



What is a data centre?

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Ages 9-14 ⏰ 2 min read

When people say "it's saved to the cloud," they say it as if the data is floating somewhere vague and ethereal. It isn't. Your photos, messages, bank details, and streaming videos live in very real, very large buildings full of humming computers. Those buildings are called **data centres**.

What's inside

A data centre is essentially a warehouse stuffed with servers — powerful computers designed to run 24 hours a day, 7 days a week, for years at a time. These servers don't have screens or keyboards; they're just metal boxes packed with processors, memory, and storage, stacked in tall racks like shelves in a library.

A large data centre might contain hundreds of thousands of servers. Companies like Google, Amazon, and Microsoft run some of the biggest, each the size of multiple football pitches.

Think of a data centre as a giant post office warehouse where instead of parcels, it stores information — and instead of sorting and delivering letters, it processes requests: "send this email," "load this webpage," "stream this video." Every time you do anything online, it's almost certainly a request going to a computer in one of these buildings.

The cooling problem

Computers generate heat. Lots of it. Pack a hundred thousand computers into a building and you have an extraordinary amount of heat to get rid of — otherwise the equipment would overheat and fail. This is why data centres spend enormous amounts of energy on cooling systems: industrial air conditioning, cold water pipes, and in some cases actually building near cold rivers or in cold countries (Iceland is popular for this reason).

The environmental cost

Data centres currently consume around 1-2% of global electricity — a figure that's growing rapidly as more of our lives move online and as AI systems (which are extraordinarily hungry for computing power) become more common. Tech companies have made big promises about using renewable energy, and many are making genuine progress, though the sheer scale of energy demand remains a challenge.

Where are they?

Data centres are often built in areas with cheap electricity, good internet connections, and cooler climates. The UK has a large cluster in London and the South East. You've almost certainly driven past one without knowing — they tend to look like anonymous grey warehouses with no windows and a lot of security fencing.