

# Bar modelling: A beginners guide

For many of us looking to assist our children with areas of Mathematics, we generally try to help our children using methods and approaches we, ourselves, were taught. This is, of course fantastic, as who wouldn't want to aid their child's learning. However, one approach that is frequently being used in schools to help children understand mathematical problems is an approach born in Singapore called 'Bar Modelling' and this is something that, possibly, we know very little about. If this is the case, please take a second to get to grips with the 'Bar Model' in this short beginners guide.

## Bar modelling

So, what is bar modelling? Well, basically, bar modelling involves drawing out math problems to help understand what is happening. Bar models come in two types: a basic 'part-part-whole' model and an approach often beneficial for solving more complex problems called the 'comparative' model.

### Part-Part-Whole Bar Modelling

There are 8 flowers in the vase.  
There are 2 flowers in Hannah's hand.  
How many flowers are there in total?

$8 + 2 = 10$

There are 10 flowers in total.

Word problems – develop understanding of when to add and when to subtract

Sam has 9 green marbles and 3 red marbles. How many marbles does he have altogether?

Sam has 12 marbles. 9 are green and the rest are red. How many red marbles does he have?

Extend models to include 3 parts:

Zoe had £50.  
She bought a cake which cost £12.  
She bought a bag which cost £30.  
How much money did she have left?

Problems involving more than one part-whole model

Drink			£1.25
Drink	Burger		£4.95
Drink	Burger	Fries	£7.20

Think about how you could use this diagram to work out the cost of a burger and a packet of fries.


## Comparative Bar Modelling

Mrs Dawson has two dogs.

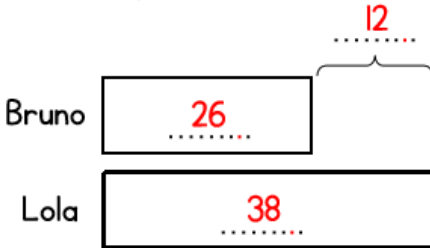
Bruno weighs 26kg.

Lola weighs 12kg more than Bruno.

How much does Lola weigh?



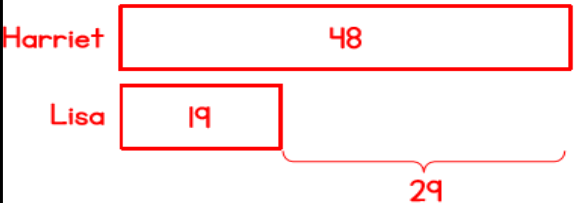
Complete the diagram.



Harriet: I am thinking of the number 48

Lisa: My number is 29 less than this.


What number is Lisa thinking of?



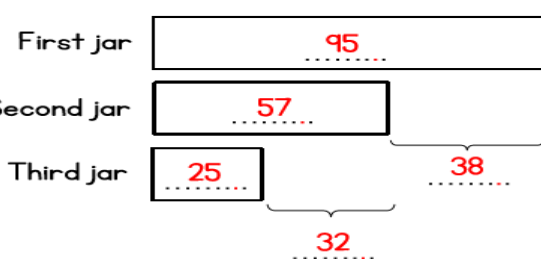
Three jars have bugs in them.

- The first jar has 95 bugs.
- The second jar has 38 fewer bugs.
- The third jar has 25 bugs.

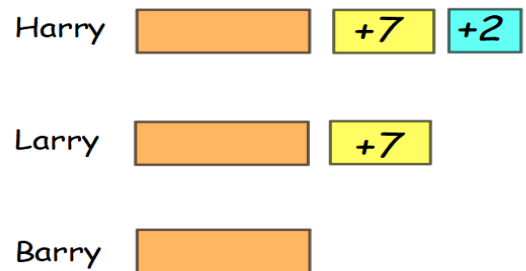
How many more bugs are in the second jar than the third jar?



Complete the diagram.




Barry has 7 less than Larry. Larry has 2 less than Harry.




### Progress to increasingly more non – routine problems

A shop sells fruit.

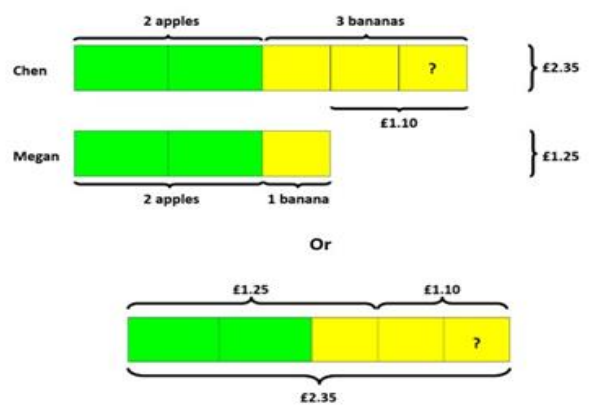
Chen buys 2 apples and 3 bananas. He pays £2.35



Megan buys 2 apples and 1 banana. She pays £1.25



How much does one banana cost?



### Useful resources:

Please take a moment to view our school website (in the parents section under maths resources) as well as these useful links to gain an insight into how to use bar models in greater depth. It really won't take very long at all.

[https://www.youtube.com/watch?v=TbayTZvS\\_bc](https://www.youtube.com/watch?v=TbayTZvS_bc) (Yeap Ban Har – bar model founder)

<https://www.youtube.com/watch?v=I6lpio8JntU> (part whole bar models)

<https://www.youtube.com/watch?v=E3Z4WikFAf4> (Examples of varied problems being solved using a bar model)