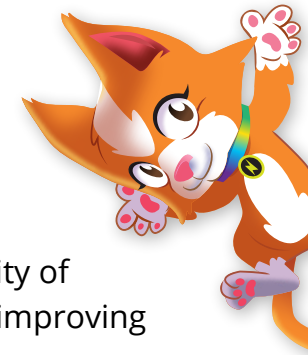
Section 2:

Improving teacher confidence and knowledge

The findings of the Power Maths Efficacy Study saw teachers reflecting on different ways in which Power Maths benefitted teaching practice and subject knowledge, as well as contributing to improvements in teacher confidence, and so enthusiasm, when delivering mathematics. Teachers were positive about the structured and comprehensive scheme that Power Maths provides, something which contributed to a reduction in their workload once they were familiar with it. They also widely valued the flexibility of approach which Power Maths can support. Other teachers followed the Power Maths Scheme of work and associated resources closely, praising the impact that this had on their teaching.



Reducing workload and increasing consistency of teaching

Teachers felt that Power Maths helped to improve the consistency and quality of their teaching. Beyond each individual class, Power Maths was also seen as improving consistency and quality of teaching across different classes and year groups.

> *One of the main things really that came through [in our Ofsted report]...was last time they came in every teacher in the school was using their own system for planning and using a variety of different schemes. So, Power Maths featured very strongly in their findings, and the fact that there's that consistency throughout the school now since we've started using Power Maths.*
>
> **School 11, Maths Coordinator/Year 6 Teacher**

> *You're not scurrying around trying to find resources... The plan is there, you just tweak it to your individual class. It's a plan that everybody in the whole school is following... It's just having consistency across the school.*
>
> **School 9, Year 6 Teacher**

At the same time, the structure of Power Maths and its associated resources were seen as supporting teachers themselves by reducing their workload once they had made an initial investment in getting to know the materials. We saw schools and teachers under increased pressure due to the ongoing impacts of Covid-19, making this additionally valuable.

> *We adopted the Power Maths scheme because we needed a scheme of work that had all the planning, it had all the resources, and the scheme of work had the pupil textbooks. So, it was fully comprehensive.*
>
> **School 5, Maths Coordinator**

> *I genuinely believe Power Maths has done the heavy lifting for us because it's coherently planned and it supports teachers so much.*
>
> **School 19, Maths Coordinator**

Flexible use of Power Maths

While some teachers followed the Power Maths scheme of work and lesson plans closely, and highlighted the benefits of this for students and teachers, others approached Power Maths more flexibly. It was noted that this sometimes allowed them to cater for the particular needs of their pupils, as well as facilitating greater agility in their teaching practice.

> *Now that you've got that understanding and the pedagogy of the scheme of work, now is the time to make it more your own... You can use the Power Maths as a basis, but it's evolving from just picking it up and running with it giving teachers confidence to break away from it a little bit more.*
>
> **School 5, Maths Coordinator**

> *We've had it for about four years now and we're at the stage where we're tweaking the order perhaps, we're tweaking the lesson. We are adapting, so where the children are finding it difficult, we're putting more of the ready-to-progress criteria activities in. So, I think we're in quite a good position.*
>
> **School 12, Year 6 Teacher**

While a flexible approach allowed greater emphasis on fluency and accommodated pupils with different needs, it also led to some of the intended learning objectives of Power Maths being side lined. Sometimes this resulted in a loss of some content aimed at stretching and stimulating children. Pearson support flexible use of Power Maths as a practice that can enable high quality teaching and provide for children with a wide range of needs, but suggest adhering to the following guidance:

Power Maths: a flexible approach

Each Power Maths lesson provides a carefully designed sequence of small steps to build children's understanding. Of course, every class is different and arrives at a particular lesson with varying prior experience. Teachers are encouraged to use the materials to teach a great lesson for their own class, which may involve using the materials flexibly, so long as the teacher engages closely with the content.

Here are some general tips on using Power Maths flexibly:

- Read through the lesson content and Teacher Guide pages.
- Think carefully about the lesson content as well as your class, e.g.: *How would you boil down the key learning into one sentence? Why is the sequence of questions designed that way? What is each question trying to do?* And also: *What knowledge and understanding do children need and how secure is it?*
- Revisit prior learning if it is not secure: remember, you don't have to move on to a new lesson every day!
- Harness your creativity! Take the context of the 'Discover' activity and bring it to life, inside or outside the classroom.
- Think through how you will explain the learning and anything you feel you might need to adjust (e.g. having an extra question up your sleeve that is similar to the last one, to make sure everyone is confident before moving on).
- Keep high expectations: *aim* for all children to attempt the Challenge questions, by working through the intervening steps. They may not manage this every time, so consider which questions are absolutely essential to that key learning you've identified for the lesson.
- Let all children start at the beginning, instead of e.g. skipping earlier questions for higher attainers. This helps build a secure base, even if they work quickly.
- Make sure all children can grapple with problem solving and reasoning questions, instead of e.g. sealing these off for certain children.
- Ask yourself: *How would I explain any adjustments I've made to this lesson to another teacher?*
- Don't be too quick to make changes. If you've engaged with the thinking above, you might not need to change anything to teach a great lesson for your class!
- Take your time and make sure children master the key learning before moving on. If a lesson takes two days, there is plenty of space for that in the overall plans.

In response to the efficacy study, the new edition Teacher Guides also include specific guidance for using Power Maths flexibly in these particular areas:

- **Key Stage 1**: teachers in Year 1 especially are likely to start using the Practice Books with small groups.
- **Mixed age classes**: there are a range of approaches that user schools have found effective, depending on their specific circumstances.
- **Children working below age-related expectation**: tips for including all children in the main lesson and helping them access the learning.
- **Providing extra depth and challenge**: suggestions for stretching higher attainers without having to plan additional tasks.

Supporting teachers: lesson planning and delivery

The Teacher Guide was seen as '***very comprehensive***' and a valuable resource supporting teachers. In particular, the Teacher Guide supported teachers' development of subject knowledge.

> *When it comes on to area of parallelogram, when it's areas that subject knowledge-wise I just want to remind myself how it works, I know the resources are there,... I know the Teacher Guide has got that information.*
>
> **School 18, Year 6 Teacher**

It also supported teachers' pedagogical knowledge as well as ensuring consistency of teaching.

> *The way that we plan our maths is that I... look in the Teacher Guide to be able to then see, not only the question, but if I'm looking at the question and there is a... deeper meaning behind it, what angle is the Power Maths trying to go on with this particular question.*
>
> **School 18, Year 4 Teacher**

> *I think for teachers who are motivated to look for that pedagogy, it is useful.*
>
> **School 5, Math Coordinator**

> *I'd always read it through... I've taught Year 2 now for about 12 years, but I still read it... year on year the children are different. It's worth reading through to remind yourself of misconceptions because once you've done a year you kind of forget what they were getting wrong at the beginning because you've worked it through.*
>
> **School 11, Year 6 Teacher**

> *The Teacher Guide is fantastic for giving you ideas to strengthen their learning... In this case, it was drawing the shapes out and then using the squares on their whiteboards and noticing the difference, to strengthen some of their learning.*
>
> **School 12, Year 6 Teacher**

The teacher guide was seen as a valuable resource supporting the teaching of very able children, and those who needed more support.

> *'I like the Teacher Guide because it's got a lot of questions that you could ask and guidance and suggested ideas and what you can do with children who are... Who need more support or who need deep thinking.*
>
> **School 13, Year 4 Teacher**