

Children learn to think about equal groups or sets of objects in practical, real life situations. They begin to record these situations using pictures.

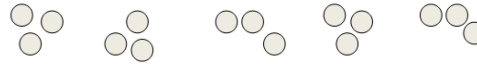


A child's jotting showing fingers on each hand as a double.



A child's jotting showing double three as three cookies on each plate.

Children understand that multiplication is repeated addition and that can be done by counting in equal steps/groups.

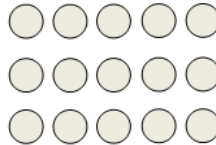


or

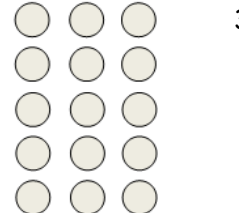


Children can then be introduced to the image of a rectangular array.

Children also understand that $\times 5$ is the same as 5×3



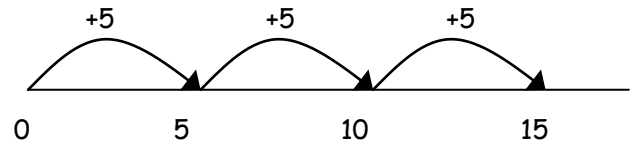
$$5 + 5 + 5 = 15$$



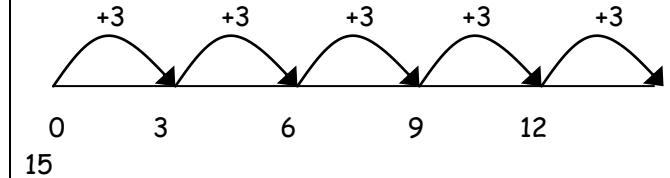
$$3 + 3 + 3 + 3 + 3 = 15$$

Repeated addition on a number line

$$5 \times 3 = 15$$



or



Grid method

$$14 \times 6$$

The 14 is partitioned (split) into 10 and 4.

The answer to 6×10 is found = 60

The answer to 6×4 is found = 24

The two answers are added together $60 + 24 = 84$

x	10	4
6	60	24

Grid method

$$72 \times 38$$

The 72 is partitioned into 70 and 2.

The 38 is partitioned into 30 and 8.

Multiply each number in a grid before finding the total.

x	70	2
30	2100	60
8	560	16

$$\begin{array}{r}
 2100 \\
 + 560 \\
 + 60 \\
 + 16 \\
 \hline
 2736 \\
 \hline
 1
 \end{array}$$

Column method

Once children are confident with all aspects of place value involved in the grid method they can then move onto formal multiplication.

$$\begin{array}{r}
 783 \\
 \times 42 \\
 \hline
 1566 \quad \times 2 \\
 31320 \quad \times 40 = (4 \times 10) \\
 \hline
 32886
 \end{array}$$

Children need to understand that 40 is 10 times larger than 4. So the zero is a place holder put in before multiplying by 4, resulting the answer being 10 times larger.