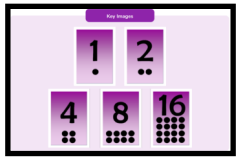
Year 6 Computing: Understanding Binary (Computer Science)

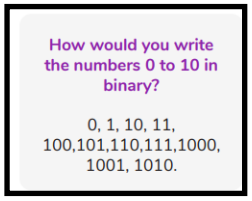
Prior Learning

- I can create a program using 2Code.
- I can use 'functions'.
- I understand the terms 'input' and 'output'.
- I can debug an algorithm.
- I understand that computers need precise, clear information.

Sticky Knowledge

- I can examine how whole numbers are used as the basis for representing all types of data in digital systems.
- I recognise that digital systems represent all types of data using number codes that are patterns of 1s and 0s (called binary digits, which is why they are called digital systems).
- I understand that binary represents numbers using 1s and 0s and these represent the on and off electrical states respectively in hardware and robotics.





Key Vocabulary

base 2	A number system in which there are two separate integers that can be used to make all numbers. This is also called the binary system.
bit	A single 0 or 1 is called a bit. This word comes from 'Binary Digit'.
base 10	A number system in which there are ten separate integers that can be used to make all numbers. This is also called the decimal and the denary system.
integer	Any whole number. This includes negative and positive numbers but not fractions or decimals
transistor	A transistor is a tiny switch that is activated by the electronic signals it receives.
switch	An act of changing to or adopting one thing in place of another.
machine code	The code that signals to a computer which transistors should be on or off. Machine code is written in binary
megabyte (MB)	1024 KB
terabyte (TB)	1024 GB
nibble	4 bits
switch	A component that can be 'on' or 'off'
variable	A variable is used in programming to keep track of things that can change when a program is running.
transistor	A tiny switch that is activated by the electronic signals it receives.