Computing

Lesson 2: Basic Networks

KS4 Networks

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Task 1: Different types of networks

Using the worksheet, identify networks you have used today, this week, or this month and write them in the boxes provided.

Used today	Used this week	Used this month

Task 2: The need for uniqueness

- MAC addresses are written as 12 digit hexadecimal numbers (**0-F**).
- Written in pairs, for example: **00:11:22:AA:BB:FF**
- Each pair can be between **00** and **FF**.
- **What's the decimal equivalent?**

Decimal equivalent of hexadecimal **00**:

Decimal equivalent of hexadecimal **FF**:

Task 2: The need for uniqueness

- For each pair, we can have 256 different values (**0–255**)
- With 6 pairs, what is the **total** number of unique MAC addresses available?

Total number of unique MAC addresses available:

Task 3: Wired and wireless — strengths and weaknesses

The primary difference between wired and wireless networks is the physical transmission medium of the network.

In wired networks, the data (or electrical signals) is transmitted through a physical cable. That cable may be a copper cable or a glass fibre-optic cable.

In wireless networks, the data is transmitted through radio waves or infrared light.

Task 3: Wired and wireless — strengths and weaknesses

On the next slide, list some strengths and weaknesses of both wired and wireless networks.

Think about factors such as cost, installation, security, equipment required, ease of use, suitability, etc.

Task 3: Wired and wireless — strengths and weaknesses

	Strength	Weakness
Wired		
Wireless		