YR1 MULTIPLICATION AND DIVISION KNOWLEDGE ORGANISER

Key Concepts

- Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with support.

In Year 1 it is important for children to work practically to solve problems like this using concrete objects.

Children in Year 1 are not expected to recognise or use the symbols for multiplication or division.

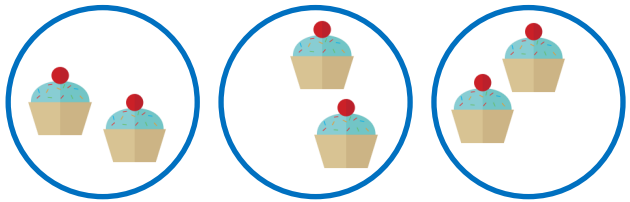
Key Vocabulary

- Equal groups
- Equal rows
- Grouping
- Sharing
- Doubles
- Halves
- Count in (2s, 5s, 10s)
- Lots of
- Groups of
- Array

Making Equal Groups

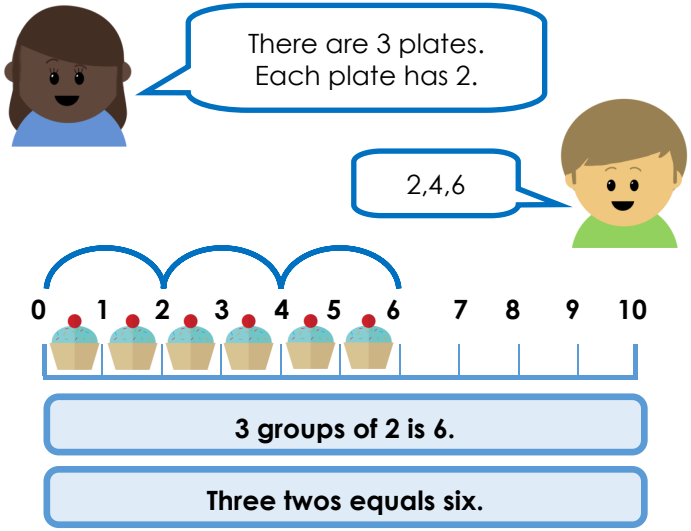
Before starting multiplication and division it is necessary to understand what it means to have equal groups.

For example: Each plate has 2 cakes.
They are equal groups.



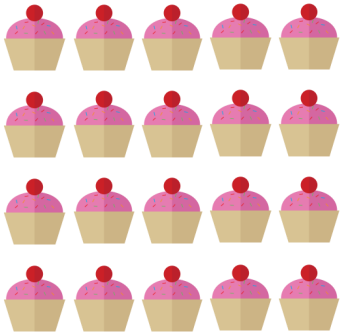
Adding Equal Groups

This idea can then be combined with knowledge of counting in 2s,5s and 10s.



Arrays

The ideas then develops into making equal rows to organise objects clearly:



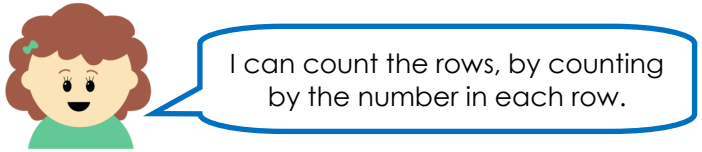
5 cakes in 1 row

10 cakes in 2 rows

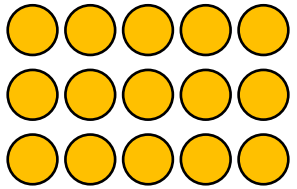
15 cakes in 3 rows

20 cakes in 4 rows

This group of rows is called an array.



As well as using real objects, arrays can be made using representations, like counters or drawings.



3 rows.

5  **in one row**

3 fives = 15

There are 15 altogether

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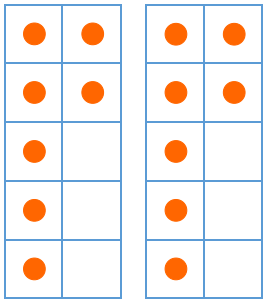
Double

An important part of multiplication in understanding that doubling a number makes 2 equal groups of that amount.

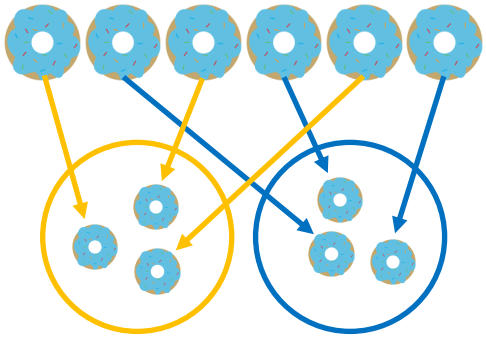


Double 7 = 14

2 sevens

Half

The inverse of this is half. This can be worked out practically by sharing between 2 groups.



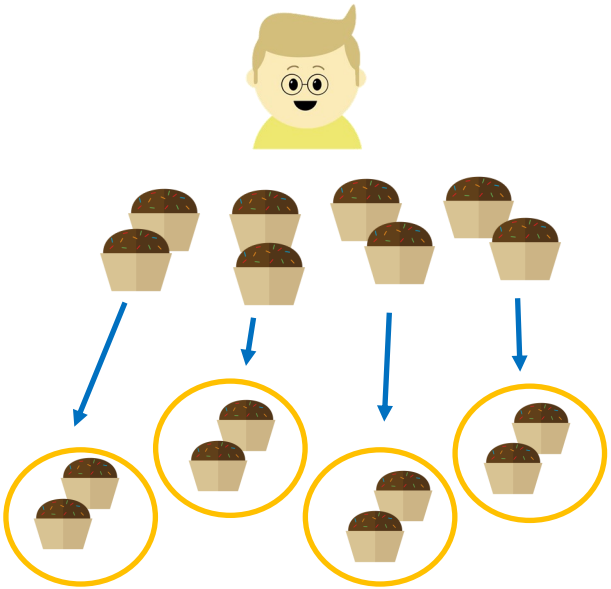
Half of 6 is 3

6 shared between 2 is 3.

Grouping Equally

When the total is known, finding the number of groups may be necessary. This is called division by grouping.

For example, if Alfie puts 2 cakes on each plate, how many plates are needed?



There are 8 cakes altogether.

There are 2 cakes on each plate.

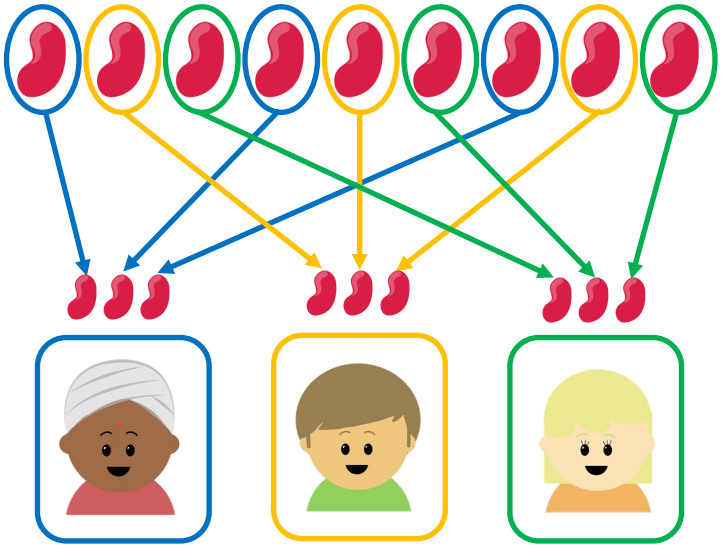
4 plates are needed.

Sharing by Grouping

Another type of division is by sharing equally. This involves knowing the number of groups you have, but not the number in each group.

For example, 3 children share 9 sweets equally, how many sweets does each child get?

Each child takes it in turns to take one, then again until there are none left.



There are 9 sweets altogether.

There are 3 children.

Each child gets 3 sweets.