Different Types of Data Computers Can Store

KS3 COMPUTING Ages 11-14 ⏰ 3 min read

What is Data?

Data is information that computers store and use. Every time you take a photo, type a message, or play a video game, you're creating data. Computers need different ways to store different types of data because a photo needs to be saved very differently from a shopping list.

Text Data

Text data includes all the words, letters, and numbers you type. This is the simplest type of data for computers to store. When you write an email or create a document, you're making text data. Computers store each letter using a special code called **ASCII** or **Unicode**, which turns letters into numbers that computers understand.

Think of it like: Each letter is given a special ID number, so the computer knows 'A' is always 65, 'B' is always 66, and so on.

Numerical Data

Numerical data means numbers — not just the numbers in text, but actual calculations and measurements. Temperatures, test scores, bank balances, and game points are all numerical data. Computers can do maths with numerical data very quickly, which is why they're so useful for science and finance.

Image and Video Data

Image data stores pictures, and **video data** stores moving pictures. Images are made of tiny dots called **pixels**, each with a colour code. Videos are thousands of images shown very quickly one after another. These files are much bigger than text because they need to store information about millions of pixels and their colours.

Think of it like: A photo is like a giant grid of coloured squares — the computer has to remember the colour of every single square.

Audio Data

Audio data is sound — music, voices, and noises. Sound is stored as a series of measurements taken many times per second. When you listen to a song on your phone, the computer is reading these measurements very quickly and turning them back into sound through your speaker.

Structured Data

Structured data is organised information, like a database or spreadsheet. It has rows and columns, just like a table in a book. School records, customer lists, and library catalogues all use structured data because it's easy to search and organise.

Think of it like: A spreadsheet is like an address book — everything is neatly sorted so you can find what you need quickly.

Why Does Data Type Matter?

Computers need to know what **type** of data they're storing because different types need different amounts of space and different ways of being read. A single letter takes far less space than a photo, and video needs much more storage than music. When you create something on a computer, the file extension (like .txt, .jpg, or .mp3) tells the computer what type of data it is and how to handle it.