MULTIPLICATION ×

Year 5 Multiply up to 4 digits by 1 or 2 digits.

Introducing column multiplication

Introduce column multiplication by comparing a grid method calculation, in order to see how the steps are related. Notice how there are less steps involved.

×	300	20	7
4	1200	80	28

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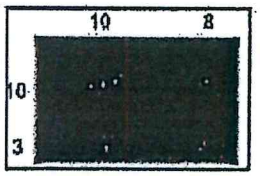
$$\begin{array}{r} 327 \\ \times \quad 4 \\ \hline 1308 \\ {\scriptstyle 1\ \ 2} \end{array}$$

Introduce long multiplication for multiplying by 2 digits



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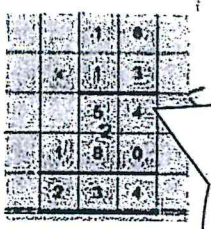

18 x 3 on the first row

(8 x 3 =24, carrying the 2 for 20, then 1 x 3)

18 x 10 on the 2nd row. Show multiplying by 10 by putting zero in units first

Move towards more complex numbers

$$\begin{array}{r} 1234 \\ \times \quad 16 \\ \hline 7404 \quad (1234 \times 6) \\ 12340 \quad (1234 \times 10) \\ \hline 19744 \end{array}$$

$$\begin{array}{r} 3652 \\ \times \quad 8 \\ \hline 29216 \\ {\scriptstyle 5\ \ 4\ \ 1} \end{array}$$

Children should approximate first

Key vocabulary groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated addition, column, row, sets of, equal groups, times as big as, once, twice, three times..., partition, grid method, multiple, product, tens, units, value, inverse, square, factor, integer, decimal, short/long multiplication, 'carry'

Key Skills for addition at Year 5

- Know and recite all times tables including division facts.
- Multiply 2- and 3-digit numbers by numbers ≤12 using grid method; multiply 2-digit by 2-digit numbers using grid method.
- Identify multiples and factors, using knowledge of multiplication tables up to 12 x 12
- Scale up or down by a factor of 2, 5 or 10
- Multiply integers and decimals by 10, 100, 1000
- Recognise and use squared, cubes and their notations