

Fluency in Number Facts

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I once watched a video of people tackling maths facts while their brains were being scanned using MRI. It showed the stark contrast between those who were fluent in maths and those who weren't. A hard-working, under stress brain lights up like a Christmas tree, compared to a well-trained brain that operates more efficiently. Basically, those with fluency transferred facts from storage memory to working memory in microseconds. Those without took a relative age.

Those pupils with maths fluency are able to solve problems with more speed and confidence because they know their maths facts. Understanding is not always enough; repetition creates perfection.

With any new curriculum change, certain buzzwords become central talking points and 'fluency' is a case in point. Whilst fluency in maths has always been an area of debate, it now commands centre stage in the new programme of study for mathematics.

To address this, Collins has produced a flexible, dip-in series of resources to support conceptual understanding and the development of mental fluency. This includes pupil books with facts and games, and teacher's guides (with CD-ROMs) for years 1-2, 3-4, and 5-6.

The pupil fluency books are very reasonably priced at £5.50 each and contain a varied and well-written collection of paired games that target key areas - number and place value, addition and subtraction facts, and multiplication and division facts. The objectives are written at the top of each page and the activities are clearly set out. Children are encouraged to think about what they will need before they start and to consider any 'golden rules'. If anything, the books contain too much text for lower juniors and so these could do with diluting.

The games are purposeful, colourful and fun to play with plenty of in-built challenge. They have been designed to last about 10 minutes, but my pupils played them for much longer. You could easily use them as filler activities, or for longer sessions. Each book also contains a list of what children need to be able to

recall instantly. Engaging artwork features throughout.

The teacher guides and CD-ROMs come together. They cover all bases and have been laid out for 'off-the-shelf' and no hassle use - you can be confident nothing will be missed. Simply find your area of focus, then refer to the guide for further advice on how this can be delivered as a whole class, paired or solo activity. The teaching notes are comprehensive and business-like, but you won't be overloaded and there is plenty of room to adapt and edit.

All resources referenced in the teacher's guide are found on the excellent CD-ROM, which includes editable games and activities. There are also Powerpoint slides, number cards, function machine strips, mental fluency challenges, and the all-important assessment and record-keeping formats so you can keep tabs on progress. Children can judge their own proficiency, too, using the pupil self-assessment booklet on the CD-ROM, which can be completed at the end of each term.

At the back of each teacher's guide you will find multi-domain activities that are full of challenge and, with careful planning, will suit a range of needs and abilities. For £82, I'd say that compares well to the competition.

Collins has given us a clear and accessible set of resources that will be extremely useful for building fluency in the fundamentals of maths. What the resources do so well is to provide 'minds-on' activities that promote purposeful dialogue - leading to efficiency, accuracy and flexibility. As well as classwork, the games and activities on offer could also be used for homework. Given constant use, I believe these resources will support children in the effortless recall of facts to be used in computation strategies and problem-solving situations.



Verdict: Quick thinking

Effective fluency involves not just quick recall but number sense, operation sense and an understanding of our number system that allows children to work flexibly. Collins Maths has addressed this admirably.

