Maths - Year 5

Calculating 8: Using mental methods for multiplying and dividing

Key Vocabulary	
Product	The result of multiplying two or more numbers together.
Partition	Splitting a number in different ways.
Array	A rectangular arrangement of objects or numbers in rows and columns.
Factor	A number that divides into another number exactly.
Distributive property	Breaking a number up into smaller parts, multiplying each of the parts and then adding the results together.

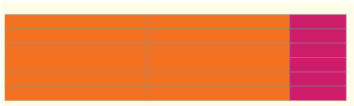
Mathematical Skills

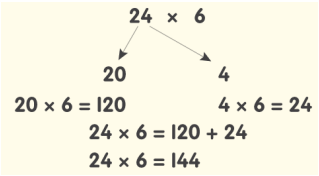
- Separate arrays into two or more parts and write multiplying sentences for each part.
- Partition a number into two or more parts to make multiplying or dividing easier.
- Record the steps that they have taken using a balancing calculation.
- Demonstrate a good understanding of the relationship between multiplying and dividing.

Mathematical Methods

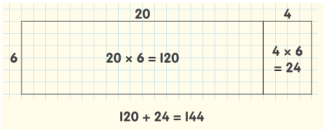
- Multiplying using partitioning e.g. 7 x 14.

- Developing understanding of multiplying using the distributive property.





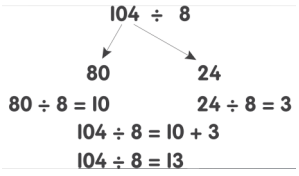
$$24 \times 6 = (20 \times 6) + (4 \times 6)$$
$$= 120 + 24$$
$$= 144$$

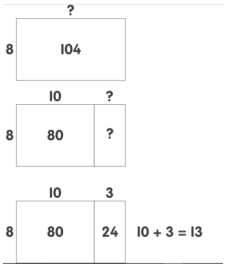


- Using the distributive property for multiplying with decimals e.g. There are 6 bookcases along a library wall. Each bookcase is 1.4m wide. What is the total width of all 6 bookcases?

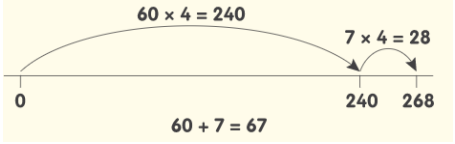
1.4 x 6 = (1 x 6) + (0.4 x 6) = 6 + 2.4 = 8.4

- Exploring dividing using mental strategies e.g. 104 ÷ 8.



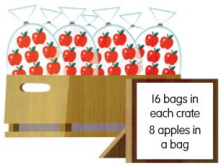


- Dividing larger numbers using the distributive property in the context of money e.g. £2.68 ÷ 4.



Can you..?

- Calculate how many apples altogether.



- Molly and Ravi walk to school Monday - Friday. Molly walks 1.3km per day and Ravi walks 1.5km per day. How far do Molly and Ravi each walk to school and back in a week?

- A fairground ride holds 9 people at a time. 118 children want to go on the ride. How many times will the ride need to run for all the children to have a turn?

- Calculate £9.25 ÷ 5.