

Can I use a written method to multiply?

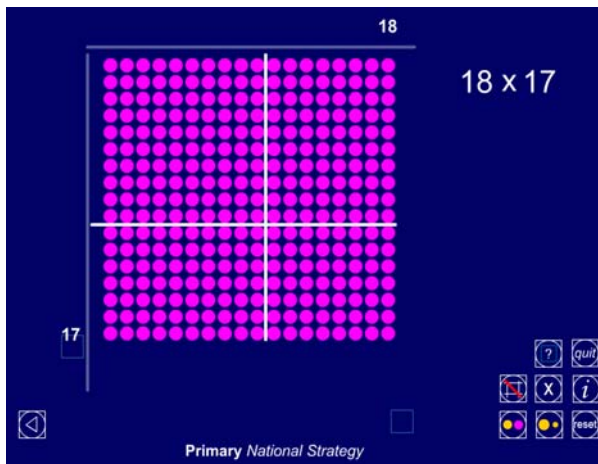
Teaching guidance

Key vocabulary

array, partition, multiply, multiplied by
calculate, calculation, strategy, method, equation

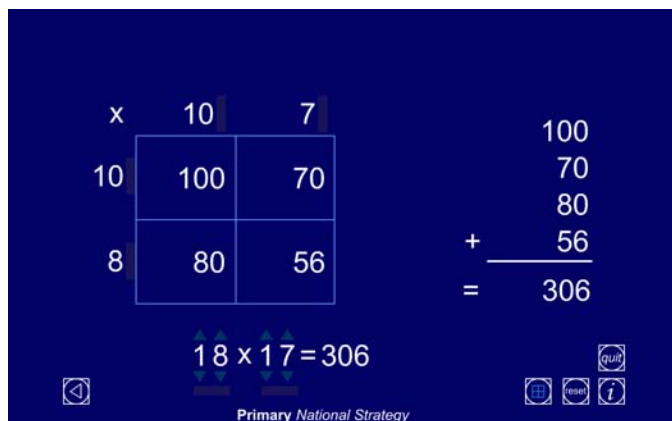
Models and images

Use the *Multi-array* ITP to create arrays and then partition them to provide a visual representation of the grid method of multiplication.



Multi-array ITP

Use the *Multiplication grid* ITP to model the grid method of multiplication.



Multiplication grid ITP

Teaching tips

- Encourage children to use mental methods of calculation, where appropriate, but for those calculations they cannot solve mentally they need to be able to use an efficient method, such as the grid method of multiplication, accurately and with confidence.
- To multiply successfully and efficiently, children need to:
 - know or quickly recall multiplication facts up to 10×10 ;
 - understand the effect of multiplying numbers by 10, 100 or 1000;
 - multiply multiples of 10, for example, 20×40 ;
 - approximate; for example, recognise that 72×38 is approximately $70 \times 40 = 2800$ and use this information to check whether their answer appears sensible.
- Give children opportunities to use written calculation strategies with numbers for which they could use mental methods, in order to build up their confidence with the written method.
- Provide children with written multiplication calculations in which an error has been made, such as incorrect partitioning, and ask children to identify and correct the error.
- Once children are secure in using a written method such as the grid method to multiply, develop and refine this to make it more efficient.

$\begin{array}{r} 56 \\ \times 27 \\ \hline 1000 \\ 120 \\ 350 \\ 42 \\ \hline 1512 \\ 1 \\ \hline \text{Answer: } 1512 \end{array}$	$\begin{array}{r} 56 \\ \times 27 \\ \hline 1120 \\ 392 \\ \hline 1512 \\ 1 \\ \hline \text{Answer: } 1512 \end{array}$
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- Ensure that children experience clear progression and a consistent approach to the teaching of calculation strategies throughout the school.