

KS3 Computing What is binary code?

Computers use binary numbers, 0 and 1.

This is because computers use switches and a switch can only be ON or OFF.



0	1
Off	On

- The **Binary** number system is referred to as **Base 2**. This is because it uses 2 numbers, 1 and 0.
- Binary is the language understood by the computer.
- All computer programs must be translated into binary code for the computer to understand and carry out instructions.



- The **Denary** number system is referred to as **Base 10**. The numbers 0-9 are used to represent powers of 10 (1, 10, and 100, 1,000 and so on)
- Denary is the language understood by humans.

<i>Denary numbers</i>	128	64	32	16	8	4	2	1	TOTAL
<i>Binary numbers</i>	1	0	1	0	1	1	0	0	128+32+8+4 = 172

There is a **1** in the 128, 32, 8 and 4 columns so add these together to find the denary number

1. A **bit** can hold one of two values, 0 or 1
2. A **nibble** can hold 4 bits
3. A **byte** can hold 8 bits

128	64	32	16	8	4	2	1
1	0	1	0	1	1	0	0