

Year 8.1 Knowledge Organiser

E-safety

Don't download unknown software
Don't talk to strangers online
Don't give out your personal details

What to do if it goes wrong:

Tell parent/ guardian / teacher / police
Don't open unknown attachments
Report/ block unknown users if they try to contact you

Computer System

A basic, **complete** and **functional** computer.

It will include all the hardware and software required to make it functional

INPUT → PROCESS → OUTPUT

Networks

Wide Area Network (WAN)

Span over a large geographical area (an example of this is the internet)

Local Area Network (LAN)

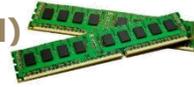
Span over relatively small area (eg. house)



Memory

Random Access Memory (RAM)

- Temporary Memory
- Volatile – needs power to retain memory
- Stores the programs and data that is currently in use



Read Only Memory (ROM)

- Non Volatile – does not need power to retain memory
- Tells the computer how to start



Virtual Memory

- When the RAM is full
- Secondary storage is used as temporary RAM
- Data is moved to VM and back to RAM when needed

Compression

Compression is used to reduce the size of a file
This will make it smaller to store and faster to send over a network

Lossy

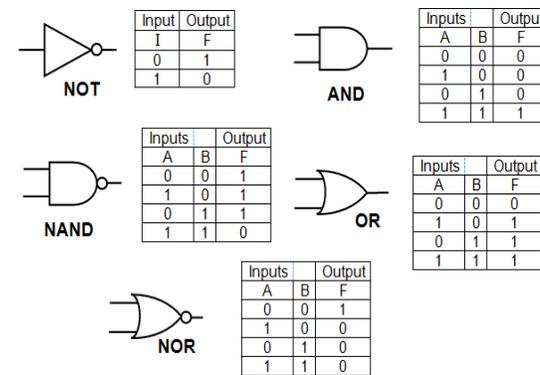
Will lose parts of data when it is compressed
Can be used on images/ audio/ videos



Lossless

Will not lose any data when it is compressed
Can be used on text

Logic Gates



Software

Hardware

Parts of the computer you can touch

Software

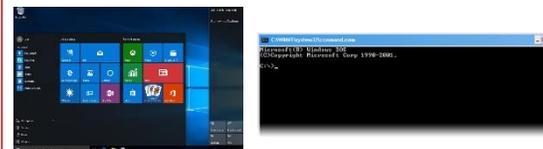
Applications and programs on the computer

Operating system

Manages computer hardware and software

User interfaces

- Graphical User Interface (GUI)
- Command Line Interface (CLI)
- Menu Driven Interface



Binary (Base 2)

128-64-32-16-8-4-2-1

1011 = 8+0+2+1 = 11

$$\begin{array}{r} 0 \quad 1 \quad 0 \quad 1 \\ +0 \quad +0 \quad +1 \quad +1 \\ \hline 00 \quad 01 \quad 01 \quad 10 \end{array}$$

carried bit

Storage devices

Cost

Capacity

Size

Portability

Speed



Spreadsheets

Made up of rows and columns
Each individual box is called a cell

A formula will always start with an =

	A	B	C
1			
2			
3			
4			
5			
6			

=SUM(A3+B3)

