

Factors

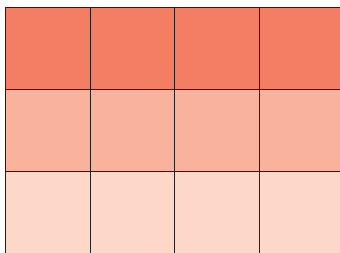
multiplication (x) and division (÷)

A **factor** of a given number is a whole number that divides into it exactly. Factors of a number can be found by making arrays of that number.

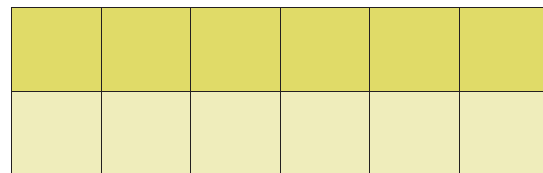
The factors of **12** are 1, 2, 3, 4, 6 and 12.

1 x 12, 2 x 6 and 3 x 4 all equal 12.

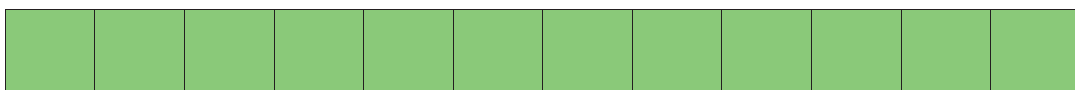
We can see these factors by making arrays for the number 12:



3 x 4



2 x 6



1 x 12

Using factors for large multiplication problems:

eg 18 x 5

- Two factors of 18 are 9 and 2 so we can write 18×5 as $(9 \times 2) \times 5$
- We multiply in any order and the answer is the same so:

18 x 5 can be written as $(9 \times 2) \times 5$ or $9 \times 2 \times 5$

$$= \begin{array}{c} \diagdown \quad \diagup \\ 9 \times 10 = 90 \end{array}$$

Factors – multiplication (x) and division (÷)

Prime numbers are numbers that have only two factors,

eg **7** has only two factors – **1** and **7**.

1 is not a prime number as it only has one factor – the number **1**.

Composite numbers have more than two factors,

eg **15** has the factors **1, 3, 5** and **15**.