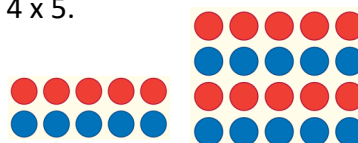# Maths - Year 4

Calculating 10: Exploring the distributive property and developing written methods of multiplying

### Key Vocabulary

Array	A rectangular arrangement of objects or numbers in rows and columns.
Commutative	When adding or multiplying 2 numbers, the answer will be the same no matter which order the numbers
Product	The number resulting from multiplying two or more numbers together.
Partition	Splitting a number in different ways, usually to help with calculating, e.g. 27 can be partitioned into 2 tens (20) and

Mathematical Skills

- Read and write pairs of commutative multiplying sentences for arrays.
- Recognise doubled numbers and use doubles facts when multiplying.
- Separate arrays into two or more parts and write multiplying sentences for each part.
- Use known multiplying facts to work out other multiplying facts e.g. use x 10 and x1 facts to multiply by 11; use x10 and x2 facts to multiply by 12.
- Use apparatus to support understanding of the short written methods of multiplying.
- Write equivalent expressions using the distributive property, e.g. 17 x 5 = 10 x 5 + 7 x 5.

Mathematical Methods

- A doubling strategy for multiplying e.g. $(2 \times 5) + (2 \times 5) = 4 \times 5$.
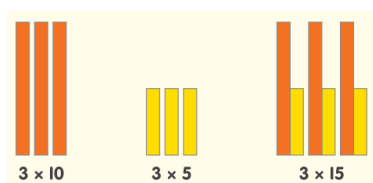

- More doubling strategies for multiplying.

3×3 6×3 $5 \times 3 = 15$ $10 \times 3 = 30$
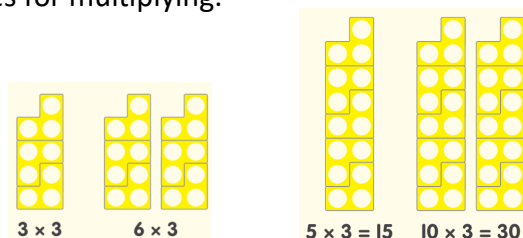
- Working out multiplying facts using the distributive property.

×	1	2	5	10
1	1	2	5	10
2	2	4	10	20
3	3	6	15	30
4	4	8	20	40
5	5	10	25	50

$$5 \times 5 = 25$$
$$+ \; 5 \times 1 = \; 5$$
$$5 \times 6 = 30$$

- Exploring the short written method of multiplying with teen numbers.

3×10 3×5 3×15

	1	5
×		3
	4	5
	1	

Can you..?

- Solve 8 x 14 =

- How much would two rows of stamps cost?   8p 8p 8p 8p 8p 8p

- What mistake has been made in this calculation?

$$\begin{array}{r} 38 \\ \times\ \ 8 \\ \hline 244 \\ \end{array}$$
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