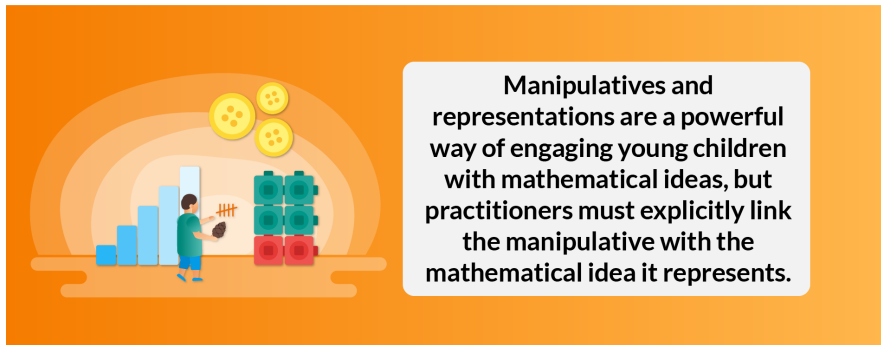


Visible Maths: Peter Mattock

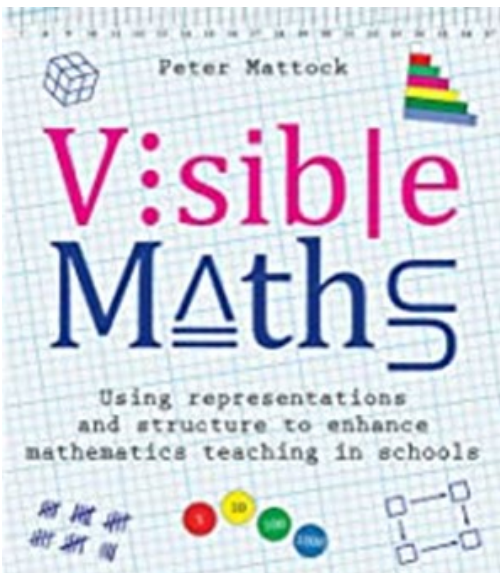
Research is forming a picture: using manipulatives and representations increases mathematical achievement and understanding. The principle has recently been highlighted in Recommendation 3 in the EEF guidance report on Early Maths.



IMPROVING MATHEMATICS IN THE
EARLY YEARS AND KEY STAGE 1
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Don't stop using manipulatives at the end of KS1 either. Several studies on their use have shown the importance of long term use of concrete materials to improve mathematical attainment, argues Peter Mattock in *Visible Maths*.



So, do you know which concrete materials to use when and why? Would you pick number lines or Cuisenaire rods to represent whole numbers? Are base ten blocks or counters are better for introducing exchange in addition and subtraction? Why is it easier to represent algebraic equations pictorially than with concrete materials?

If you want answers to these and other questions, *Visible Maths* is the handbook you need. It sets out to explore the different concrete and pictorial approaches available to teachers. By analysing the advantages and disadvantages of each, the

reader is guided to see the context in which they can best build understanding.

Progressing from representations of whole numbers, fractions and decimals, it extends through the four operations and all the way to equations and algebra. The chapters are helpfully arranged by topic and show how coherent representations can be used to build understanding regardless of the complexity of the concept.

Highly recommended for practitioners and subject leaders at all Key Stages.