

Learner Full Name: _____ School: _____

Assigned Workstation: _____ Class: _____

Session 8: Operating Systems & Settings

When you switch on a computer, the first big programme that wakes up is not Word or Chrome. It is the **operating system** (OS for short). Today you will learn what it does, meet the main operating systems, take charge of the Settings, keep a computer healthy and rescue a frozen programme. The Hub's computers are yours to practise on, so you will do all of it for real.

1. Plain Talk: The Headteacher

Think of your school. Pupils do not walk straight into the staff room, take chalk from the store or move into any classroom they like. The **headteacher** decides who uses which classroom, when, and keeps order so everything runs smoothly. On a computer, the **programmes** (apps) are the pupils, the **hardware** (processor, memory, storage, printer) is the classrooms, staff and store, and the **operating system** is the headteacher.

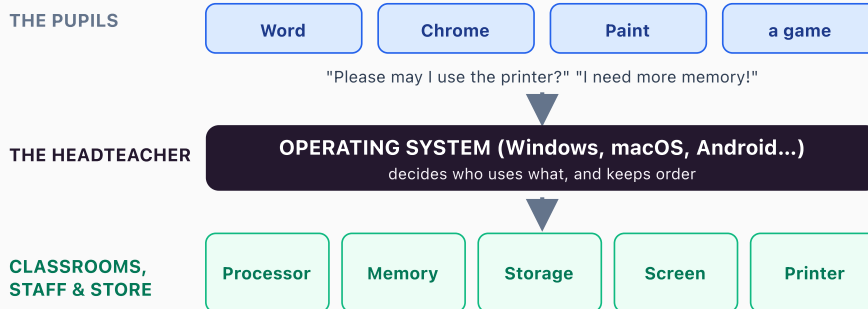


Figure 8.0: Apps never go straight to the hardware. They ask the operating system, which shares out the hardware fairly.

2. The Headteacher's Five Big Jobs

1. **Starts the computer** and shows you the desktop.
2. **Runs programmes** and shares out the processor and memory.
3. **Looks after files** and folders (File Explorer is part of Windows).
4. **Talks to devices:** keyboard, printer, Wi-Fi, sound.
5. **Keeps it safe:** user accounts, passwords, updates and antivirus.

1. Different Schools, Different Headteachers

OS	Made by	Where you will meet it
Windows	Microsoft	Most desktops and laptops in Ghana, including the Hub's PCs (Windows 11 or 10).
macOS	Apple	Apple's Mac laptops and desktops (MacBook, iMac).
ChromeOS	Google	Chromebooks: simple laptops that work mostly through the Chrome browser.
Linux	Free, made by people all over the world	Many web servers and supercomputers, and some laptops (for example Ubuntu). Free to download and use.
Android	Google	Most smartphones and tablets in Ghana (Tecno, Infinix, Samsung, itel...).
iOS	Apple	iPhones (iPads use iPadOS, a close cousin).

They look different, but every one does the same five jobs. Once you know one well, learning another is much easier.

2. User Accounts: Who Is Signed In?

A **user account** is your own space on a computer: your desktop, your Documents folder and your settings. You **sign in** with a name and a password or PIN. There are two main kinds:

STANDARD USER

Can use programmes, save files and change their *own* settings. Must ask an administrator before installing some apps or changing settings for everyone. This is the safest account for everyday work.

ADMINISTRATOR

The "headteacher's key". Can install anything, change any setting and manage other accounts. When Windows asks "*Do you want to allow this app to make changes to your device?*", it is asking for administrator permission. Only say Yes if you know exactly what it is.

To see which kind you are: **Settings → Accounts → Your info**. If it says *Administrator* under your name you are an administrator; if not, you are a standard user (it may look slightly different on Windows 10).

LOCK IT BEFORE YOU LEAVE: +

On a shared computer, going to the toilet without locking is like leaving your school bag open on the bench. Press **Windows + L**: the screen locks, everything stays open, and only you can unlock it with your PIN or password. Never tell anyone your password, and never use a real one in this workbook.

Your turn: Yaw wants to install a game on the Hub PC, but Windows asks for an administrator password. What should he do?

Open Settings with **Start → Settings** (the gear), or press **Windows** + **I**. The menu down the left side takes you to each area. This is Windows 11; Windows 10 looks slightly different.

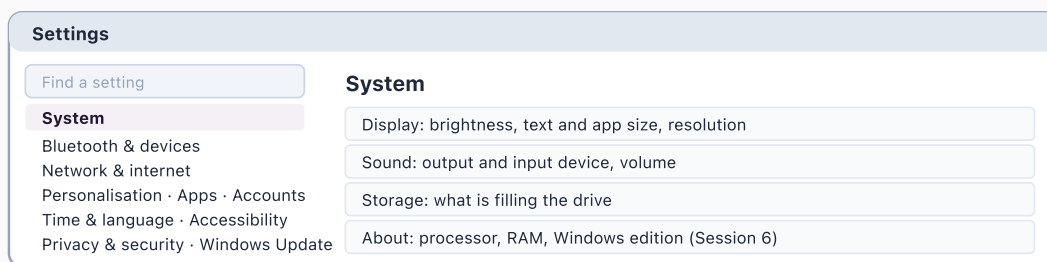


Figure 8.1: The Settings window. Pick an area on the left; its options appear on the right. Lost? Type in "Find a setting".

I want to...	Go to
Connect to Wi-Fi or a phone hotspot	Click the network icon on the taskbar (bottom right) → the arrow > beside Wi-Fi → choose the network → Connect → type the network's password (ask the owner). Also in Settings → Network & internet → Wi-Fi .
Change brightness or make everything bigger	System → Display (Brightness, and Scale: 100%, 125%...)
Pick speakers or headset, change volume	System → Sound (Session 7)
Add a keyboard layout	Time & language → Language & region → the ... beside your language → Language options → Add a keyboard . Switch layouts with Windows + Space .
Make text easier to read	Accessibility → Text size (drag the slider, click Apply), or Accessibility → Contrast themes
Have the computer read aloud	Accessibility → Narrator (or press Windows + Ctrl + Enter to turn it on and off)

Screenshots: A Picture of Your Screen

Press **Windows** + **Shift** + **S**, then drag a box round what you want. The picture is copied, so you can paste it (**Ctrl** + **V**) into Paint or a document, or click the pop-up to open it in the **Snipping Tool** and save it. **Windows** + **PrtScn** saves the whole screen in **Pictures → Screenshots**. Screenshots are great for showing a helper an error message (Session 9).

1. Four Healthy Habits

1. INSTALL UPDATES

Updates fix mistakes and close holes that criminals use to break in. **Settings → Windows Update → Check for updates**. When it asks you to restart, save your work first, and never switch off during "Working on updates".

2. KEEP ANTIVIRUS ON

Windows comes with **Windows Security**, a free antivirus. Open **Start**, type *Windows Security* → **Virus & threat protection**. Green ticks mean you are protected. **Quick scan** checks for harmful programmes (called **malware**).

3. RESTART NOW AND THEN

A restart clears the worktable (Session 6) and finishes updates. If a PC has been on for days and feels slow, **Start → Power → Restart** often fixes it.

4. INSTALL CAREFULLY, REMOVE WHAT YOU DON'T USE

To uninstall: **Settings → Apps → Installed apps** → the ... beside the app → **Uninstall**. Fewer apps means more free space and fewer things running.

2. Where Is It Safe to Get Apps?



GO: the Microsoft Store, or the maker's own official website

e.g. the Store's "Get" button; zoom.us for Zoom; google.com/chrome for Chrome

WAIT: not sure who made it, or Windows asks for permission?

Stop and ask your mentor or a trusted adult before you click Yes

STOP: random websites, pop-ups, "free" paid games, files sent by strangers

These often hide malware that steals passwords or breaks the computer

Figure 8.2: The app traffic light. Only install from places you can trust.

"YOUR PC IS INFECTED! CALL THIS NUMBER NOW!"

A pop-up in a web page that flashes red, beeps and tells you to call a number or download a "cleaner" is a **scam**. Real Windows Security never asks you to phone anyone. Do not click anything inside it. Close the browser tab (or the whole browser with Task Manager), tell your mentor, and run a Quick scan if you are worried.

Your turn: Name two reasons why updates matter.

First open **The Headteacher's Office** 3D lab on your session page: watch the OS sit between the apps and the hardware, switch a laptop between Windows, ChromeOS and Linux, judge app installs with the traffic light, and rescue a frozen app. Then do it for real:

- 1 Change 3 settings, then change them back.** Pick three (for example brightness, text size, a contrast theme, the desktop background, adding a keyboard layout). Write what each was *before* in the table, change it, check it worked, then put it back.
- 2 Check for updates:** Settings → Windows Update → Check for updates. Write what it says. Don't restart unless your mentor says so.
- 3 Install and uninstall an app:** open the **Microsoft Store**, search for the free app your mentor names, click **Get** (or Install), open it once, then uninstall it (Settings → Apps → Installed apps → ... → Uninstall).
- 4 Take a screenshot** of the Settings window with **Windows** + **Shift** + **S**. Save it in BIH_Practice as Screenshot_Settings_YourName.
- 5 Rescue a "frozen" programme:** open Notepad (we will pretend it is frozen). Press **Ctrl** + **Shift** + **Esc** to open **Task Manager** (click *More details* if it is small). In **Processes**, click **Notepad** → **End task**. Only end programmes you opened yourself!

Setting I changed	Before	Changed to	Put back? ✓
-----	-----	-----	☐
-----	-----	-----	☐
-----	-----	-----	☐

Task	What happened
Windows Update said...	-----
App I installed and uninstalled	-----
Screenshot saved as	-----
Task Manager: programme I ended	-----

1. Match the OS to the Device

Choose from: **Windows • macOS • ChromeOS • Android • iOS**

Device	Operating system
Esi's Tecno smartphone	-----
The Hub's desktop PCs	-----
Uncle Kojo's iPhone	-----
A Chromebook laptop	-----
A MacBook laptop	-----

2. What Would You Do?

Situation	Best choice
1. A web page suddenly flashes: "VIRUS FOUND! Call 0800 now to fix your PC!"	☐ Call the number quickly ☐ Close the tab without clicking it and tell the mentor ☐ Click "Download cleaner"
2. Kofi finds a website offering a paid football game "free". It asks to download <i>setup.exe</i> .	☐ Download it, it's free! ☐ Don't download; look in the Microsoft Store or ask the mentor ☐ Turn off Windows Security first

3. Written Review Questions

Question 1: Explain what an operating system does, using the headteacher.

Question 2: A programme has frozen and will not close. What keys do you press, and what do you do next?

4. Self-Assessment & Mentor Sign-Off

Operating System Competency	With Help	Almost Alone	All By Myself!
1. I can explain what an OS does and name four operating systems.	☐	☐	☐
2. I can find and change settings, then put them back.	☐	☐	☐
3. I can check for updates and install and uninstall an app safely.	☐	☐	☐
4. I can take a screenshot and close a frozen app with Task Manager.	☐	☐	☐

Mentor Signature: _____

Date Completed: _____