



# Multiplication



## Short multiplication

This method requires the children to set the calculation out on in column formation. Start with multiplying the units (ones) by the single digit, then multiply the tens by the single digit and so on.

Always carry any tens underneath the answer bar.

$24 \times 6$  becomes

$$\begin{array}{r} 24 \\ \times 6 \\ \hline 144 \\ \hline \end{array}$$

$342 \times 7$  becomes

$$\begin{array}{r} 342 \\ \times 7 \\ \hline 2394 \\ \hline \end{array}$$

## Short multiplication with Decimals

$$\begin{array}{r} 3.19 \\ \times 8 \\ \hline 25.52 \\ \hline \end{array}$$

Line up the decimal points in the question and the answer.

Remind children that the single digit belongs in the units column.

This works well for multiplying money (£.p) and other measures.

## Long multiplication

This method requires children to set the calculation out in column formation, ensuring that the numbers are lined up correctly according to their place value.

First, children should start with multiplying the top number by the units (ones) in the bottom number.

Then the children need to multiply the top number by the tens in the bottom number – therefore they should put a zero down first.

Then we add the results of our calculations together to get the final answer.

$$\begin{array}{r} 53 \\ \times 24 \\ \hline 212 \\ 1060 \\ \hline 1272 \end{array}$$

$$\begin{array}{r} 5172 \\ \times 38 \\ \hline 41376 \\ 151 \\ \hline 155160 \\ 2 \\ \hline 196536 \\ 1 \end{array}$$

$$\begin{array}{r} 391 \\ \times 39 \\ \hline 3519 \\ \square \quad 8 \quad \square \\ 11730 \\ \square \quad \square \quad \square \\ \hline 15249 \end{array}$$

First we multiply each of the digits 391 by 9.

$$9 \times 1 = 9$$

$$9 \times 9 = 81$$

(put the 1 down; carry the 8)

$$9 \times 3 = 27$$

$$27 + (\text{carried}) 8 = 35$$

Now we multiply each of the digits 391 by 3. Because it is actually 30, not 3, we put a zero down first.

$$3 \times 1 = 3$$

$$3 \times 9 = 27$$
 (put the 7 down and carry the 2)

$$3 \times 3 = 9$$
 (plus the 2 which makes 11)

Last of all, we add the results of our calculations to get the answer.

$$3519 + 11730 = 15249$$