Knowledge Organiser: Spreadsheets

Data = raw text / numbers that do not yet have any meaning. Context is needed for a user to understand the data and use it.

Example: 100622

This could be: A date of birth / bank sort code / phone number

Information = data that has been processed with context to create meaning for the user.

Example:

10/06/22 is a date of birth.

10-06-22 is a bank sort code.

01709 100622 is a phone number.

Columns = the letters along the top of a spreadsheet. Columns are vertical and go down the spreadsheet.

Rows = the numbers down the side of a spreadsheet. Rows are horizontal and go across the spreadsheet.

Cell = each individual box on a spreadsheet.

A cell reference uses the column (letter) first, followed by the row (number).

The cell below has a cell reference of C4.

Formula = used in a spreadsheet to work out things automatically.

Each formula begins with an = symbol.

 = allows you to insert a function in a spreadsheet.

+ = used for addition

- = used for subtraction

* = used for multiplication

/ = used for division

=SUM = used to total a range of cells.

=MAX = used to find the highest value in a range of cells.

=MIN = used to find the lowest value in a range of cells.

=AVERAGE = works out the average of a range of cells.

=COUNT = counts the number of cells in a range (blank or not).

=COUNTA = counts the number of non-blank cells in a range.

=IF = uses a cell to show different things depending on a criteria.

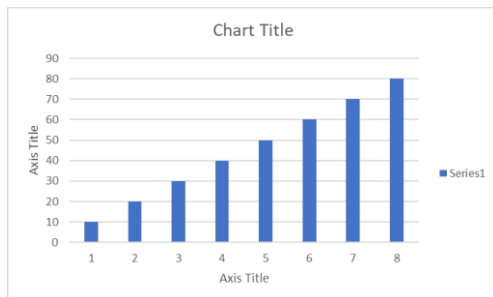=COUNTIF = counts how many cells in a range meet a criteria.

Chart Title = explains what the chart is about.

Axis Labels = helps to understand the chart.

Series = explains which data is being used.

Conditional Formatting = changing the appearance of a cell depending on a criteria.

Example: if A1 is greater than 5, make it **green**. If A1 is less than 5 but greater than 0, make it **yellow**. If A1 is less than 0, make it **red**.

Primary Data = data that you have collected yourself.

Secondary Data = data that someone else has collected.

Knowledge Organiser: Networks

Network Cable = used to create a wired connection between devices.

Hub = connects a number of computers together.

Server = a powerful computer that provides services such as files and software.

Router = connects networks together over a large area (nationally or internationally)

The Internet = a global network of networks. Created by Vint Cerf.

The World Wide Web = part of the internet that contains websites and web pages. Created by Tim Berners-Lee.

VoIP = Voice Over Internet Protocol – used to send voice data over the internet.

IoT = Internet of Things – taking everyday "things" and connecting them to the internet. Example: a smart speaker.

Email = a way of sending electronic messages to people across the internet.

Wireless Technologies = Bluetooth, 3G / 4G / 5G, WiFi to connect to a network without cables

Wireless Network = acts the same as a wired network, without cables.

Common Misconception = WiFi is NOT the Internet. WiFi is one way of connecting to the internet (wirelessly).

Download = your computer is receiving data. Upload = your computer is sending data.

ISP = Internet Service Provider.

TCP = Transmission Control Protocol - Splits the messages sent across the internet into smaller pieces called 'packets'. Assembles the packets in the correct order at the receiver end.

IP = Internet Protocol - A protocol to route the packets. Each device on the internet has an IP address that uniquely identifies it from all other devices.

URL = Uniform Resource Locator. The address of a World Wide Web page and is sometimes called the 'web address'.

URL

http://www.facebook.com

protocol | World Wide Web | domain name

Top Level Domain = .com (commercial), .gov (government), .edu (education), .org (organisation). There are also country specific ones (e.g. .uk (UK), .fr (France)

Bandwidth = the amount of data that can be moved from one point to another in a given time. Measured in bits. Most commonly measured in Megabits (Mbps), which means millions of bits per second.

Higher bandwidth = more data per second.

Common Misconception = more bandwidth **DOES NOT** mean more speed

Buffering = data is arriving at a slower rate than it is being processed.

Packet = the method used to send data across the internet. Packets are not sent in order and are re-assembled at the destination like a jigsaw. It contains the sender and receiver's IP address, the sequence in the number of packets. It also contains the payload, which is the data itself.

IP address = 4 numbers that provide a unique address to every device on the internet. The numbers range from 0 to 255. Example: 192.4.255.168

HTTP = HyperText Transfer Protocol. Messages sent between your browser and the website are readable to other devices. It is not secure.

HTTPS = HyperText Transfer Protocol Secure. Messages sent between your browser and the website are encrypted so other devices cannot understand it. It is secure.

HTML = the programming language used to create websites and web pages.

Light internet use = reading online news, checking the weather.

Medium internet use = checking social media, emailing regularly.

High internet use = online gaming, a vlogger uploading videos to YouTube daily.

Packet header	
Sender IP	192.1.5.8
Receiver IP	205.9.4.3
Sequence	1 of 5
Payload:	"hello"

Web Browser = used to view websites on the internet. Examples: Google Chrome, Safari, Microsoft Edge.

Web Server = stores websites and web pages on the internet.

Search Engine = used to find websites on the Internet. Examples: Google, Bing, DuckDuckGo.