BINARY DIGITS

Because we have ten fingers we use a number system based on 10. We call it decimals or Hundreds, Ten and Ones. (If spiders could count they would probably use base 8!)

For example, the number 368 means **3 times 100** plus **6 times 10** plus **8 times 1**

100	10	1
3	6	8

There is a number system based on **2**. Numbers written in base 2 are called **binary digits.** They contain **ones** and **zeros** and **nothing else**. Instead of 1, 10, 100, 1000 we use 1, 2, 4, 8, 16, etc.

Take the number 26 (in base 10). In binary we would write this as 11010, because we can get 26 using **1 times 16** plus **1 times 8** plus **0 times 4** plus **1 times 2** plus **0 times 1**

16	8	4	2	1
1	1	0	1	0

Action

- Write the numbers 14, 24, 11 and 15 using binary digits
- Convert the binary numbers 11101, 11000, 110 and 11111 into decimals
- Try to write the numbers 83, 197 and 128 in binary digits
- Write the number that appears on your front door in binary digits
- Print off and cut out the card-matching task on the next page.
- Match 'em up!

FACT OF THE DAY: The phrase binary digit shortens to BIT (Binary digIT). Eight bits make a byte. A million bytes make 1 Megabyte. (Ever heard of Megabytes..?)

74	14	1100011	110110
108	33	1000001	100001
127	100	1111111	1100100
65	76	1001010	1001100
99	54	1101100	1110