

Multiples:

Multiples can be thought of as “the numbers in ‘that’ times-table”.

Example:

Multiples of 3 are 3,6,9,12,15,18 etc.

They can also be thought of as the **product** of 2 factors.

Example:

A **factor pair** for 6 is 2 and 3 (because 2×3 is 6). 6 is therefore a **multiple** of 2 and 3.

To work out if something is a **multiple** of a number, you can check if it is divisible by the number.

Example 1:

Is 98 a multiple of 6?

98 doesn't give a whole number answer when you divide it by 6, so no.

Example 2:

Is 105 a **multiple** of 7? 105 divided by $7=15$ so yes, it is a multiple of 7 (and 7 and 15 are **factors** of 105).

Factors:

Factors come in pairs. They are the whole numbers, which multiply together to make a certain number.

Example:

$$1 \times 48 = 48$$

$$2 \times 24 = 48$$

$$3 \times 16 = 48$$

$$4 \times 12 = 48$$

$$6 \times 8 = 48$$

This is where we stop. The next one is 8×6 but that is the same as 6×8 because multiplication is **commutative**.

So, the factors of 48 are 1, 2, 3, 4, 6, 8, 12, 16, 24 and 48.

Prime Numbers:

Prime numbers are whole numbers with only one factor pair.

Example:

Factors of 17 = 1 and 17

There are no other pairs of numbers which you can multiply together to make 17. Therefore, it is a prime number.

Composite numbers:

Composite numbers are whole numbers with more than one factor pair (the opposite of prime!).

Example:

Factors of 12:

1 and 12

2 and 6

3 and 4

12 has more than one factor pair, so it is not a prime number – it is a composite number.