



In the binary number system, there are only two digits: 0 and 1. This is a 'base 2' system instead of our usual 'base 10' system, which means that as soon as we get to the number 2, we have to use a new place value column to show this.

The binary place value columns look like this:

4s	2s	1s

Which means that the numbers from 0 to 7 are written like this in binary:

Base 10	Binary
0	0
1	1
2	10
3	11
4	100
5	101
6	110
7	111

We wouldn't say '111' as 'one hundred and eleven' here - we would say 'one one one', and we could think about it as 'one 4, one 2 and one 1'.

Have a play around with this idea. Can you work out how we came up with all the binary numbers in our table? What other numbers can you write using the binary number system?

Once you've got the hang of writing numbers using this system, have a go at some calculations. Is there a way of changing your usual methods of adding, subtracting, multiplying and dividing so that they work with binary numbers? Or do you need new methods altogether?

What else can you find out about the binary number system?