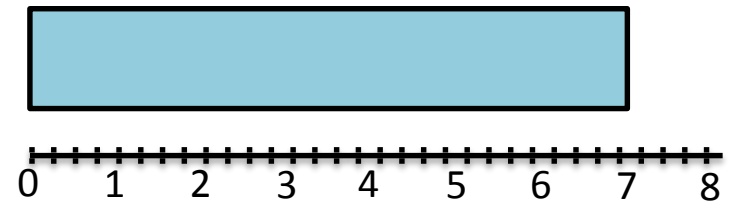
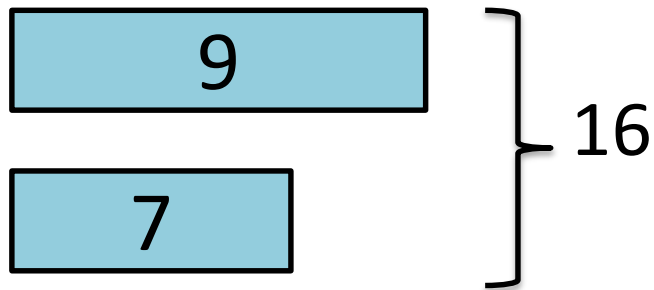
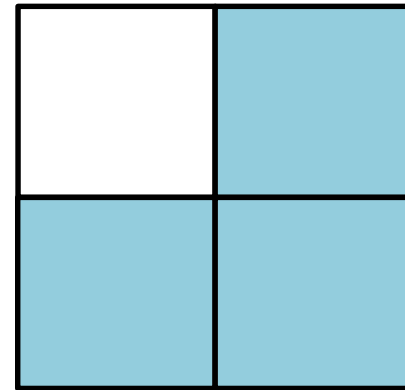
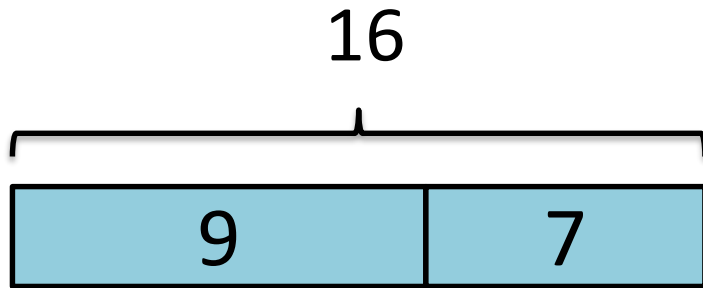


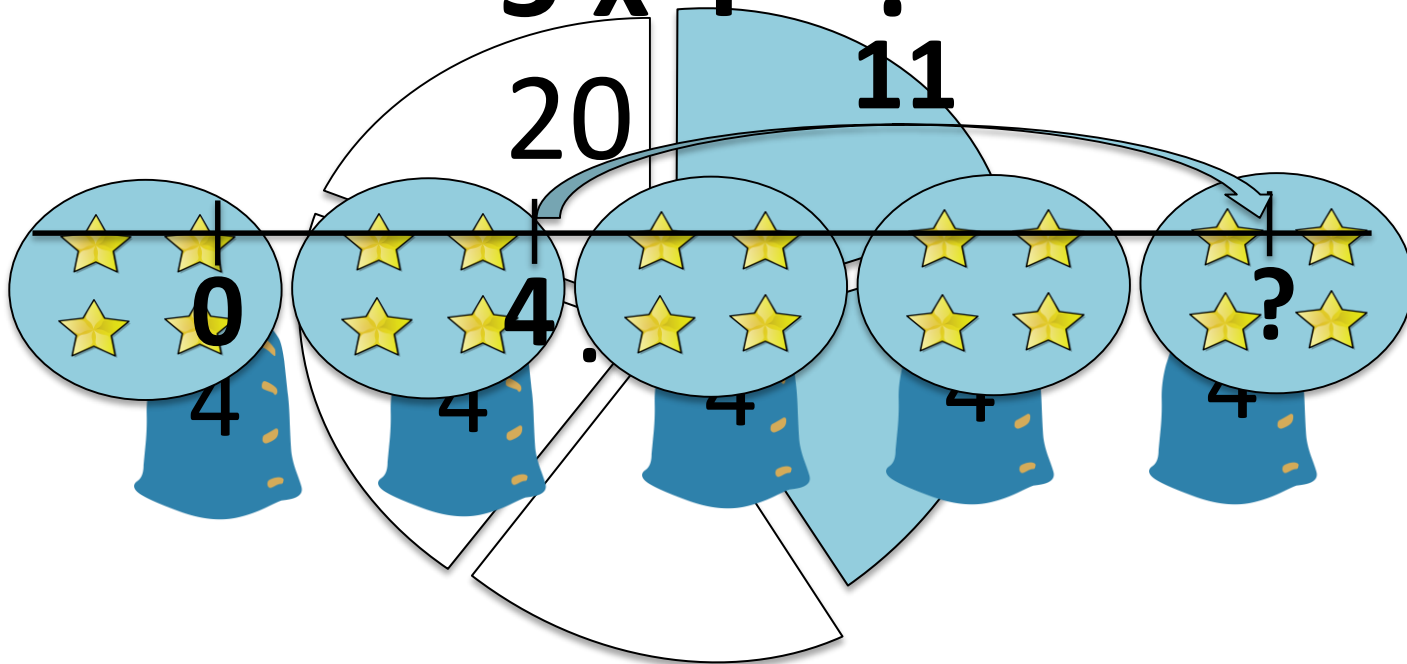
The Importance of Bar Models

What Are Bar Models?



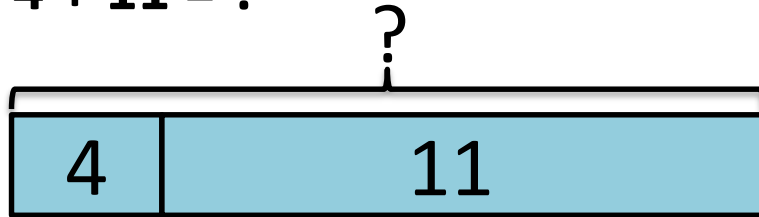
A Consistent Picture

$2 \text{ of } 20 = ?$
 $\frac{2}{5} \times 20 = ?$
 $4 + 11 = ?$
 $5 \times 4 = ?$
 Share 20 in the ratio 2:3

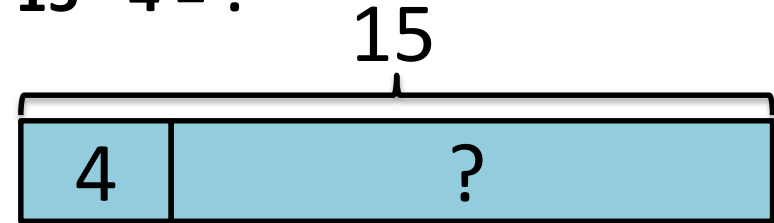


A Consistent Picture

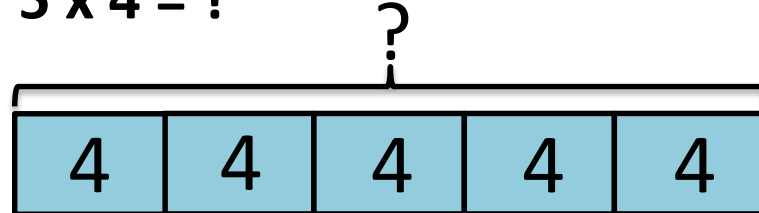
$$4 + 11 = ?$$



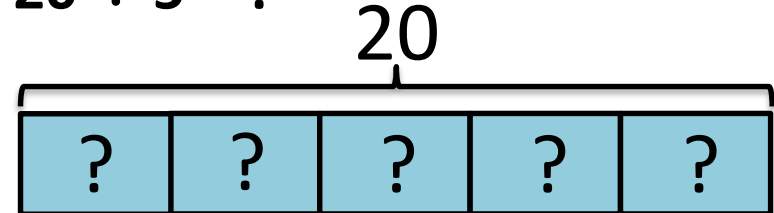
$$15 - 4 = ?$$



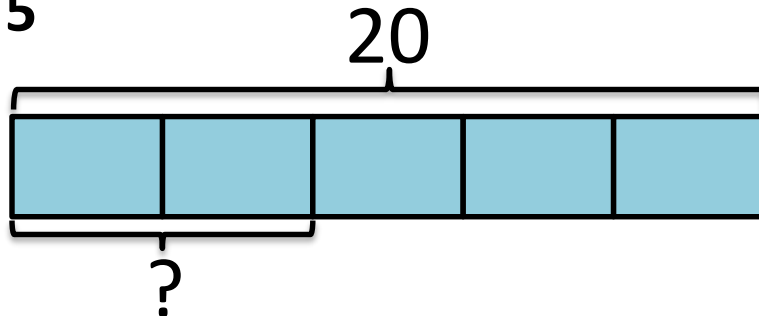
$$5 \times 4 = ?$$



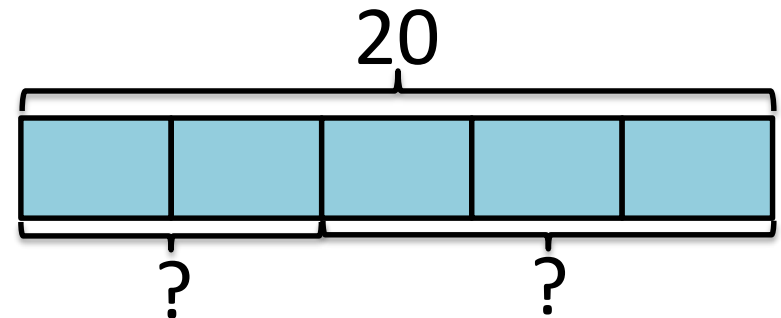
$$20 \div 5 = ?$$



$$\frac{2}{5} \text{ of } 20 = ?$$



Share 20 in the ratio 2:3



The importance of bar modelling

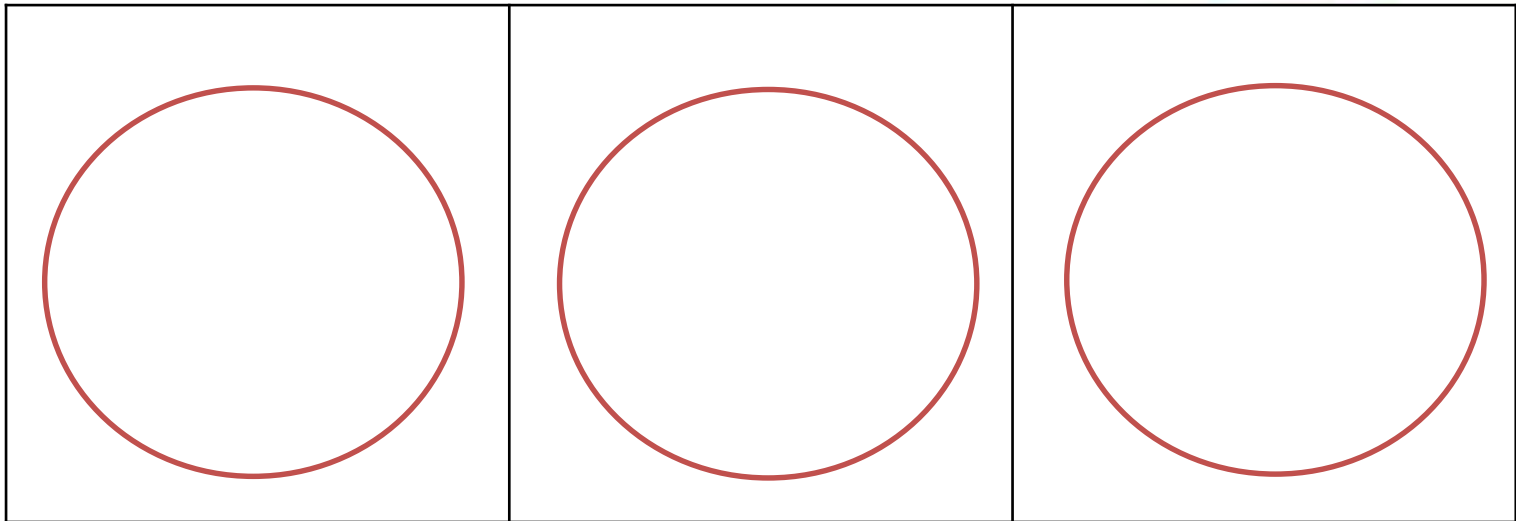
“Instead of relying on superficial and unreliable clues like key words, the simple visual diagrams help children understand why the operations make sense.”

Bar models are a tool to help children
develop the ability to decide which
operations to use.

Ban Har 2016
Beckmann 2014
Beckmann 2014

Introducing Bar Models

Introducing Bar Models in EYFS



Show me...

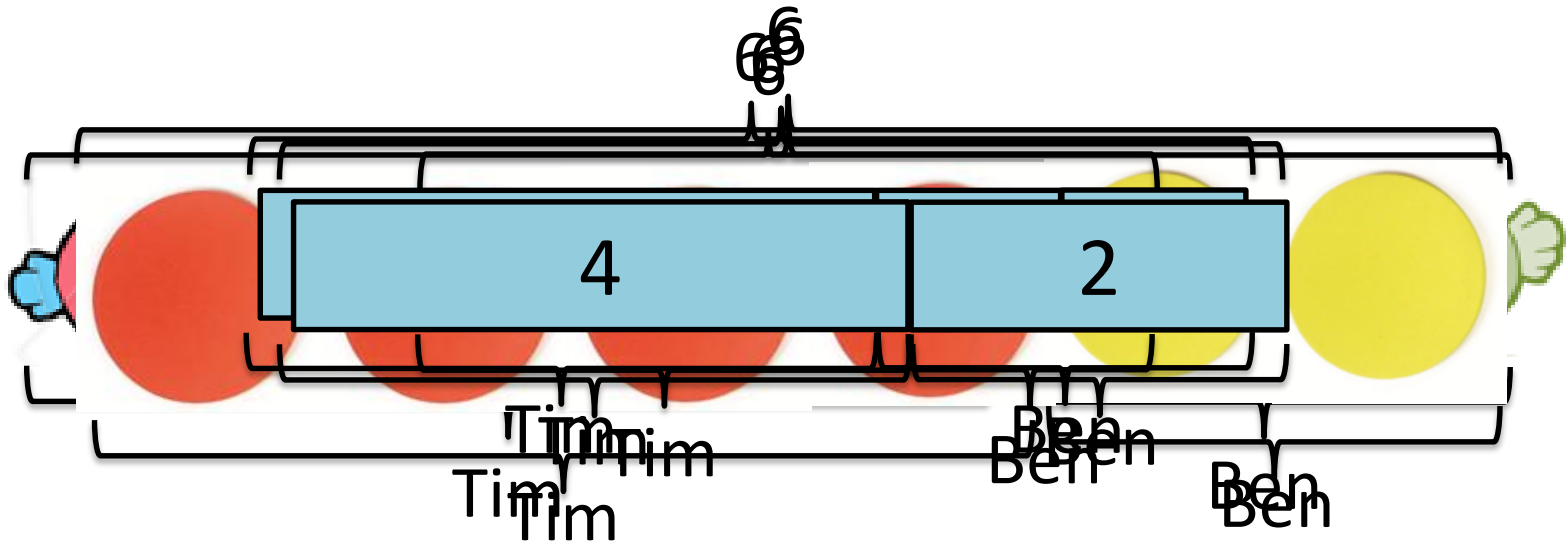
- There are six glasses of apple juice
- Hannah has more than five friends
- Sam has more conkers than Tom

KS1 bar modelling

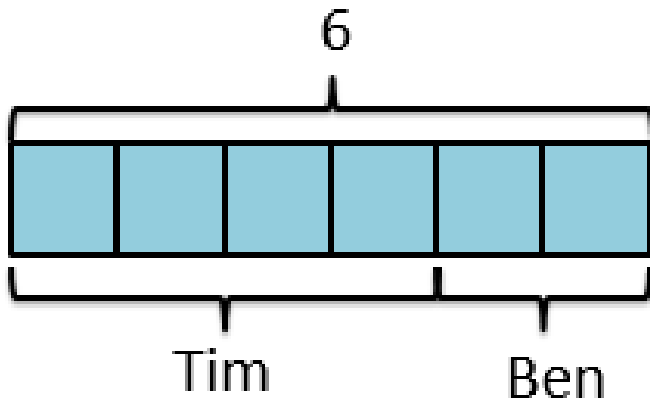
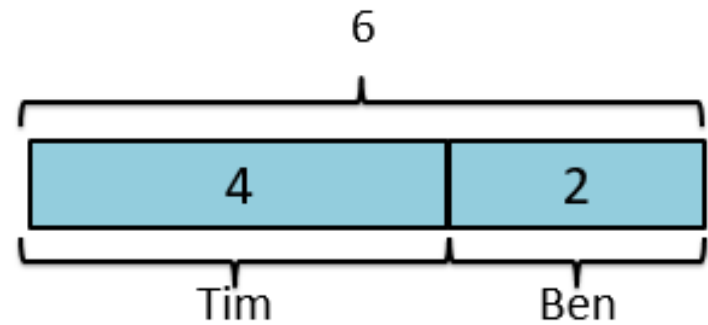
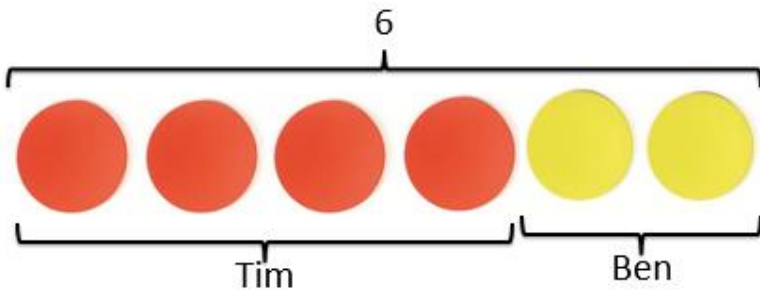
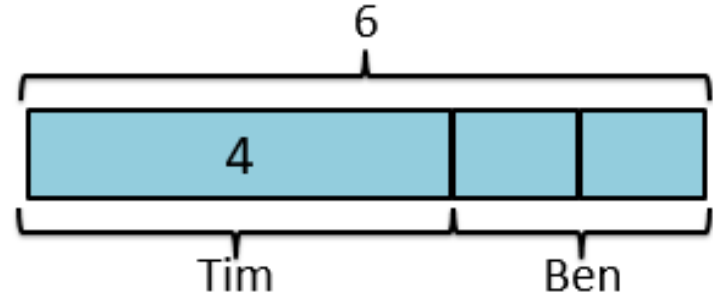
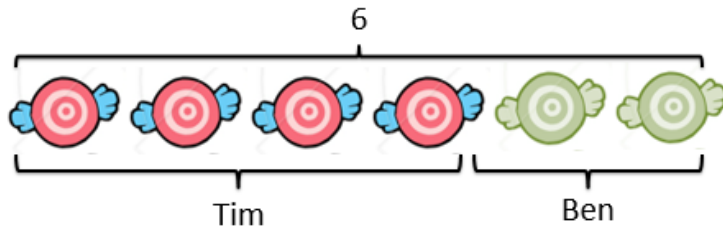
**Peter has 5 toy cars and Jane has 3 toy cars.
How many toy cars do they have altogether?**

KS1 Bar Modelling

Tim has 4 sweets and Ben has 2 sweets.
How many sweets do they have altogether?



Small steps



$$4 + 2 = 6$$

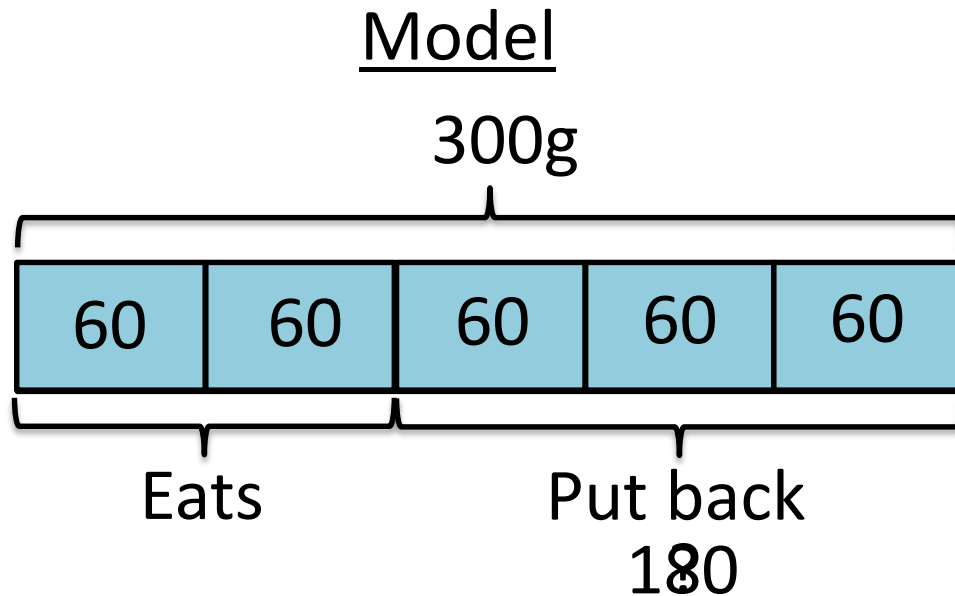
KS2 barmodelling

$$\frac{3}{5} \text{ of } 20 = ?$$

KS2 Bar Modelling

Solve... Matthew has a 300g block of cheese. He eats $\frac{2}{5}$ of the cheese and puts the rest back in the fridge.

How much cheese did Matthew put back in the fridge?



Calculations

$$300 \div 5 = 60$$

$$3 \times 60 = 180$$