

Year 7

Computing Knowledge Organisers



Computing Knowledge Organiser


Topic: Collaborating Online Respectfully



Rationale: How to use the school ICT systems in a safe and responsible way .

Computing Room

You will have a username and password to log on.




Passwords - Create a memorable and secure password

It is important to have all your files and folders in a logical order so it is easy to find information correctly

Online Communication

Email- An electronic way of sending information to another person or group of people. This is a very convenient way to send information.



Presentation

Plan effective presentations for a given audience.

You are creating a presentation on cyberbullying.

Your audience is your **peers**, but what does that mean? Who is your audience? What characteristics could apply to your audience?

Key Words

Password	A string of characters that allows access to a computer system or service .
Email	An electronic way of sending information to another person or group of people
Recipient	Recipient is the receiver of the email
PowerPoint	A software package designed to create electronic presentations consisting of a series of slides.
Cyberbullying	Where people use electronic communication to bully another person

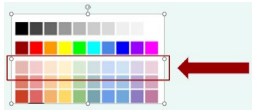
Presentation

Presentation tools

Sans Serif fonts **Example**

Contrasting background and font colours

Pastel shades for backgrounds




Cyberbullying

Bullying can be described as repetitive, malicious behaviour that tries to establish dominance over a person or group of people.

- As you begin to use social media apps you become more vulnerable to cyberbullying
- Cyberbullying is like traditional bullying but it takes place online
- Cyberbullying can include discrimination and hate crimes

Reporting Concerns

Talk to your teacher, tutor, pastoral or head of house



BBC Webwise: www.bbc.co.uk/webwise

Childline: www.childline.org.uk

ThinkUKnow run by the Child Exploitation and Online Protection centre (CEOP): www.thinkuknow.co.uk

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Topic: Networks



Rationale: As students using a network in school. How are they used to share information?

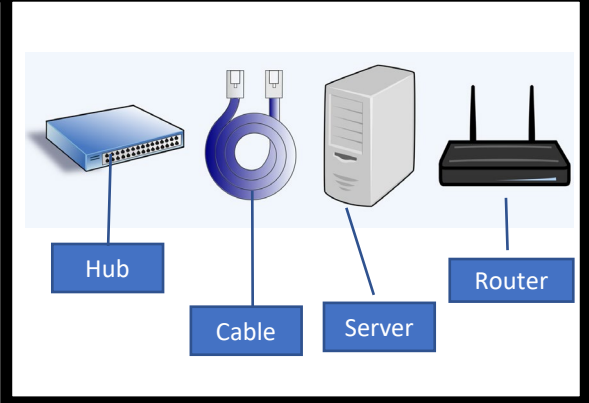
Networks and the Internet

A computer **network** is when two or more computers are connected together to allow them to communicate

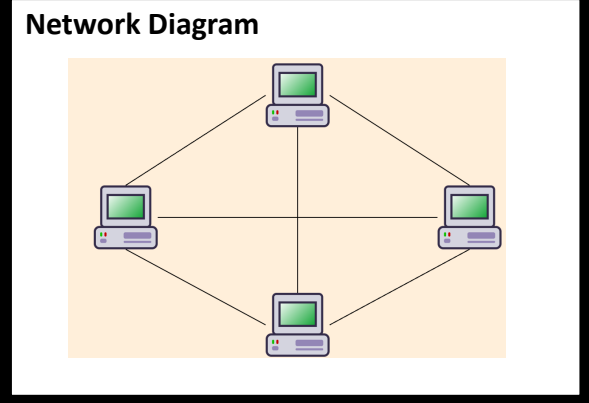
The **internet** is a vast network of computers all connected together.
Interconnected
Network= Internet

Networks send and receive messages in small units of data known as 'packets'.

Network Hardware



Diagram



Key Words

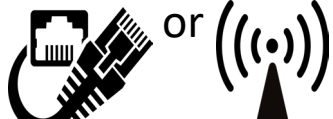
Network	A computer network is when two or more computers are connected together to allow them to communicate
Protocols	A set of rules which allow device to communicate.
Bandwidth	Amount of data that can per transferred per second.
Connectivity	The state of being connected or interconnected

Wired and Wireless

A computer network can be either wired or wireless.

Wired networks send data along cables.

Wireless networks send data through the air using radio waves.



Internet of Things

Any device connected to the internet is part of this network, for example:

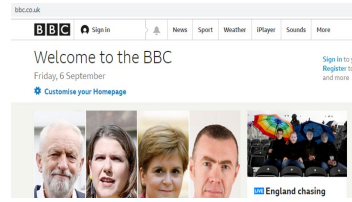
- Laptops
- Games consoles
- PCs
- Tablets
- Mobile phones



World Wide Web

The World Wide Web is **part of** the internet that contains websites and web pages.

The Internet and the WWW are not the same thing.



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Topic: Using Media



Rationale: Understanding of information technology and digital literacy by using skills to create a blog post about a real world cause

Word Processing

Formatting Tools

Copyright

Copyright law gives rights to authors of creative works such as books, plays, artwork, and music so that they can decide how they would like their work to be used.

By default, copyright law protects work from being used without permission

Credibility

Check the **author** and the **source**

Why do you think the article was written?

Check **when** the article was written

Check the **facts**

Key Words

Software	Programs on the computer such as Word and Sway
Word Processor	A program which allows the input, editing and output of text.
Formatting	The way in which text and images are displayed. Bold, Underline, Numbering
Icons	A graphic symbol (usually a simple picture) that denotes a program or a command
Audience	The group of people encountering the work.

Blog

A regularly updated website or web page, typically one run by an individual or small group, that is written in an informal or conversational style.

Creating

Reference your sources appropriately

Credit the authors of the images

Use the formatting tools to make your blog suitable for your audience

Use your success criteria and assessment criteria to make sure that you are including everything that you need

Sway

Create Blogs
Create and name Sway

Add a title and additional content

Insert images

Use formatting techniques

Select Design and Style to preview the Sway and change colour schemes and layout

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Topic: Scratch Programming

Rationale: Programming is a form of digital literacy and develops problem-solving skills. Scratch is a programming environment that allows you to create games, animations and other simulations.

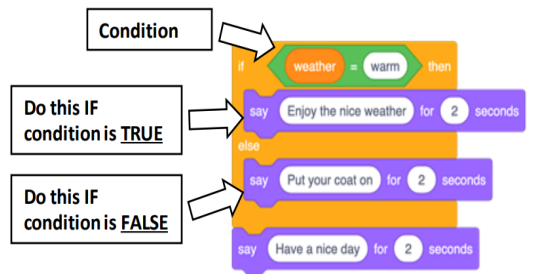
Sequence

Sequence the instructions by arranging the blocks of code.



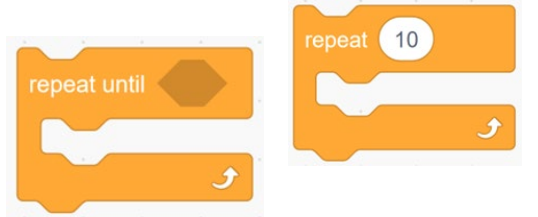
Selection

Alternative paths in the code. (If Statements)



Iteration

Count Controlled and Condition controlled instructions. (Looping)

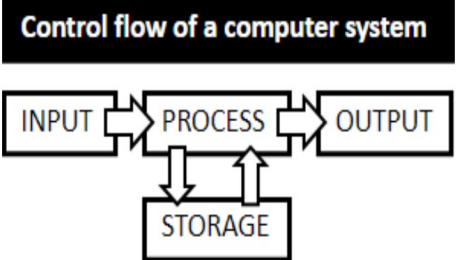


Key Words

Sequence	One of the three basic programming constructs. Instructions that are carried one after the other in order.
Selection	Instructions that can evaluate a Boolean expression and branch off to one or more alternative paths.
Iteration (looping)	A selection of code that can be repeated either a set number of times (count-controlled) or a variable number of times based on the evaluation of a Boolean expression (condition-controlled).
Variable	A value that can change depending on conditions or information passed to the program.

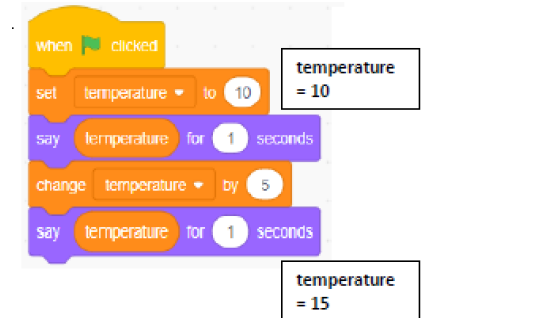
Input Process Output

Control flow of a computer system



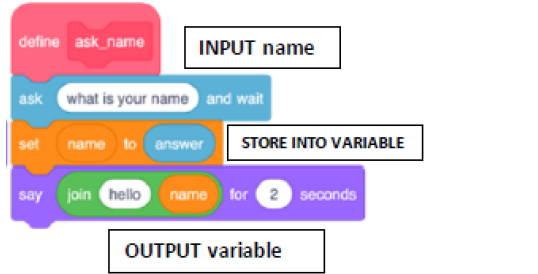
Variable

A value that can change i.e temperature



Subroutines

A set of instructions that are grouped together



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Topic: Data Modelling - Spreadsheets



Rationale: Understand how data is used to represent real-world scenarios.

Navigating

The image shows a spreadsheet with columns labeled Gold, Silver, Bronze, and Total, and rows for various countries. A green box highlights a column, a red box highlights a row, and a blue box highlights a cell. Arrows point from labels 'Column', 'Row', and 'Cell' to these respective elements.

Functions

All functions start with an equals sign (=) followed by the function's name.

- SUM – adds values in selected cells
- MIN – finds smallest value
- MAX – finds largest value
- AVERAGE – finds the average value
- COUNT – counts how many of the selected cells have numbers in them

Calculations

Formulas are usually simple calculations, eg adding two or more numbers together. They always start with an equals sign (=).

- '+' add
- '-' subtract
- '*' multiply
- '/' divide

Key Words

Spreadsheet	A program that is used to organise and analyse data.
Row	The range of cells that go horizontal on the spreadsheet. The rows are numbered – 1, 2, 3 ...
Column	The range of cells that go vertical on the spreadsheet. The columns are lettered –A, B, C ...
Cell	The box in which you can enter a single piece of data, formulas or functions
Formulas	Needed for calculations; =A1*B3
Function	A pre made formula: SUM, MIN, AVERAGE =SUM(A1:A10)

Charts

The image shows three different chart types: a pie chart titled 'What is your favourite fruit?', a column chart titled 'Sales and Expenses', and a line chart titled 'Revenue Over Time (£)'.

Formatting

Formatting icons used on the toolbar. Examples include: Bold, Italics, Grid lines, Fill, Change Font and Font Colour, Font Size and Alignment.

Data and Information

Data Values, typically letters or numbers:

The diagram shows a circle labeled 'DATA' and a circle labeled 'INFORMATION' with a 'VS' symbol between them, indicating the relationship between the two.

Information Data that has meaning, not just a number