Maths
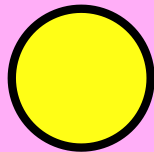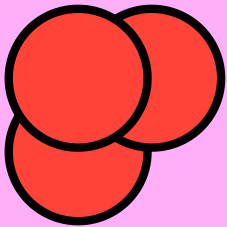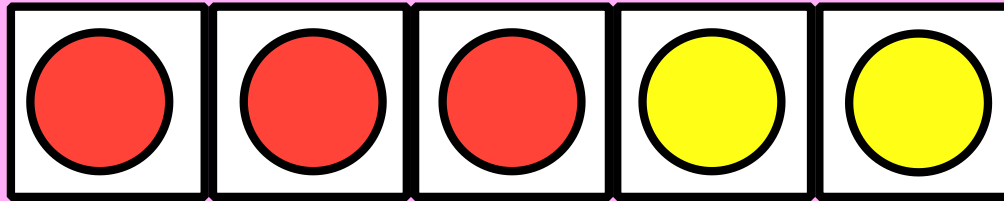
Come to Learn

Bar models

In maths, a bar model is a pictorial representation of a problem or concept where bars or boxes are used to represent the known and unknown quantities.

Foundation Stage

What "lives" inside 5?

KS1

Children roll the dice and make a stick of cubes equal to the number rolled, then put their two sticks together. If, for example, Will had green cubes and rolled '4' and Ali had orange cubes and rolled 2, the image would look like this:
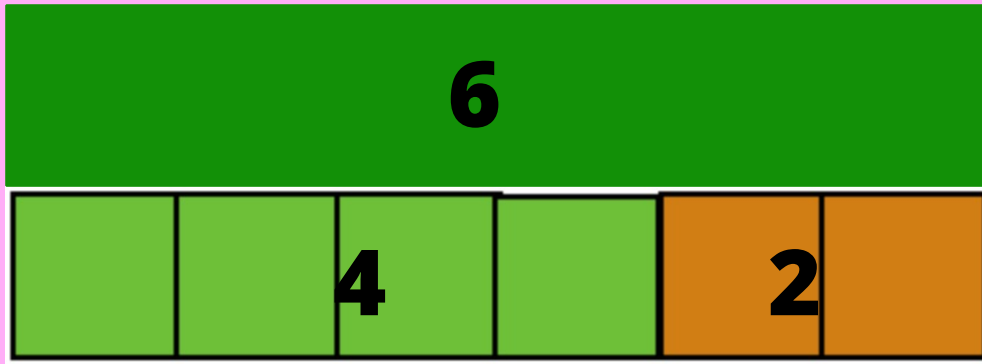
Will: "I have four"
Ali: I have two"
Will: "Four add two equals six"
Ali: "Altogether we have six".

Part part whole

Children can then start to develop their knowledge of the relationships between the parts and whole of the bar model:

Link to fractions: 4/6 and 2/6 are the parts so 6/6 is the whole.

For example, Will and Ali could say any of the following:
- "Two add four is six"
- "Four add two is six"
- "Six take away two is four"
- Six take away four is two".

We collect ten shells per day. How many shells will we collect in five days? Drawing a bar with five sections could look like this:

10	10	10	10	10

I have 6 long and short pencils. Two of the pencils are long; how many of them are short?

| L | L | S | S | S | S |

Rajesh runs for 20 metres. Cathy runs for 34 metres. How many more metres has Cathy run than Rajesh?

20m ——— What is the difference?

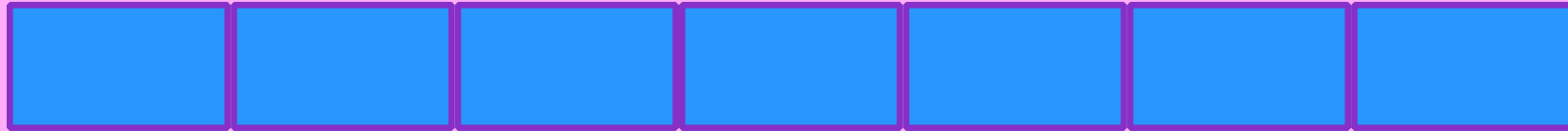34m

LKS2

? - 57 = 239

? = 213 + 125

120 = 359 - ?

There were 200 children in the pool. 74 got out. How many were left?

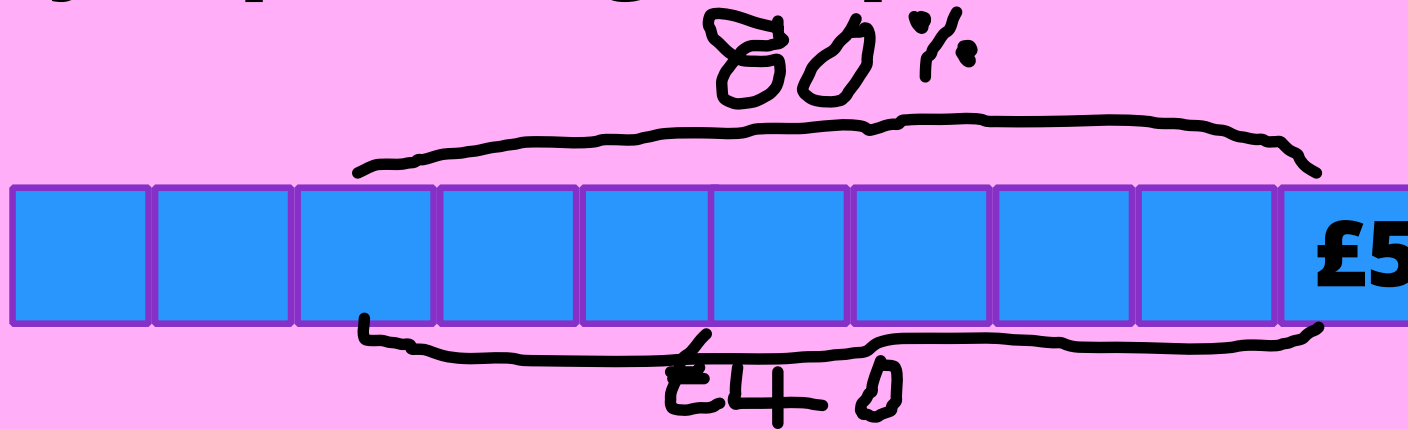| ?	
57	239

?	
125	213

359	
120	?

UKS2

After John bought a magazine subscription costing £30 for the year from his birthday money, he had 4/7 left. How much did John receive for his birthday?

"We know there are 7 parts. If he has 4/7 left then the 3/7 must be the £30. Therefore 1 part is £10 as we need to divide the £30 by 3"

With 20% off the Jumper is £40. How much is the jumpers original price?

80%

									£5

£40

"Because it is percentage, we can divide the bar into 10 parts that represent 10% each. We know that the £40 must represent 80% of the cost of the jumper. £40 divided by these 8 parts is £5 so each part is £5. The jumper's original price must therefore be £50."