investing in some targeted continual-professional development may be beneficial. Organisations such as the NCETM, and other private providers, offer a range of courses too. You could send a few passionate teachers on a course with the view that they can disseminate what they learn to the rest of the school.

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Teacher Training *continued*

Subject knowledge

Primary school teachers in England are rarely maths specialists and to many, teaching maths can feel particularly daunting. It is really important that teachers have the confidence to teach maths. Conducting a staff audit can be a great way to assess confidence levels in the subject. Some teachers may be afraid of admitting they would value support, especially in lower year groups. Try to build a culture of trust and confidence where staff help each other. Holding scheduled maths meetings and workshops on targeted topics - from developing number sense to using the bar model - may help to do this. If you feel you need external support with delivering subject knowledge training, there are a number of providers who can help you!



Tip

Did you know that Power Maths includes integrated teacher support to help build subject knowledge? As well as supportive Teacher Guides, it includes online videos for every unit so that teachers have a secure understanding of every concept they teach! Face-to-face training is also available too.

Resource-based training

If your school decides to purchase new teaching or physical resources, make sure that you maximise your investment by ensuring that staff are trained on how to use these new materials. Many providers offer integrated professional development, meaning that staff are trained on the ideas behind mastery whilst getting to grips with new resources. Whilst upfront Professional Development can feel expensive, schools who choose to invest from the start get the most out of their resources and reap the results in the long-term.



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Continuing Your Commitment

Implementing mastery requires an ongoing commitment, and school leaders will need to continue to support staff and children over time. It is important to regularly review the action plan, to evaluate successes and challenges. Plans should not be static and may need adapting along the way. Whilst you can take many steps up-front, some training needs will only come to light once you have started to implement mastery in your school.

It will be important to consider continuing professional development, and to think carefully about how you can use team meetings to support staff. Many schools choosing to implement mastery, have shifted the focus of staff meetings away from administration and on to sharing knowledge and best practice. This has led to increased engagement, and provides teachers with a useful support structure.

Implementing new teaching approaches can be challenging, and teachers, children and parents or carers are bound to have ideas for how things could be improved. Make sure this feedback is heard constructively so that your school continues to improve

and makes the most out of its investment. If your school has decided to purchase resources, make sure that everyone has a chance to review how effective these are. If something is not working, try a different approach.

Facing challenges is usual - whether you're for or against mastery, one thing's for certain: you're not alone on your journey. Make sure you share best practice with local schools, and learn from the experiences of others.



Further support

If you've found this audit useful, you can access more mastery and growth mindset articles and support from Pearson Primary on our website. You can sign-up to receive mastery updates and articles via email too!

pearsonprimary.co.uk/masterysupport

If you're looking for high-quality teaching resources and training for your school, Pearson Primary offer a range of solutions to meet your needs. **Power Maths** has been developed specifically to support schools with implementing growth mindset in mathematics alongside a mastery curriculum.

pearsonprimary.co.uk/masteryjourneyPM

