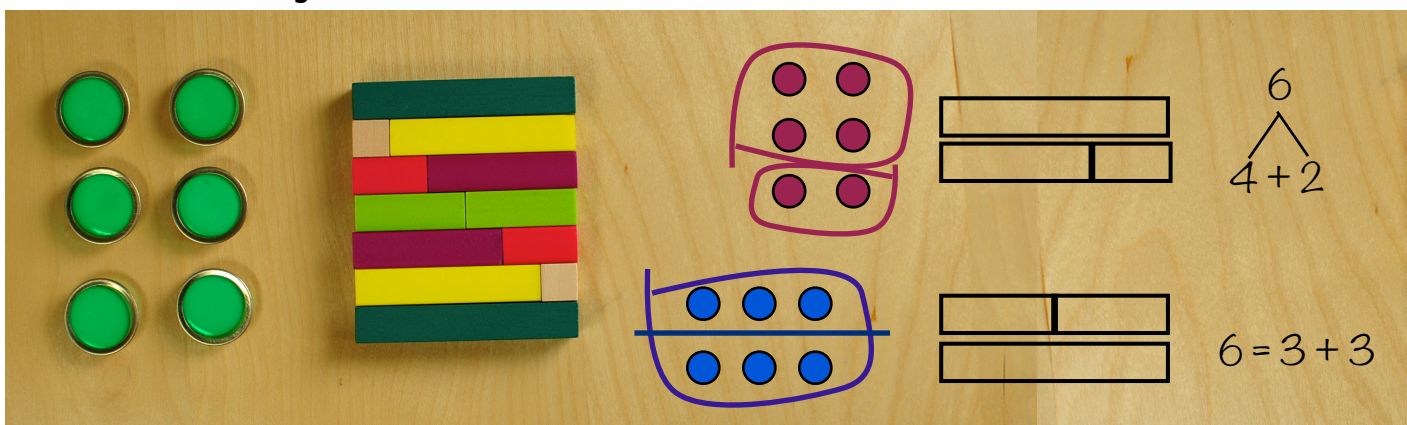


1. Start at the concrete stage, to give the child plenty of hands-on practical experience. Progress gradually to pictorial sketches and diagrams before moving on to abstract work.



Pictured at the left are glass nuggets that can be used for making, rearranging and exploring number patterns, concretely. At the right is a 'mini' box set of Cuisenaire rods.

2. Use concrete materials, such as counters arranged in dot patterns and Cuisenaire rods, that can be easily visualised and (later) sketched.

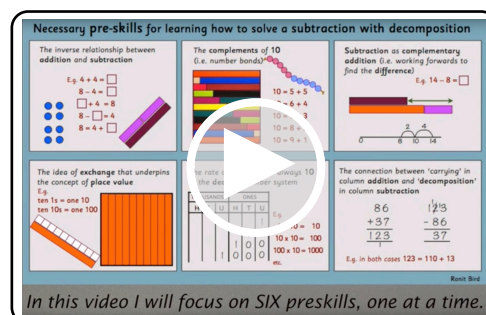
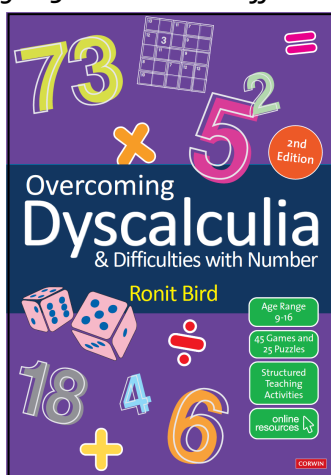


Pictured at the left is a dot pattern for 6 and a 'Story of 6' built out of Cuisenaire rods. At the right are the kind of sketches that help learners make the transition to abstract work.

3. Break down every stage of learning into the smallest of steps. Make sure that all the necessary pre-skills are in place.

For much more about this, see my book 'Overcoming Dyscalculia & Difficulties with Number'.

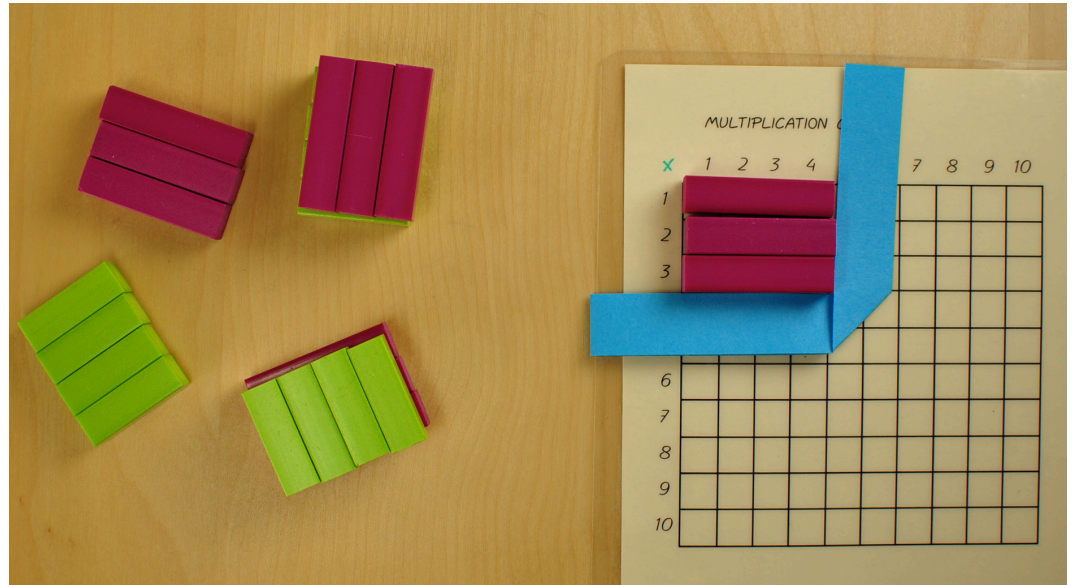
Watch my YouTube video about one set of pre-skills (those needed for column subtraction with decomposition).



https://www.youtube.com/watch?v=txrD_zD_2S8

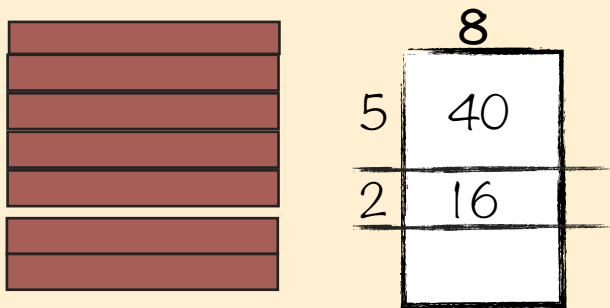
4. Teach reasoning strategies. Avoid methods that rely on too much memorising.

You can see here how children can use Cuisenaire rods to discover the commutative nature of multiplication ($3 \times 4 = 4 \times 3$) and to learn what a 'tables square' actually means and how it works.



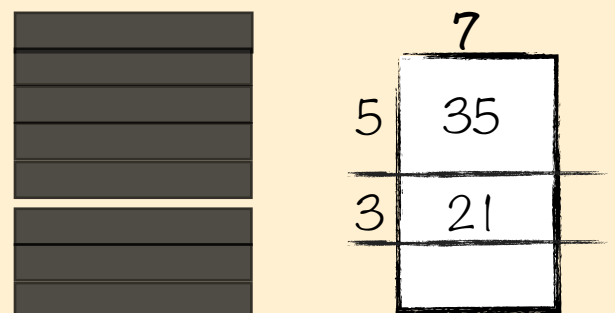
Below, you can see how sketches can support reasoning about the harder times tables facts.

7×8 is two more 8s than five 8s



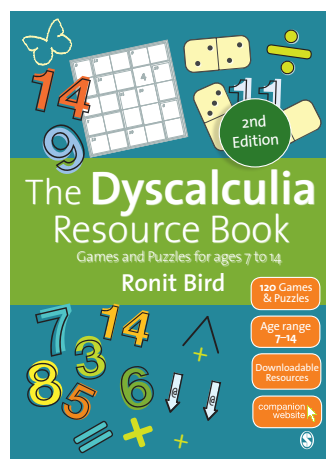
or

8×7 is three more 7s than five 7s



5. For practice, give children games and puzzles, not worksheets. Focus on practice of efficient strategies, not number facts.

For 120 photocopiable games and puzzles, see the new edition of my book 'The Dyscalculia Resource Book'.



For more ideas for numeracy games, together with demonstration videos, see my 'Maths Games' ebooks.

