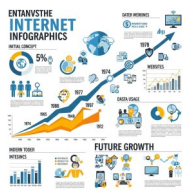


Unit 1—Growth of the web...

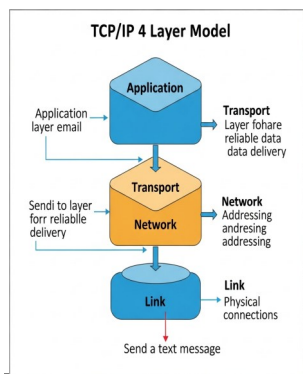
HCCS STEM—Computer Science, IT, Engineering, Food/Nutrition, Business Studies

What do I need to be able to do?

1. You need to **make a timeline in Google Slides** detailing key events in the history of the internet.
2. You will then add key events from the **history of the World Wide Web** to this same timeline.
3. For each event you include, you must **note the dates and provide brief descriptions**.



Computer networks use something called a four-layer model - **TCP/IP protocols**. Think of it like different levels, where each level has a specific job to help send information correctly. The **Application layer** is about how you use internet services and data, like when you access a website. The **Transport layer**, which includes TCP, makes sure the message gets from one end to the other. The **Internet layer**, using IP, figures out the best path for the message to travel from one point in the network to another. Finally, the **Link layer** deals with how the data is actually transmitted and received across the physical network.



Keywords

1. **Internet:** A worldwide network of computers and the physical hardware like cables and routers that connect devices together.
2. **World Wide Web (WWW):** This was invented by Tim Berners-Lee in 1989 as a way to share information globally using things like web pages and hyperlinks.
3. **ARPANET:** This was the very first version of the internet, created by the US military in the late 1960s to have a communication network that could keep working even if parts were damaged.
4. **Packet Switching:** A technology where messages or data are broken down into small parts called 'packets' to be sent across a network and then put back together at the other end.
5. **Protocol:** A set of rules that computers follow so they can communicate with each other across a network.
6. **TCP/IP:** These are important rules (protocols) that helped lay the foundation for the modern internet, with TCP checking if a message arrived correctly and IP handling the addresses of where data is going. Look at websites on the World Wide Web.

A **web browser** is like your window to the internet, letting you access and interact with websites. The very first one, called **WorldWideWeb**, was created by **Tim Berners-Lee** in 1990. Later, user-friendly browsers such as Mosaic and Netscape made getting online much easier for everyone, not just experts. This accessibility was a big step in making the internet popular and helped the World Wide Web grow rapidly.



Packet switching is a really smart way that computer networks send messages. Instead of sending a whole message in one big chunk, it **breaks the message up into tiny pieces called 'packets'**. Each one of these little packets has a part of the message, plus information like where it came from and where it's going, like an address and a sequence number. These packets can then travel across the network, even taking different paths, and they don't all have to arrive in the same order.

Your assessment is to **create a timeline**. This timeline needs to show the **key events in the history of the internet** and you will add **key events from the history of the World Wide Web** to it. For each event, you should note the **dates** and include **brief descriptions**, completing this in **Google Slides**.

10 Test your understanding questions

Here are 10 multiple-choice questions summarising the whole unit:

1. What is the **main difference between the Internet and the World Wide Web (www)**?

A) They are exactly the same thing. B) The Internet is the physical network of computers and cables, while the World Wide Web is the system of web pages and links accessed through browsers on that network. C) The World Wide Web was invented first, and the Internet came later. D) The Internet is only used for sending emails, and the World Wide Web is for everything else.

2. What was the **ARPANET**?

A) The first ever email program. B) A company that sold computers in the 1980s. C) The original, early version of the internet, created by the US military. D) A popular early web browser.

3. Why was ARPANET initially created by the US Department of Defense's ARPA agency?

A) To allow universities to share information easily. B) To create a communication network that could keep working even if parts were damaged, like after a nuclear attack. C) To invent the first personal computer. D) To help companies sell products online.

4. What is **Packet Switching**?

A) A system where a whole message is sent as one large piece of data. B) The technology of breaking data or messages into small, independent pieces (packets) that are sent across a network and reassembled at the destination. C) The rules computers follow to communicate. D) The process of finding an IP address.

5. What is a **Protocol** in the context of computer networks?

A) A type of web page. B) A set of rules that computers use to communicate with each other. C) The hardware that connects networks together. D) A way to break messages into packets.

6. **TCP/IP** are important examples of what?

A) Early email services. B) Key internet protocols that helped build the foundation for the modern internet.

C) The first personal computers. D) Companies that provided internet service.

7. Who is widely credited with inventing the **World Wide Web** in 1989/1990?

A) Ray Tomlinson B) Vint Cerf C) Tim Berners-Lee. D) Lawrence Roberts

8. What is the main purpose of a **Web Browser**?

A) To provide the physical connection to the internet. B) To break data into packets for sending. C) To allow you to access and view websites and interact with the World Wide Web. D) To assign a unique IP address to your device.

9. What does **ISP** stand for, and what is its role?

A) Internet Service Protocol; it defines rules for communication. B) Internet Service Provider; it is a company that gives you the connection to get online. C) Internal Server Program; it runs websites. D) International Service Point; it directs internet traffic globally.

10. What was the **Dot-com Bubble** in the late 1990s?

A) A new type of internet search engine. B) A period when many internet companies received huge investments but lots of them failed. C) The invention of the first mobile phone that could connect to the internet. D) A protocol for transferring files between computers.

10 Test your understanding answers

1b, 2c, 3b, 4b, 5b, 6b, 7c, 8c, 9b, 10b