

The next step is for children to move on to a formal, columnar method. The children multiply the ones digit by the multiplier first, writing their answer below, ensuring that any tens are small and above the answer line. They will then multiply the tens digit with the multiplier, adding any tens from the previous calculation to the product.

$$\begin{array}{r}
 42 \\
 \times 9 \\
 \hline
 378
 \end{array}$$

The one is the tens digit from 18

$4 \times 9 = 36$, add the 1 from 18 to get 37

It is explained to the children that they are still multiplying ones and tens, ensuring that they understand that the first step is multiplying 2 by 9 and the second step is actually multiplying 40 by 9 rather than 4×9 . The aim is for the children to understand the place value involved in long multiplication. Once confident, the children will progress to multiplying 3 digit numbers and beyond by 1 digit numbers. This method can also be used with decimal numbers.

The final step for children to master is multiplying 2 digit numbers by 2 digit numbers. The children will start by multiplying the ones and tens digits of the top number by the ones digit from the multiplier, as in the above method. They will then drop down to the line below and multiply by the tens digit of the multiplier. The children should have the underpinning place value knowledge to understand that a number that ends in a 0 is a multiple of ten. This should be built upon by the children adding a zero into the ones column to signify that each calculation they make is ten times bigger than it would have been had they been multiplying by the ones digit. The children will multiply by the tens digit as above, and will finally add the two products to reach a final answer.

$$\begin{array}{r}
 95 \\
 \times 37 \\
 \hline
 665 \\
 2850 \\
 \hline
 2515
 \end{array}$$

The children are encouraged to change the colour of their pencil and cross out the ones digit when they start multiplying by the multiplier's tens digit

The formal addition method should be used for the final section of this calculation