



Computing Knowledge Organiser

Information Technology: Years 3/4

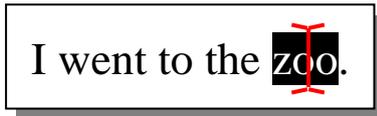
Manipulating Text

Changing Text

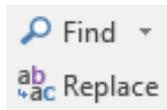
To **insert a word**, put the cursor in the middle of a sentence, then type.



Double-click/tap to highlight a word, then **overtyp**e to change it.



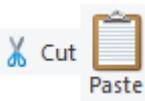
Use **find and replace** to quickly change a word used a lot.



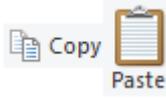
Moving and Copying Text



Drag-and-drop to a new place.



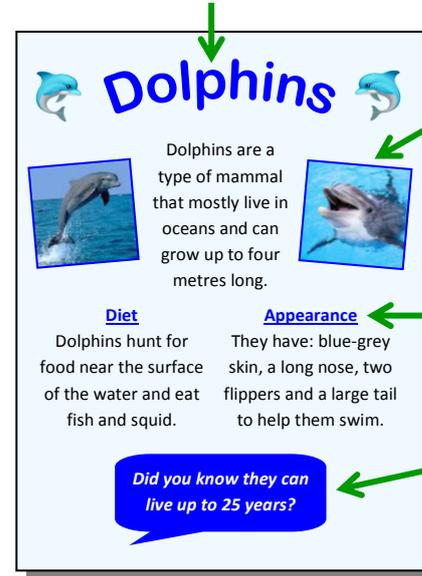
Cut and paste to a new place.



Copy and paste to duplicate.

Features of a Neat Document

Make the title in big, fancy lettering and **align** it to the centre.



Arrange items **symmetrically**.

Emphasise key words and subheadings using:

bold, *italic* and underline.

Add **speech bubble shapes** for extra facts.

✓ Use a nice **colour scheme** that matches the topic.

✓ Use the **spelling and grammar checkers** to correct any mistakes.

Photo Editing

You can change the appearance of an image to **highlight something in it** or to **suggest a mood/feeling** (e.g. coldness, magical, happiness).



Crop lets you cut out parts you don't want.



Apply **filters** or effects to change the colours.



Remove **blemishes** like dust or dirt.



Add a **border** or frame so it looks neat.



Adjust the **brightness** and **contrast** so it is lighter or darker.



Blur parts so your eyes focus on the main subject.

Video Editing

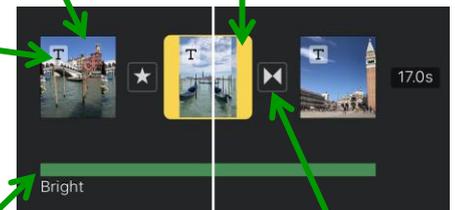
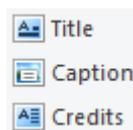


Plan a **storyboard** of your movie first so you know what media to collect and capture for it.

Insert and arrange videos on a **timeline**.

Trim and adjust their duration.

Type on **text**.



Add a **soundtrack** to suggest a tone (e.g. upbeat, scary).

Put **transitions** between clips.



Record a **voiceover** narration.



Apply **pan** and **zoom** effects to create motion and highlight things.



Computing Knowledge Organiser

Digital Literacy: Years 3/4

Finding Helpful Search Results

- T**itle *Does the title look useful?*
- A**uthor *Is the author trustworthy?*
- S**ummary *Does the content seem relevant?*
- K**ids *Is the website aimed at children?*



Interpreting URLs

- Each website has a **Uniform Resource Locator** or address.
- You can type a URL into a web browser to go directly to a website.

Domain Type
The owner is... **.com .co** a company.
.sch a school.
.nhs a hospital.
.police the police.
.gov the government.
.museum a museum.

World Wide Web
This is a website.

Country Code
It is located in... **.uk** the United Kingdom.
.je Jersey. **.fr** France.
.it Italy. **.au** Australia.
.de Germany.

Domain Name
This website is called...

www.bbc.co.uk

Comparing Online Behaviours



✓ Acceptable	✗ Unacceptable
Be kind, polite and show respect to others.	Be a cyber-bully: unkind several times on purpose.
Use a complex, strong password like R3dsh!rt.	Use a weak, easy-to-guess password.
Keep your login details secret to stop hackers getting access.	Use the same password for everything and tell others what it is.
Play online games fairly and use nice language.	Cheat in games and send nasty messages.
Get permission before sharing photos of others.	Share somebody's photo without checking so they get upset or are put at risk of harm.

Age Restrictions

- These limit the age of people using a website, app or game and stop people joining if they are too young. 
- If you pretend to be older, you: are lying, breaking their terms and conditions and could access dangerous or upsetting content.
- Child-friendly services are often moderated by an adult overseeing everyone's behaviour, so are safer.

If you have concerns about content or contacts online, ask an adult you trust for help or support as soon as possible.

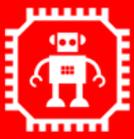


a teacher or
teaching assistant



your
parents



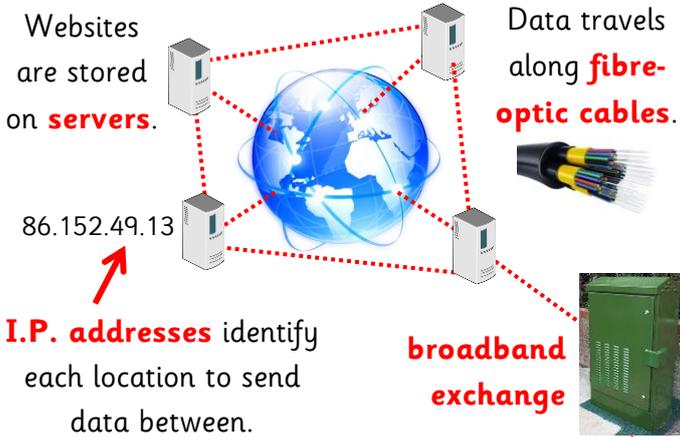


Computing Knowledge Organiser

Computer Science - Theory: Years 3/4

The Structure of the Internet

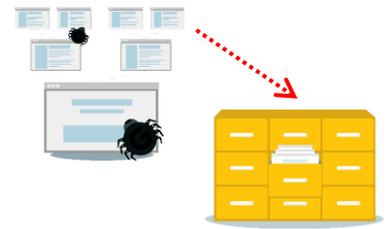
The Internet is an **international network** of computers connected together.



BT **sky** **Virgin media** An **Internet Service Provider** lets you connect to the Internet.

How a Search Engine Works

Search engines **crawl** or scan websites and **index** summaries of them on their servers.



When you search, they quickly scan this index for **matching words**.



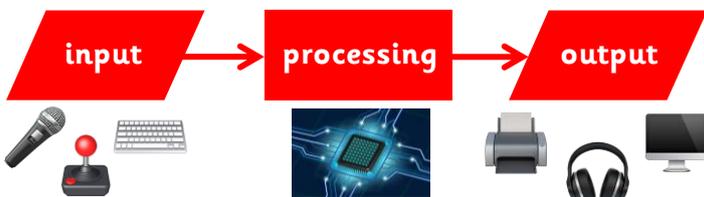
Search results are **ranked** into an order by:

- how **relevant** they are;
- how **popular** they are;
- which **language** they are in;
- if they have paid to be a **sponsored link** at the top;
- your **search history**.



Computer Systems

- **Hardware** is all the physical electronic components of a computer.
- **Software** is the programs which run on a computer, like a word processor or a game.



Control systems monitor the environment and make a computer react.



You control a **thermostat** so the heating knows at what temperature to turn itself on and off.



A **burglar alarm** will sound if it has been turned on and senses somebody moving around.

Robots, Drones and Simulations

Robots

These are programmed to carry out repetitive tasks **quickly** and **accurately**, **without getting tired**.

car factory robots



Drones

These are **small** and **cheap** remote-controlled machines, with cameras on, that are **easy to fly**.

film making



parcel delivery

Simulations

These try to mimic real-life events and let you **safely** explore what happens when you make choices.

virtual pet



driving simulator



Computing Knowledge Organiser

Computer Science - Programming: Years 3/4

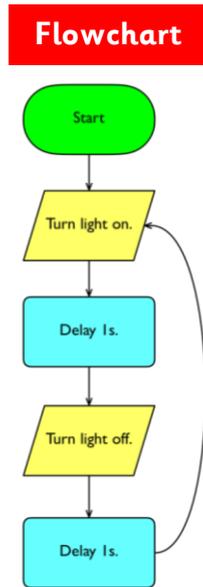
Writing Algorithms

- An **algorithm** is a set of instructions to do a task, written in everyday language, in order.
- A **flowchart** shows how these steps are linked together in a sequence.
- A computer program precisely follows (**executes**) the steps of an algorithm.



Algorithm

1. Switch the crossing light on.
2. Wait 1 second.
3. Switch the crossing light off.
4. Wait 1 second.
5. Go back to the first step.



On-Screen Turtle Programming

A floor robot can be **simulated** on a computer using a screen turtle, programmed using similar commands.

Annotations for the Scratch Turtle Programming interface:

- repeat event**: Points to the 'Repeat' block.
- Set its start position.**: Points to the '50 x 50' block.
- Set the pen colour.**: Points to the color selection block.
- distance to move**: Points to the '50' block in the 'Move' block.
- angle to turn**: Points to the '120' block in the 'Turn' block.

Triangle angles legend:

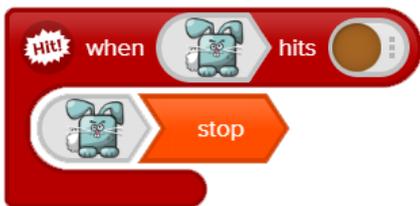
- 90°
- ⬠ 72°
- ⬡ 60°
- ⬢ 45°

Conditional Events (Selection)

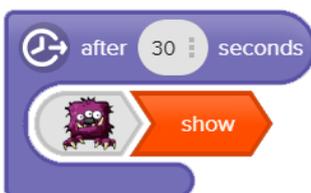
Selection is a way of making a program automatically choose to run some code **when a specific condition is met.**

If _____ happens, **then** run this code: _____.

If the rabbit touches the brown fence, **then** stop it.



If 30 seconds have passed, **then** show a baddy.



Variables

Programs store **data that can change** (or vary) in a variable, like a score counter or a timer.



If the pirate gets the coin, **then** move the coin to a new place and add 10 points to the score.



If the pirate touches the snake, **then** reset the score to zero and stop the game.