Kit’s Binary Code Challenge

Learning objective: I can explain how computers use binary to represent data and convert simple numbers between binary and denary.

About 15 minutes. Grown-up tip: Ask your child to explain why a light switch is a good real-world comparison for a binary bit.

Binary is the language of computers, using only two digits: 0 and 1. Think of it like a light switch that is either off (0) or on (1). Each 'bit' represents a value based on its position.

Example: The binary number 101 represents (1 × 4) + (0 × 2) + (1 × 1) = 5 in denary.

What does the word 'binary' mean in computing?	What is the name of the standard base-10 number system we use every day?
A number system that uses only two digits, 0 and 1.	Denary (or decimal).
In binary, what does the digit '0' usually represent?	**In binary, what does the digit '1' usually represent?**
Off or false.	On or true.
How many bits are in one byte?	**What is the denary value of the binary number 0001?**
8 bits.	1.
What is the denary value of the binary number 0010?	**What is the denary value of the binary number 0100?**
2.	4.
What is the denary value of the binary number 1000?	**Convert the denary number 3 into binary.**
8.	0011.

Convert the denary number 6 into binary.	Why do computers use binary instead of our normal number system?
0110.	Because computers are made of electrical switches that are easier to control as either on or off.