

## LESSON 2

# What Is a Computer?: Hardware vs Software

60 minutes

ICT1: Introduction to the computer and word processing

Outcome M1.U1.2

Outcome M1.U1.1

### WHAT THIS LESSON DOES

In this lesson you distinguish hardware from software using school and work examples. Sort items into categories, compare device types for real tasks, name computer parts in plain language, and describe your own device with one upgrade for your Something Real project.

### CURRICULUM OUTCOMES

| Outcome | What the specification asks for                                                                         |
|---------|---------------------------------------------------------------------------------------------------------|
| M1.U1.2 | Understand and explain key concepts relating to devices, storage and software.                          |
| M1.U1.1 | Understand and explain key concepts relating to Information and Communication Technology and computers. |

### WHAT STUDENTS SHOULD BE ABLE TO DO

- Distinguish hardware from software with everyday school and work examples
- Choose a suitable device type for a common school or work task and say why
- Name the main physical parts of a computer in plain language
- Describe the hardware the student is using and one upgrade that would support their Something Real project

### BEFORE THE BELL

- Confirm students can open the Project Portfolio folder they made last lesson.
- Have the hardware-versus-software diagram ready to project at Key Concepts.
- Open the drag-sort in challenge mode before that step, and keep a paper two-column fallback.
- Be ready to demo About or System info on the board device, or to dictate one class-default specs line for locked machines.
- Students need their Project Portfolio and a word processor in cloud storage; be ready to project the create-the-file strip for both platforms.
- Optional: have a real mouse, USB stick or phone to hold up during Key Concepts.

## What Is a Computer?: Hardware vs Software

### HOW THE LESSON RUNS

|               |              |                       |
|---------------|--------------|-----------------------|
| <b>5 min</b>  | introduction | Introduction          |
| <b>5 min</b>  | content      | Key concepts          |
| <b>14 min</b> | activity     | Hardware or software? |
| <b>5 min</b>  | content      | Common issues         |
| <b>20 min</b> | activity     | Portfolio Build       |
| <b>5 min</b>  | content      | Reflection            |
| <b>6 min</b>  | summary      | Lesson summary        |

### TEACHING MOVES

- Lead with the opening hardware/software table so the room is not blank; project the full diagram at Key concepts
- Must-say before the sort: hardware = touch or inside; software = instructions on screen
- Pre-teach OS and formulas as software before cards move
- Conduct class discussion before allowing interaction with the sorting activity; time-box talk at about 30 seconds per card
- Demo how to find About/System info, or dictate one class-default specs line for locked devices
- Mandatory show of hands on best device for report vs photo vs list check before Portfolio Build
- Circulate during Portfolio Build to encourage concrete upgrade answers and the exact filename 01\_my\_machine
- Keep reflection share-back brief with two or three students

### WHAT TO WATCH FOR

- Thinking the operating system is hardware: clarify it consists of instructions that cannot be touched
- Confusing storage drive with software: note the drive is physical hardware
- Giving vague upgrade suggestions: ask for specific benefits to the project
- Saving as Untitled or My Machine, or adding an extension or extra words, insist on exact 01\_my\_machine in the Project Portfolio folder

### DIFFERENTIATION

- Support: Pair students for the sorting discussion to build confidence
- Support: Offer the on-page sentence starters for device type and upgrade
- Extension: Dream workspace list in the summary, or two upgrades with justifications