

## Section 1:

# Introduction to the Power Maths Efficacy Study



This report presents key findings from the Power Maths Efficacy Study, carried out by Pearson in collaboration with UCL (IOE). It explores how Power Maths is used in classrooms and the impact of this on teaching and learning. The study took place between 2019 and 2022. It aimed to explore the following themes:

- Motivations for schools adopting Power Maths;
- How the support materials, including appropriate technology, are used in classrooms;
- Perceptions of the effectiveness of support materials in meeting cognitive and affective needs of teachers and children working with the new curriculum;
- How the use and effectiveness of Power Maths develop as teachers and pupils become more familiar with the materials at school – and also through home learning periods.



With the emergence of Covid-19 from March 2020 the study was expanded to look at how teachers provided for pupils' mathematical learning throughout the pandemic period. We also looked at what resources they used and the impact of these on learning.

From 2021 the study went on to explore the ongoing effects of the pandemic on teaching and on pupils' learning. We also explored the emerging new normal in primary mathematics education. Finally, throughout the pandemic period and beyond, we explored teachers' mathematical plans going forward, and how teachers would like to see Power Maths developed further to meet their needs.

The self-reported experiences of teachers and students formed a core component throughout this study, giving an important window into experiences of Power Maths in the classroom.

Data collection in the first year took the form of teacher interviews, pupil focus groups and lesson observations. All data collection was undertaken by experts in primary mathematics education. Following Covid-19 disruption, beginning March 2020, visits to schools were suspended and data collection continued through remote interviews and surveys. In 2021/22, despite pressures on teachers, we were able to return to schools to carry out interviews, pupil focus groups and lesson observations. The first year of the study included 24 schools. In subsequent years, due to Covid disruption, the number of participating schools reduced to 18 in 2020/21 and nine in 2021/22.

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Key findings from the study are as follows:

- Consistency of teaching and reducing workload:** As teachers' familiarity with Power Maths material increased, so did their confidence in using it as well as the effectiveness with which they did so. Teachers who had invested in getting to know the materials were overwhelmingly positive about the role Power Maths had played in supporting teaching and learning, particularly given disruption caused by Covid-19. Cohesive planning materials were important in ensuring consistency of teaching and over time, reducing teacher workload.
- Supporting lesson planning, in-class delivery and offering wider teacher CPD:** Teachers almost all reported gaining confidence and knowledge in mathematics and its pedagogy through engagement with Power Maths. The teacher planning materials and videos were seen as highly valuable both for delivery and for the development of teacher subject knowledge and subject specific pedagogy.
- Engaging, well-structured and comprehensive learning for pupils:** Children were enthusiastic about Power Maths, particularly the Practice Books. All study teachers felt that Power Maths gives good curriculum coverage. Teachers widely valued support for whole class mastery, and while the pandemic widely served to exacerbate spread of attainment, sustained use of Power Maths was often instrumental in reducing that gap. Some teachers were adapting Power Maths to support the most able students, and those who are struggling.
- Supporting schools through Covid-19 and beyond:** Schools identified areas of mathematics, and learning habits that needed more focus post Covid-19, although were positive about pupils' capacity to catch up. Several teachers noted the key role that Power Maths played in helping them identify learning progression and priorities, in monitoring and closing learning gaps to ensure children were fully prepared, as well as in ensuring consistency of experience between years.



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## How has the research been used to improve Power Maths and support teaching and learning?

The new edition of Power Maths, first published from September 2022, builds on recommendations in the research.

- **Greater support for mathematical fluency:**
  - Practice Books have been rewritten to include more fluency throughout
  - 480 Individual Practice Games have been added
  - new Quick Recap activity for each lesson.
- **Usability of pupil materials:** in the updated materials the quantity of content on a page is slightly reduced, language has been simplified, and the answer formats are less structured to give children more freedom. Squared paper backgrounds have also been introduced.
- **Pace and progression:** the progression has been revisited to build in more recap and ensure sufficient support for all children.
- **Assessment:** new half-termly summative assessments are available for the new edition, supported by the Online Markbook.

## What next?

Power Maths will benefit from further improvements and developments in the future:

- **Challenge for high attainers:** new guidance is available for extra depth and challenge. 360 Problem Solving and Reasoning Challenge cards will be added throughout the Power Maths units.

