

Bar Models for Beginners: Drawing Year 2 Word Problems Before Solving Them

A gentle introduction to bar models, a visual way for Year 2 children to understand and solve addition and subtraction word problems by drawing them first.

What are bar models?

A bar model is a simple drawing that helps children see a maths problem as a picture. In Year 2 (children aged 6 or 7), pupils learn to solve 'word problems'—these are maths questions written as a short story, such as 'Sam has 8 sweets and eats some, leaving 3'. Instead of rushing straight to a written sum, a bar model uses a rectangular bar to represent the total amount and smaller blocks to show the parts. It is a visual stepping stone that helps children understand what is happening in the story before they decide whether to add or subtract.

How does it work?

To use a bar model, your child draws a bar to represent the whole amount. For example, if Sam starts with 8 sweets, the whole bar is labelled '8'. If he eats some and has 3 left, one part of the bar is labelled '3', and the other part is left blank with a question mark. By looking at the drawing, it becomes clear that the missing piece is the difference between 8 and 3. This turns a tricky sentence into a clear picture, making it much easier for the child to see that they need to subtract 3 from 8 to find the answer.

Why is this helpful for your child?

Many children find it hard to know which operation to use when reading a word problem. Bar models take the pressure off by allowing them to 'see' the maths. This approach supports the National Curriculum goal for Key Stage 1 (the stage of education for children aged 5 to 7) to reason and solve problems in context. It is particularly helpful for children who prefer visual learning, those with SEND (Special Educational Needs and Disabilities), or children who are still becoming confident with English, as the drawing communicates the logic of the problem.

Simple ways to help at home

You don't need any special equipment to try this. You can use a piece of paper, a whiteboard, or even a tray of sand. Try making up a tiny story using things around you, like 'There are 5 apples, but 2 are green; how many are red?'. Encourage your child to draw a bar for the 5 apples and a smaller block for the 2 green ones. Keep it playful and short. If your child is stuck, ask them to 'draw the story' first. Every school may use slightly different drawings, so feel free to ask your child's teacher for a quick example of how they do it in class.

Common questions

Parents often ask if this is a 'new' way of doing maths that replaces traditional sums. It isn't; it is simply a tool to help children understand the problem before they write the sum. You might also wonder if your child must always draw a bar. As they become more confident, some children will be able to 'see' the bar



in their head and move straight to the calculation. The goal is to build confidence and understanding, not to add an extra hurdle to their homework.

Sources

- Department for Education, National Curriculum in England: Mathematics programmes of study
- GOV.UK, National Curriculum in England