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# Hardware and Software: The Two Parts of Computing

KS2 COMPUTING

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## What is Hardware?

**Hardware** is the physical part of a computer that you can touch and see. It includes everything made from metal, plastic, glass, and other materials. Your computer's **keyboard**, **mouse**, **screen**, and **printer** are all hardware. Inside your computer, there's a **processor** (the computer's brain), **RAM** (memory that helps it work), and a **hard drive** (where it stores files).

Think of hardware like the parts of a bicycle. The frame, wheels, handlebars, and pedals are all physical things you can hold and fix.

Think of it like... A bicycle has physical parts (frame, wheels, pedals) that you can touch and repair. A computer's hardware works the same way.

## What is Software?

**Software** is the invisible instructions that tell your hardware what to do. You can't touch software because it's just code—a special language that programmers write. **Games**, **internet browsers**, **word processors**, and **apps** on your phone are all software. Even your phone's **operating system** (like **Android** or **iOS**) is software that controls how everything works.

Software tells your hardware to light up the screen, make sounds, or save your homework file.

Think of it like... A bicycle needs instructions on how to ride it properly. Software is like those invisible instructions that tell your hardware what movements to make.

## Why Do We Need Both?

Hardware and software need each other to work. Without software, your computer is like a bicycle without a rider—it can't do anything on its own. Without hardware, software has nowhere to live or run. A **smartphone** is a great example: the physical phone (hardware) needs **apps and operating systems** (software) to be useful.

When you click a button on your keyboard (hardware), software instructions travel through your computer telling it what to do next. They work together like a team.

Think of it like... Your body is hardware (bones, muscles, heart), and your brain's instructions are software (telling your legs to run, your hand to wave).

## **The Real-World Difference**

If your computer screen breaks, that's a hardware problem—you need to fix or replace the physical part. If a program crashes or won't open, that's a software problem—you might need to restart it or download an update. Understanding the difference helps you figure out what's wrong when something stops working!