



Where does bar modelling come from?

Bar modelling is a method of representing Maths problems pictorially; it has been popularised by the Singapore Maths teaching method which is being used increasingly in

the UK. In the 1960s Jerome Bruner proposed that people learn in three stages: concrete, pictorial, abstract. Bar models are just one way of supporting children with the middle stage: pictorial.

What is a bar model?

Put simply, a bar model is a diagram; the purpose of which is to represent a mathematical problem, especially one which might be quite difficult to solve without visualising it first.

There are several variations of the bar model, but all follow the same basic principles:

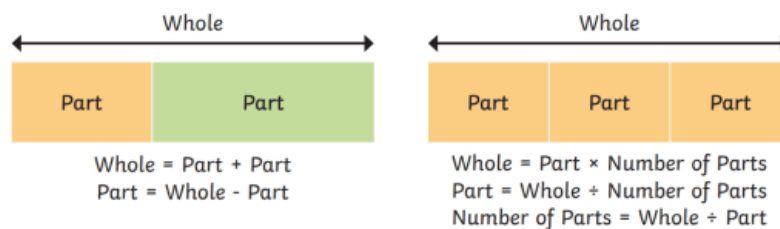
- Bar models are constructed in a specific way, using rectangles to represent known and unknown amounts
- Bar models are designed to bring together all the relevant information from a problem, to contextualise any facts presented in a question. This helps children to begin working towards an answer

Why use the bar model method in maths?

Bar modelling is much used in Singapore and Asian Maths textbooks and is an essential part of the mastery maths approach used by schools at all stages of the national curriculum. By using the bar method to visualise problems, pupils are able to tackle any kind of number problem or complex word problem. Because bar models only require pencils and paper, they are highly versatile and can come in very useful for tests, especially SATs Reasoning Papers. However the use of bar models can begin much earlier, from showing number bonds to ten or partitioning numbers as part of your place value work. Once a child is secure in their use of bar modelling for the four operations and can conceptualise its versatility, they can start to use it to visualise many other maths topics and problems, such as statistics and data handling.

Part of a Whole Bar Modelling

Bar modelling is when pictures or 'bars' are used to represent any addition, subtraction, multiplication and division operations of word problems.

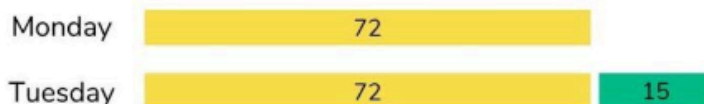


How to draw a bar model

There are a few steps involved in drawing a bar model and using it to solve a problem:

1. Read the question carefully
2. Circle the important information
3. Determine the variables: who? what?
4. Make a plan for solving the problem: what operation needs to be used?
5. Draw the unit bars based on the information
6. Re-read the problem to make sure that the bar models match the information given
7. Complete the calculation using the determined operation.

On Monday Lisa sold 72 chocolate bars. On Tuesday she sold 15 more than she sold on Monday. How many chocolate bars did she sell all together?



$$72 + 72 + 15 = 159 \text{ chocolate bars}$$