Holmer C of E Academy

Year 5 – Computing systems and networks – Sharing Information – pupils will learn how information is transferred between systems and devices. They will learn inputs, outputs and process aspects of a variety of different real-world systems. Pupils will also take part in a collaborative online project with other class members and develop their skills in working together online.

What should I already know?

- Know that networks are connected to other networks.
- To recognise that the WWW is part of the internet.
- To recognise the need for security on the internet
- To explain that the global interconnection of networks in the internet.
- To outline how information can be shared via the WWW
- To describe the current limitations of WWW media.
- To evaluate the reliability of content and the consequences of unreliable content.
- To explain the benefits of the WWW.

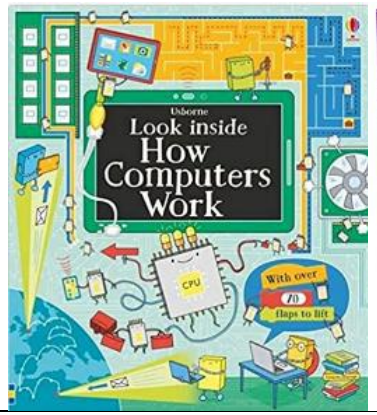
What will I know by the end of the unit?

- I can explain that systems are built using a number of parts.
- I can describe that a computer system features inputs, processes and outputs.
- I can explain that computer systems communicate with other devices.
- I can identify tasks that are managed by computer systems.
- I can identify human elements of a computer system.
- I can explain the benefits of a given computer system.
- I can recognise that data is transferred using agreed methods.
- I can explain that networked digital devices have unique addresses.
- I can explain that data is transferred over networks in packets.
- I can recognise that connected digital devices can allow us to access shared files online.

Vocabulary

Online	When working with others, you edit documents directly in real time for everyone to see.
Offline	When working with others, you work on the document and then have to upload the new version to over write the older version.
Collaboration	Working together for the same purpose and outcome.
Data packets	'Chunks' of information that are 'sent' along network cables and delivered to a digital device.
inputs	Devices which enable information to be entered into a digital device.
outputs	Devices which enable information or media to be seen or heard.
IP address	A specific and unique set of numbers which are used to identify digital devices.
processes	A set sequence of manipulations defined by coding and end user requirements.

Relevant Reads



• I can send information over the internet in different ways. • I can explain that the internet allows different media to be shared. • I can suggest strategies to ensure successful group work. • I can make thoughtful suggestions on my group's work. • I can compare working online with working offline. • I can identify different ways of working together online. • I can recognise that working together on the internet can be public or private. • I can explain how the internet enables effective collaboration.	

1. Which of these are features of a system? A system :	a) Has to have a computer as part of it. b) Can have people and computers as part of it. c) Must all be in one place. d) Can have parts in different countries. e) Has to be able to communicate with its parts.
2. Think about these examples: a) Pedestrian crossing b) Smart locker c) Washing machine	Choose one of these systems and give an example of an input and an output. System Chosen: Input: Output:
3. A pedestrian crossing with sensors is better than one with a timer because:	a) With a timer, the crossing may change when someone is part of the way across the road. b) It is safer to cross with sensors c) With a sensor, cars don't have to wait when the crossing is clear. d) Cars may have to wait longer with a timer, which is bad for the environment. e) People don't need to press a button on sensor traffic lights.

4. Automatic doors are used in many buildings ; they open when you walk towards them. This system has been designed to help people because:	a) The doors can't be left open accidentally, so customers don't get cold. b) The doors can't be left open accidentally, so the shopkeeper doesn't waste money on heating. c) You don't need to try to push the door open if you're carrying a lot of things. d) It is easier for wheelchair users and people with pushchairs to get into the building. e) They are safer than other doors.