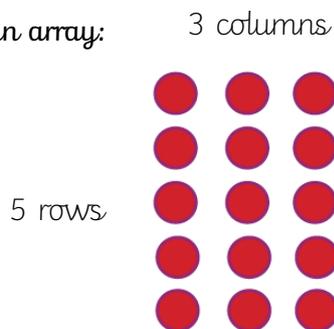


Multiplication

This is an array:



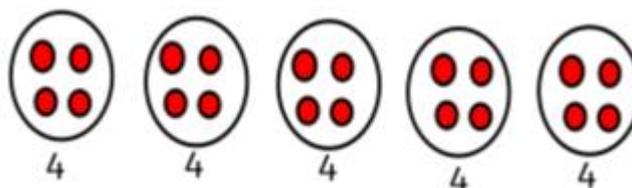
$$3 \times 5 = 15$$

$$5 \times 3 = 15$$

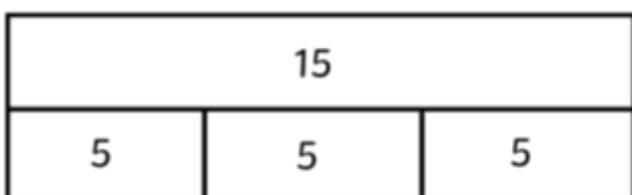
There are 15 circles in total.

5×4 or 5 lots of 4 can be drawn in order to find the total:

That's 5 groups of 4 in each group.



This is a bar model: $3 \times 5 = 15$



There are 3 equal parts made up of 5 in each part. Add the 3 parts together to get the whole which is 15.

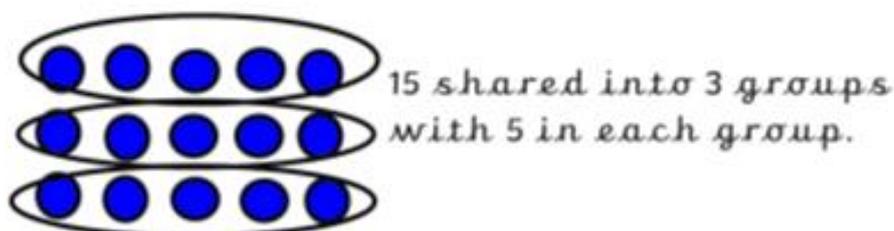
Division

We know $3 \times 5 = 15$. We also know the commutative $5 \times 3 = 15$.

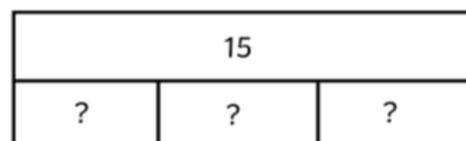
The inverse would be $15 \div 3 = 5$ or $15 \div 5 = 3$.

When dividing or sharing you always begin with the whole number.

$15 \div 3 = 5$ is the same as 15 shared by 3 groups equals 5 in each group.



For $15 \div 3 =$ The bar model would look like this:

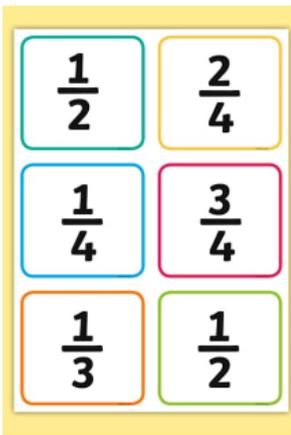


You know the total to share is 15. You know there are 3 groups to share into. You need to work out how many in each group.

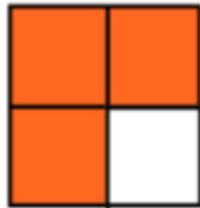
To do this you would draw one in each group and stop when you get to 15. Or use your knowledge of your times tables.

This is different in multiplication. In multiplication you are working to find the whole using the 2 parts that you know.

Fractions



The bottom number (denominator) is the whole; the total of all of the parts. The top number (numerator) tells you how many parts you are looking for.

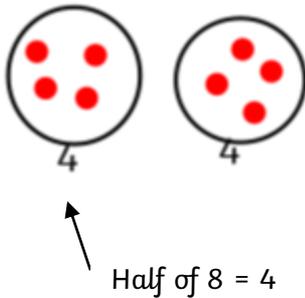


$\frac{3}{4}$ or 3 quarters
3 equal parts out of 4 are shaded.

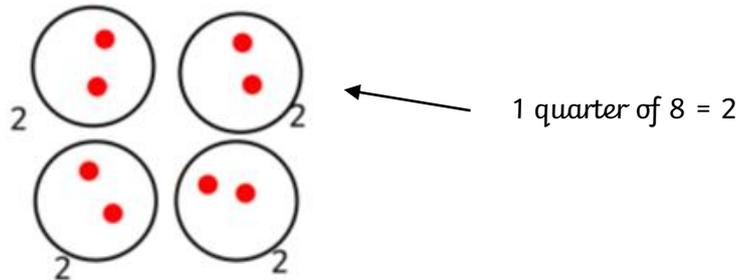
To find fractions of small numbers you can draw a picture:

Share the whole into the total number of groups then count how many is in the number of groups you are looking for.

Half of 8



Quarter of 8

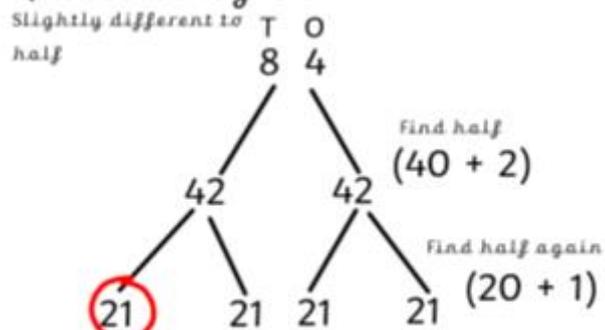


To find fractions of larger numbers you can use a fraction tree:

Half of 84



Quarter of 84



$\frac{1}{4} = 21$

From this you can also find $\frac{2}{4}$ and $\frac{3}{4}$ by adding together the number of parts.

$\frac{2}{4}$ of 84 would be $21 + 21 = 42$

$\frac{3}{4}$ of 84 would be $21 + 21 + 21 = 63$