Hardware

Task 1

Create a Mind map of the following components

- Wireless access points (WAPs)

- Network interface cards (NICs)

- Routers

- Hubs

- Switches

- Bridges

Resource

https://www.youtube.com/watch?v=NOS0grrM9N4

https://www.youtube.com/watch?v=1z0ULvg_pW8

Task 2

Explain the difference between a hub and a switch

Task 4

Explain two differences in Wired and Wireless Networks (See table)

To develop knowledge by List network hardware

To secure understanding by investigating recalling wired and wireless hardware

To achieve excellence by understanding how different network hardware work

Wired

Cat5!

Cat5 is an example of a network cable that uses the Ethernet protocol.

Wireless

Wireless does not use cabling but requires both the transmitting and receiving machine to have wireless network adapter cards and normally additional wireless routing equipment is required
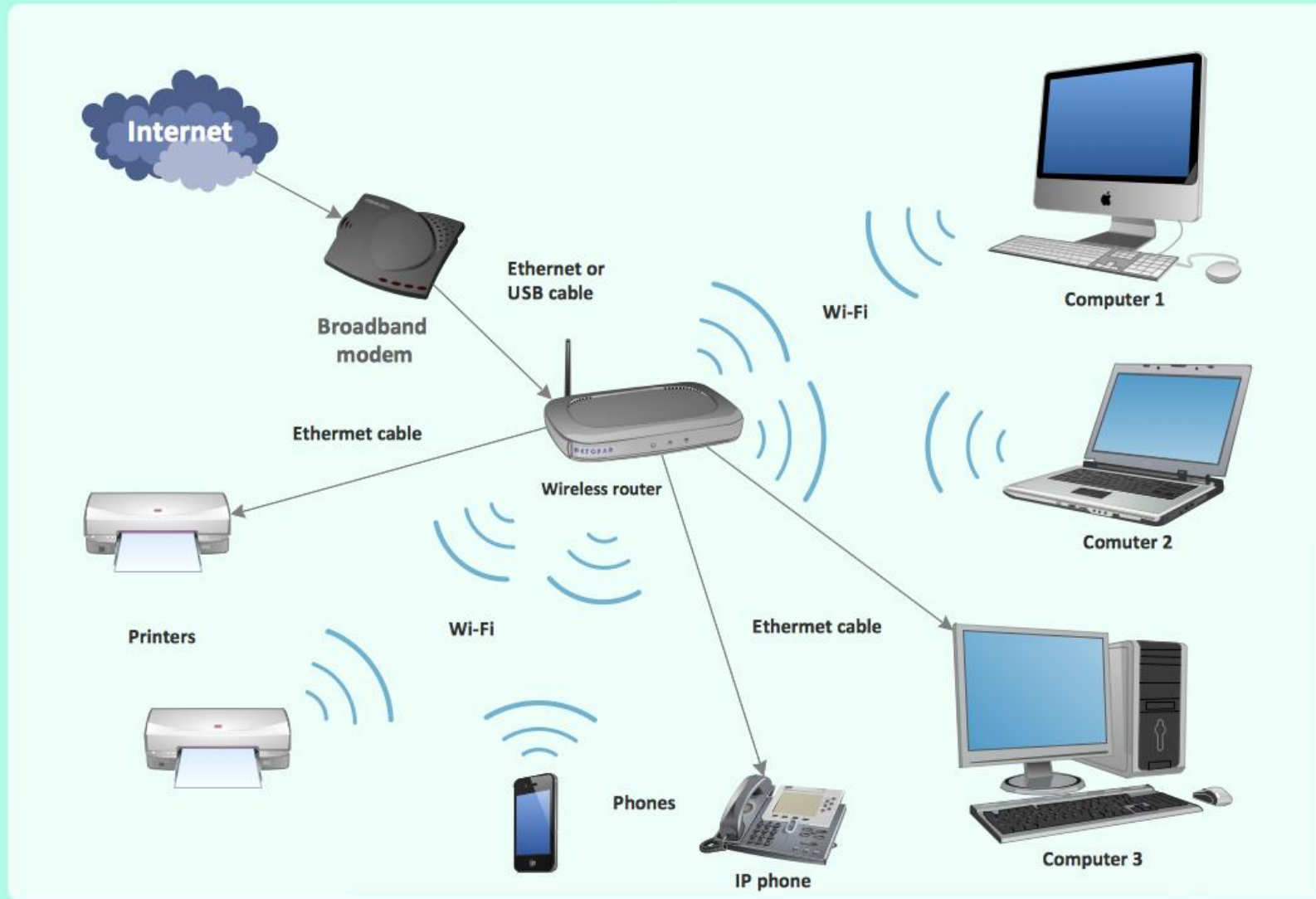
To secure understanding by investigating recalling wired and wireless hardware

Hardware - Home Network

Wireless Home Network Diagram

To secure understanding by investigating wired and wireless connections

Comparison

Comparison

Wired network	Wi-Fi network
It is more costly than Wi-Fi to install in a building.	Only needs a Wireless Access Point to set up, so is cheaper.
Allows hundreds of people to log in at the same time.	Can only allow a limited number of people to connect at any one time
It is immune to radio interference	Affected by radio interference
High bandwidth, more than 10 Gbps is common	Lower bandwidth
Excellent security as a computer needs to be physically connected to the network	Not so secure as connection is by radio. So the WAP needs a strong password and encryption to disguise data being transmitted
Not affected by building layout	Signal is affected by walls and floors
Not portable as each computer needs to have a network socket available.	Very mobile, an user can carry their laptop from office to office and not lose a connection.

Hardware facts

Specialist hardware is used to construct networks,

Switches

A switch analyses each packet of data and sends it to the computer it was intended for.

Hubs

A hub copies all packets of data to all devices on the network.

Routers

A router stores the addresses of computers on the network and transfers data between devices.

Gateways

A gateway joins together two networks that use different base protocols, e.g. links a LAN to WAN.

Bridge

A bridge joins together two networks that use the same base protocols, e.g. links LAN to LAN.

Wireless Access Points

A device that allows other WiFi devices to connect to a network.

Network Interface Card

A computer hardware component that allows a device to connect to a network (either wired or