

UNIT OVERVIEW & LEARNING JOURNEY

YEAR 7 – COMPUTING: TERM 1 (2nd half term)



FROM SEMAPHORES TO THE INTERNET

Welcome, future digital explorers! Get ready to imagine a world without computer networks – no YouTube, no Google, no online gaming, no Netflix, and no instant messaging. Crazy, right? Networks have completely changed how we learn, work, play, and talk to each other.

In this exciting unit, "Networks: From Semaphores to the Internet," you'll discover what computer networks are and all the amazing benefits they bring. We'll explore how information travels across networks using special rules called "protocols," and learn about the hardware that makes it all happen, like cables, hubs, servers, and routers. You'll also become an expert on the Internet and the World Wide Web, understanding how they work and the cool services they provide. Get ready to become a true network navigator!

Your connectivity compass: What you'll learn and achieve

Here's a look at what you already know, the exciting new concepts and skills you'll gain, and where your networking journey can take you.

What I already know: My digital superpowers from before	New adventures this term: What we'll learn	Where we're heading next: Your future digital journey
You use digital devices daily	Define what a computer network is	Explore more advanced network security
You use online services like YouTube and Google	Explain how data is transmitted across networks	Design and troubleshoot complex network systems
You understand basic online safety	Define 'protocol' and give examples	Understand network administration and management
You've likely used Wi-Fi	List examples of network hardware (cables, hubs, servers, routers)	Dive deeper into cloud computing and data centres
You know how to search the web	Compare wired to wireless connections	Understand the global impact of internet infrastructure
	Define 'bandwidth' and discuss its importance	
	Define what the internet is	
	Explain how data travels across the internet using packets and IP addresses	
	Describe keywords like 'protocols', 'packets', and 'addressing'	
	Explain the difference between the internet, its services, and the World Wide Web	
	Describe how services are provided over the internet (e.g., email, VoIP)	
	Explain the term 'connectivity' and how IoT devices collect/share information	
	Describe how internet-connected devices can affect you	
	Describe WWW components (browsers, servers, web pages, HTTP/S protocols) and how they work together	

Weekly missions: Developing your network superpowers

Week 1: Communication Code Breakers - Understand what networks are and how they communicate			
Skills:	Key words:		
<ul style="list-style-type: none"> Define what a computer network is Explain how data is transmitted across networks Define 'protocol' and give examples of non-networking protocols 	Network Protocol Mainframe Personal computer Stand-alone HTTP		
RAG rate your confidence with this lesson	☹	☺	😊
Week 2: Hardware Heroes - Explore the cool gadgets that build networks, like cables, hubs, servers, and routers			
Skills:	Key words:		
<ul style="list-style-type: none"> List examples of hardware needed for networks Explain the job of each hardware component Build network diagrams using different components 	Network cable Hub Server Router ISP		
RAG rate your confidence with this lesson	☹	☺	😊
Week 3: Wired or Wireless Whiz - Discover the differences between wired and wireless connections and what 'bandwidth' means			
Skills:	Key words:		
<ul style="list-style-type: none"> Compare wired to wireless connections List examples of wired and wireless technologies (e.g., 3G, 4G, 5G, Wi-Fi) Define 'bandwidth' and discuss where it's important Test on E-safety 	Wired Wireless 3G 4G 5G Wi-Fi Bandwidth Bit Megabit Gigabit Broadband Buffering		
RAG rate your confidence with this lesson	☹	☺	😊
Week 4: Internet Investigators - Uncover the vastness of the internet, how it works, and how messages travel across the world			
Skills:	Key words:		
<ul style="list-style-type: none"> Define what the internet is Explain how data travels between computers across the internet Describe 'protocols', 'packets', and 'addressing' 	Internet Packet Router IP address Packet header Packet payload Transmission Control Protocol Internet Protocol		
RAG rate your confidence with this lesson	☹	☺	😊
Week 5: Internet Service Superstars - Learn about the amazing services the internet provides and the 'Internet of Things'			
Skills:	Key words:		
<ul style="list-style-type: none"> Explain the difference between the internet, its services, and the World Wide Web Describe how services are provided over the internet List some services and when they are used Explain 'connectivity' and how IoT devices collect/share info Describe how internet-connected devices can affect you 	Internet World Wide Web WWW Internet services Email Voice over Internet Protocol (VoIP) Internet of Things (IoT) Spam Privacy Security		
RAG rate your confidence with this lesson	☹	☺	😊
Week 6: World Wide Web Wonder - Explore the components of the WWW and how they work together			
Skills:	Key words:		
<ul style="list-style-type: none"> Describe WWW components (browsers, servers, web pages, search engines) Explain how these components work together Understand HTTP vs. HTTPS and URL structures Completing an end-of-unit assessment on Microsoft Forms 	Web browser Web server Web page Search engine HTTP HTTPS URL Domain name Domain name system		
RAG rate your confidence with this lesson	☹	☺	😊



Astrae

★ SINCERE ★ THOUGHTFUL ★ ASPIRATIONAL ★ RESILIENT ★ SOLIDARITY ★

STARS