

## Prime and Composite Numbers

Natural numbers are the set of numbers we use when we count.  
{1, 2, 3, 4, 5, 6, 7, ...}

A prime number is a natural number that can be divided, without leaving any remainder, by only itself and one. A prime number has only two factors, itself and one.

For example, 5 can be divided, without a remainder, only by 5 and 1.  
5 has exactly two natural number factors, 5 and 1.  
5 is a prime number.

A composite number is a natural number that can be divided, without leaving any remainder, by a natural number other than itself and one.

For example,

$$2 = 1 \times 2$$

$$3 = 1 \times 3$$

$$6 = 1 \times 6 \text{ and } 2 \times 3$$

Prime

Prime

Composite

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15 can be divided by 3 and by 5, so 15 is composite.

Interesting fact 1:

There is exactly one even prime number. It is also the smallest prime number. Do you know what it is?

Interesting fact 2:

Prime numbers are interesting to scientists, especially the large ones. Large prime numbers are used as keys in the codes that are used to send secret messages. Since these are not easy to find, the codes are difficult to break.

When you try to decide if a larger number is prime, you really only need to find out if it is divisible by prime numbers that are less than it is.