

# Factors can help!

## Background

In  $3 \times 4 = 12$ , the 3 and 4 are called factors of 12. This means that 12 can be divided by 3 and 4. Other factors of 12 are: 6 and 2 because  $6 \times 2 = 12$   
12 and 1 because  $12 \times 1 = 12$ .

When doing multiplication with two digit numbers, it can sometimes help to split one of the numbers up into its factors. This will make smaller multiplication sums for you to do.

For instance:

If you are working out  $37 \times 18$  it is useful to know that  $18 = 6 \times 3$ . You can then work out  $37 \times 6$  first and then multiply the answer by 3, ie  $222 \times 3$  which gives 666.

Use this method to work out the following sums.

Sum	Factors of one number	Interim stage	Answer
$37 \times 18$	$6 \times 3 = 18$	$37 \times 6 = 222$	$222 \times 3 = 666$
$34 \times 12$	$3 \times 4 = 12$	$34 \times 3 =$	$\times 4 = 408$
$45 \times 21$	$7 \times 3 = 21$	$45 \times 7 =$	$\times 3 = 945$
$63 \times 15$			
$43 \times 14$			
$19 \times 27$			
$36 \times 13$			
$42 \times 17$			
$32 \times 19$			
$24 \times 18$			

**Tip:** Remember that you can do multiplication sums in any order. For instance,  $25 \times 3 = 75$  and  $3 \times 25 = 75$ .

## EXTRA!

Some numbers have lots of factors. Have a class competition to find the number that has the largest amount of factors.