

Learner Full Name: _____ School: _____
Assigned Workstation: _____ Class: _____

Session 11: The Internet & Your Browser

Until now, your computer has worked alone inside our classroom. When you connect it to the **Internet**, it joins a worldwide network linking millions of schools, libraries, hospitals and homes on every continent. Today you will learn how that network works and how to drive the program that opens it up for you: the **web browser**.

1. Plain Talk: The Road Network of Computers

Think about the road network in Ghana: small feeder roads connect villages to highways, and highways lead to big cities like Accra, Kumasi and Tamale. Trotros, taxis and lorries travel along these roads carrying people and goods.

The **Internet** is an electronic road network: millions of computers connected by cables, radio masts, Wi-Fi and **giant undersea glass (fibre) cables** laid under the Atlantic Ocean. Several of these cables come ashore on Ghana's coast near Accra and carry our messages to the rest of the world in a fraction of a second.

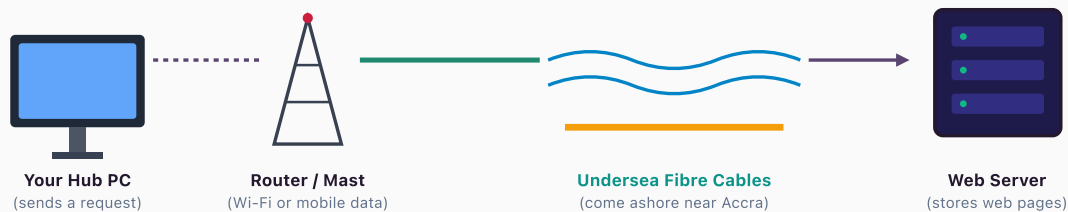


Figure 11.0: Your Hub PC sends a request through the router, along the network and undersea cables, to the server that stores the web page.

2. Internet vs. World Wide Web: Don't Confuse Them!

The Internet (The Roads)	The World Wide Web (The Vehicles on the Roads)
The huge worldwide network of computers, cables, routers and radio signals.	The billions of web pages, pictures and videos that travel across that network.
<i>Analogy:</i> the roads, bridges and junctions.	<i>Analogy:</i> the trotros and lorries carrying passengers and goods.

The Web is not the only thing on the Internet roads: email (Session 13), WhatsApp messages and video calls travel on them too.

1. What is a Web Browser?

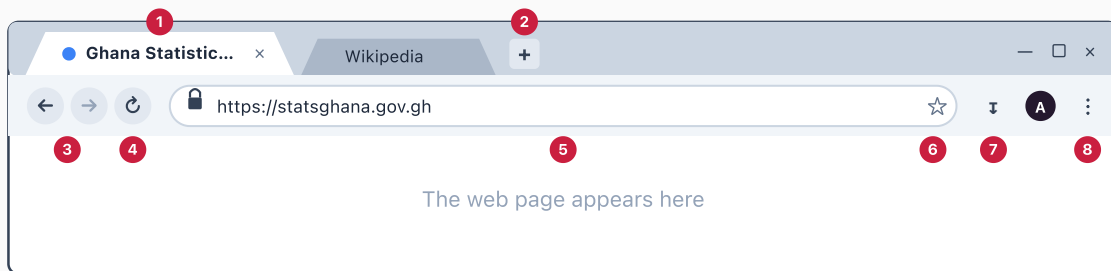
To visit a website, you need a program called a **web browser**. It fetches web pages from servers and turns their code into the words, pictures and buttons you see. All browsers do the same job; they just look a little different.

ON A COMPUTER

Google Chrome (colourful circle), **Microsoft Edge** (blue-green wave, comes with Windows 11), **Mozilla Firefox** (orange fox) and **Safari** (a compass, on Apple Macs).

ON A PHONE

Chrome on most Android phones, **Safari** on iPhones, plus others such as **Samsung Internet**, **Opera** and **Firefox**. The buttons may sit at the bottom of the screen.



1 Tab (one page)

2 New tab (+)

3 Back and Forward

4 Refresh (reload)

5 Address bar (URL)

6 Bookmark star

7 Downloads

8 Menu (: or ... or ≡)

Figure 11.1: The parts of a browser window (Chrome-style). Edge and Firefox put the same buttons in nearly the same places.

2. Browser Navigation Controls Decoded

Control	What It Does	When Should You Use It?
Back (←) / Forward (→)	Go to the page you were on before, or forward again.	Back: you opened a link and want to return. Forward: you pressed Back by mistake.
Refresh (↺) or F5	Loads the page again from the server.	When a page loads badly, shows an error or seems stuck.
Address bar	Shows the address of the page; type a new address here.	When you know the website's address. Click inside, type, press Enter .
Menu (Chrome ⋮, Edge ⋮, Firefox ≡)	Opens bookmarks, history, downloads, zoom, settings and more.	When you cannot find a button: it is probably in the menu.

Your turn: Which browser is on your Hub PC, and what does its menu button look like?

1. What is a URL?

Every home in Ghana can have a GhanaPost GPS digital address (like GA-183-9024). In the same way, every page on the Web has its own unique address called a **URL** (Uniform Resource Locator). The main part of the address, the website's name, is called its **domain**.

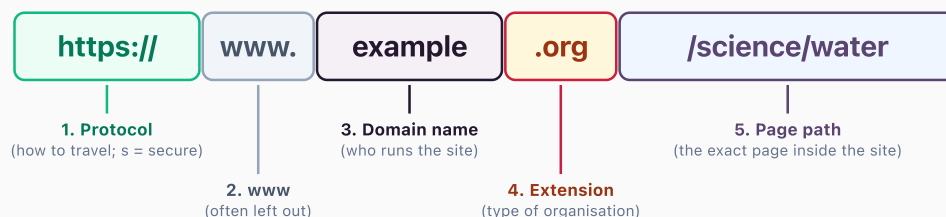


Figure 11.2: Anatomy of a web address (URL). `example.org` is a made-up teaching address. The extension gives a clue about who runs the site.

2. Domain Extensions: Who Runs the Website?

The last few letters of a domain give a clue about what kind of organisation made it:

Extension	What Kind of Organisation	How Far to Trust It for Schoolwork
.edu.gh (and .edu)	Ghanaian universities and colleges, e.g. <code>ug.edu.gh</code> , <code>knust.edu.gh</code> .	HIGH: written by teachers and researchers.
.gov.gh (and .gov)	Official government ministries and agencies, e.g. <code>statsghana.gov.gh</code> (Ghana Statistical Service).	HIGH: official rules, calendars and statistics.
.org / .org.gh	Often charities and non-profits, but anyone can register one.	CHECK: still check WHO wrote it.
.com / .com.gh	Companies and businesses (and many others).	CAUTION: may be selling something or full of adverts.

3. The Security Padlock: HTTPS vs. HTTP

THE MEANING OF THE PADLOCK

Look at the left end of the address bar. A small **padlock** (newer Chrome shows a small "settings" icon in the same place) and an address starting **https://** mean the connection is **secure**: what passes between your computer and the website is scrambled into secret code, so snoopers on the network cannot read it. If you see **"Not secure"**, never type a password, PIN or personal details there. But remember: the padlock protects the *journey*, not the *truth*. A scam website can have a padlock too (more in Session 33).

Your turn: Who runs each website? Write the kind of organisation.

<code>https://www.ug.edu.gh</code>	_____
<code>https://statsghana.gov.gh</code>	_____
<code>http://free-phones-winner.example.com</code>	_____

1. Your Browser Toolkit

These shortcuts work in Chrome, Edge and Firefox on Windows. Each one also has a button or a place in the browser menu.

Skill	What it means	Shortcut
Tabs	A tab holds one web page. Open several to keep pages side by side in one window. Click a tab to switch to it.	New: Ctrl + T Switch: Ctrl + Tab Close: Ctrl + W
Reopen a tab	Closed a tab by mistake? Bring it back, just as it was.	Ctrl + Shift + T
Bookmarks	Save a page you want to return to (click the star ☆). Edge calls them Favourites . The bookmarks bar keeps them just under the address bar.	Add: Ctrl + D Show bar: Ctrl + Shift + B
History	A list of every page visited, newest first. Use it to find a page you forgot to bookmark.	Ctrl + H
Downloads	Files you save from the web. See where they went (below).	Chrome, Edge: Ctrl + J
Zoom	Make the page bigger or smaller to read it easily.	Ctrl + + / Ctrl + - Back to 100%: Ctrl + 0
Find on page	Jump to a word on a long page. The box shows how many times it appears (e.g. "3/12").	Ctrl + F

2. Where Do Downloads Go?

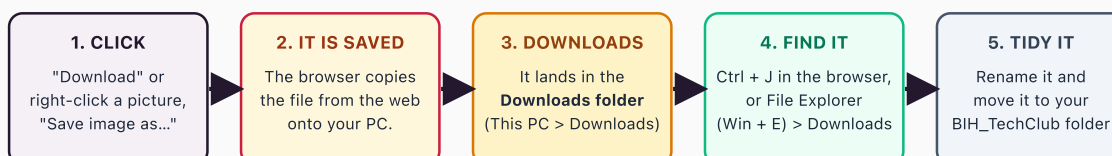


Figure 11.3: The journey of a download. Unless you choose another place, files go to your Downloads folder.

3. On a Shared Computer: Leave No Trace

PRIVATE WINDOWS

Chrome **Incognito** and Edge **InPrivate**: **Ctrl** + **Shift** + **N**. Firefox **Private Window**: **Ctrl** + **Shift** + **P**. When you close it, the browser forgets that window's history and sign-ins. It does **not** make you invisible: the websites and the network can still see what you visit, and downloads stay on the PC.

BEFORE YOU LEAVE

1. Sign out of every account (click your picture or name, then *Sign out*). **2.** Never tick "Remember me" or let the browser save a password on a shared PC. **3.** Clear your traces: **Ctrl** + **Shift** + **Delete** opens *Clear browsing data* (history, cookies). **4.** Close the browser.

1. Lab Mission: Complete the Circuit

Work through all eight skills in order. Tick each one and write the time on the clock when you finish it. Your team earns a point for every skill done correctly, and a bonus point if every member of the team finishes. Warm up first in the **Internet Town** 3D lab on your session page: its missions practise tabs, the bookmark star and downloads.

- 1 **Go direct:** Open Chrome or Edge. Click inside the address bar, type en.wikipedia.org and press **Enter**. You reached the site without using a search engine.
- 2 **Tab juggling:** Press **Ctrl** + **T** twice. In one new tab type statsghana.gov.gh; in the other type ug.edu.gh. Switch between all three with **Ctrl** + **Tab**. Close one with **Ctrl** + **W**, then bring it back with **Ctrl** + **Shift** + **T**.
- 3 **Bookmark it:** In the Wikipedia tab, search Wikipedia for Kakum National Park. Press **Ctrl** + **D**, change the name to Kakum - Club, choose the **bookmarks bar** (Edge: **Favourites bar**) and press Done.
- 4 **Find and zoom:** Press **Ctrl** + **F** and type canopy. How many times does it appear? Zoom to 150% with **Ctrl** + **+**, then go back to 100% with **Ctrl** + **0**.
- 5 **Download:** Right-click the main picture of the park and choose *Save image as...* (Edge: *Save image as*). Name it Kakum_Photo_YourName. Press **Ctrl** + **J** to see it, then open File Explorer (**Win** + **E**) > **Downloads** and find it there too.
- 6 **History hunt:** Close the Wikipedia tab. Press **Ctrl** + **H** and reopen the Kakum page from your history.
- 7 **Go private:** Open a private window (**Ctrl** + **Shift** + **N**; Firefox: **Ctrl** + **Shift** + **P**). Notice the dark look. Is your bookmark still on the bar? Close the private window.
- 8 **Leave no trace:** Press **Ctrl** + **Shift** + **Delete** and read the options. Only press *Clear data* if your mentor says so; otherwise close it. Show your mentor your bookmark and downloaded picture.

2. Circuit Record Sheet

Skill	Done?	Time	What I found
1–2. Address bar and tab juggling	☐	-----	-----
3–4. Bookmark, Find and zoom	☐	-----	-----
5. Download and find the file	☐	-----	-----
6–8. History, private window, clear data	☐	-----	-----

1. True or False?

Statement	True	False
The Internet is the network of cables and computers; the Web is the pages that travel on it.	☐	☐
If you close a tab by mistake, Ctrl + Shift + T brings it back.	☐	☐
A website with a padlock in the address bar always tells the truth.	☐	☐
Unless you choose another place, files you download go into the Downloads folder.	☐	☐
In a private (Incognito) window, nobody, not even the website, can see what you do.	☐	☐

2. Written Review Questions

Question 1: Naa used a Hub computer to check her email. List three things she should do before she leaves the computer.

Question 2: What does the padlock and https:// in the address bar tell you, and what does it NOT tell you?

3. Self-Assessment & Mentor Sign-Off

Tick the column that reflects your confidence at the end of Session 11:

Internet & Browser Competency	With Help	Almost Alone	All By Myself!
1. I can explain the difference between the Internet and the World Wide Web.	☐	☐	☐
2. I can read a URL, name its domain and extension, and check for the padlock.	☐	☐	☐
3. I know how to type a direct URL into the address bar and use Back, Forward, and New Tab.	☐	☐	☐
4. I can use bookmarks, history, downloads, zoom and Find, and leave a shared computer safely.	☐	☐	☐

Mentor Signature: _____

Date Completed: _____