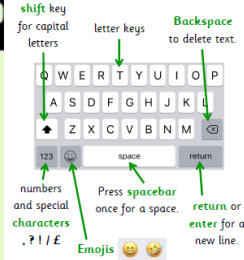


Information Technology

Parts of a Keyboard



Creating a Presentation

A presentation is made up of several slides about a topic, usually played in a linear order on a screen.

- ✓ Colour scheme matches the topic.
- ✓ A neat, consistent design used across all slides.
- ✓ Transitions added between slides.
- ✓ Objects animate in and out for effect.
- ✓ Bullet points summarise key facts.

Audiences: children, parents, visitors

Word Processors

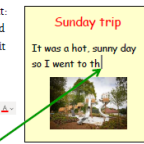
Lets you type text and insert images onto a page to make a document.

Change the text: size, colour and font style so it looks nice.



Flashing cursor shows where to type.

Auto-wrap puts text on a new line automatically when you get to the edge of the page.



Creating E-Books

Electronic books combine multimedia content like: text, pictures, sound recordings, shapes and video clips.

- ✓ Press the undo icon to get rid of your last action.

Painting tools let you drag different tools around the screen to draw pictures.

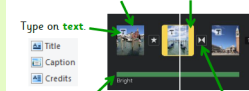


Video Editing

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.



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

Record a voiceover narration.

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

Shooting Digital Photos

1. Hold the camera steady with two hands.
2. Point and focus it on the subject.
3. Press the capture button.
4. Check the photo looks okay and re-take if needed. Delete photos you don't like.



portrait

landscape

- ✓ Ask permission before taking photos of other people.

Manipulating Text

Changing Text

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

It was a day.

Double-click/top to highlight a word, then overtype to change it.

I went to the zoo.

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

Find Replace

Moving and Copying Text

Drag-and-drop to a new place.

Cut and paste to a new place.

Copy and paste to duplicate.

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.

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.

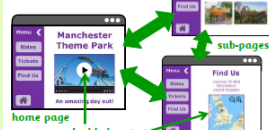
- ✓ Use a nice colour scheme that matches the topic.

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

Creating a Website

A website is made up of several pages about a topic, navigated in a non-linear order in a web browser.

Coded in HTML or made in a web design package.



- ✓ A consistent design and an appropriate colour scheme used across the site.
- Purposes: persuade, inform, entertain

Spreadsheets

A spreadsheet lets you present data neatly and solve calculations quickly to find out statistics.

column B			
1	A	B	C
2	Item	Price	Quantity
3	Apple	£3.40	5
4	Carrot	£0.30	10
5	Potato	£0.10	4
6	Chocolate bar	£1.50	2
7	Total Cost	=SUM(B4:D6)	
8	Cash Given	£10.00	
9	Change Due	=D8-B7	

Uses

- Finding totals of a lot of numbers.
- Working out budgets.
- Doing maths conversions.

Databases

A database is a structured way of organising data on a topic so it can be searched and analysed easily.

A record is all of the information stored about something.

A field is a single item of data.		
Weather	Temperature (°C)	Rainfall (mm)
Rainy	13	5
Sunny	26	1
Sunny	23	0
Cloudy	14	12
Rainy	9	9
Sunny	20	0

Sort records into alphabetical or numerical order.

Filter to only show records matching rules (e.g. Rainfall ≥ 5mm).

Uses

- Sports coaches studying player statistics.
- Schools checking pupil attendance.
- Supermarkets monitoring stock levels.

Computer Science

Programming Vocabulary

Algorithm	The steps needed to do a task, written in everyday language, in order (e.g. 'Press the button to eat the food.').
Debugging	Finding and correcting mistakes (bugs) in code.
Event	Code that runs when something happens, such as a button being clicked.
Execute	Run code on a computer precisely to make a program.
Object	An item on screen, such as an image, a button or some text.
Testing	Checking if a program works how it should.

Floor Robots

You can **control** how a floor robot moves by giving it a **sequence** of **commands** to follow.

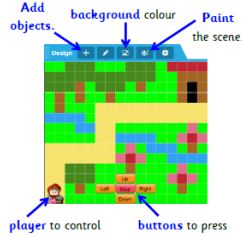


Press the **clear** button to reset it for another go.

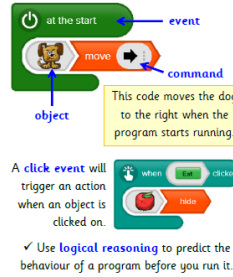
Check the commands and **predict** the route it will follow before pressing 'go'.

Designing a Program

The user interface is the graphics the user sees and interacts with.



Coding a Program



A **click event** will trigger an action when an object is clicked on.

✓ Use **logical reasoning** to predict the behaviour of a program before you run it.

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.



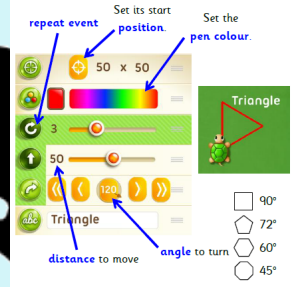
Algorithm

- Switch the crossing light on.
- Wait 1 second.
- Switch the crossing light off.
- Wait 1 second.
- Go back to the first step.



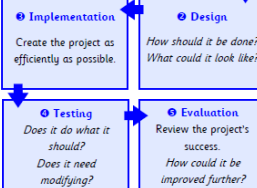
On-Screen Turtle Programming

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



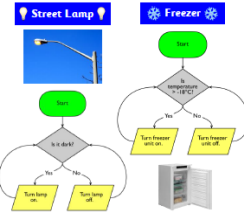
The Systems Lifecycle

This explains how a computing project is **developed in stages** to meet specific needs or expectations.



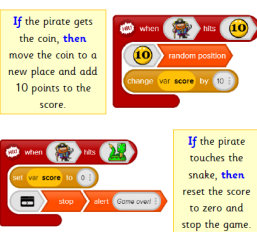
Flowcharts of Control Systems

Control systems constantly monitor **sensors** (input devices detecting changes in: light, temperature, movement etc.) and, using **conditional events**, decide when to respond by triggering **actuators** (output devices like: bulbs, motors, buzzers etc.).



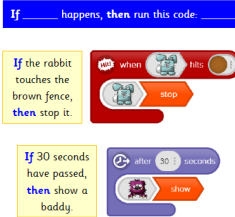
Variables

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

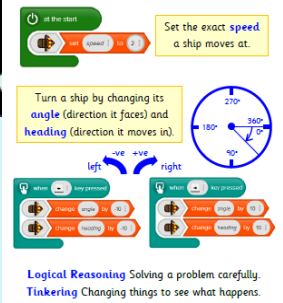


Conditional Events (Selection)

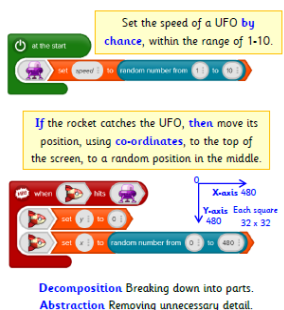
Selection is a way of making a program automatically choose to run some code **when a specific condition is met**.



Programming with Numbers



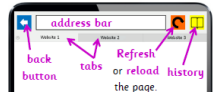
Random Numbers



Digital Literacy

Using a Web Browser

A web browser lets you view websites on the Internet.

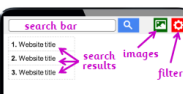


You can navigate a website using:



Internet Search Engines

A search engine lets you find websites on the Internet.



✓ Search using **key words** and **spell them correctly!**

Keeping Safe Online

- ✓ Talk kindly online so you stay friends.
- ✓ Only message friends so strangers don't contact you.
- ✓ Visit sites for children so you keep safe and have fun.
- ✓ Tap links carefully so you don't buy things by mistake.
- ✓ Take breaks regularly so your eyes get rest and your body gets exercise.



Asking for Help



If you are feeling worried, scared or sad when online, ask a grown-up you trust for help or support.

a teacher or teaching assistant your parents



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?



Personal Information and Privacy

Personal information is details that can identify you, such as your: full name, home address, bank card number, email address or photograph.

You might give your **consent** to share some online, such as: when shopping, when sending a selfie to a friend or to authorise your account when logging in.



- Is the website trustworthy and likely to keep your details secure from hackers?
- Are the person's privacy settings public (visible to everybody) or private (only visible to selected people)?

Digital Footprint A record of you and your activities online, that somebody could search.

Phishing Message A message pretending to be from a trustworthy company that is actually fake and trying to steal your details.

Tips for Effective Web Searching

- ✓ Use key words, e.g. capital city France
- ✓ Use inverted commas to find exact names, e.g. "Queen Elizabeth II" "Chinese New Year"
- ✓ Cross-reference (compare) websites to check the information on them is reliable.
- ✓ Put information into your own words to avoid plagiarism (copying somebody else's work and pretending it's yours).

Comparing Search Engines

- Which has the nicest design?
- Which has the fewest adverts?



- Which includes fact boxes in the results?
- Which shows you the most useful results?

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



Online Manipulation Tactics



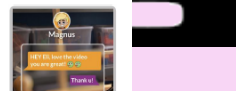
Bribery When someone offers you something in return for doing something.



Too-Good-to-be-True Offers When you are offered something seemingly impossible.



Threats When someone says something bad will happen if you don't do what they say.



Flattery When someone says really, really nice things about you to gain your affection.

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.



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 R3ddsh1rt.	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.

E-Commerce and Vlogging

E-Commerce

- Always get the bill payer's permission before checking out.
- Only shop on trusted sites so you aren't a victim of fraud.
- Be aware that cookies track which pages you visit so shops may send you targeted adverts or change their prices.



Vlogging



- Stream over WiFi as it's faster and cheaper than using mobile data.
- Make your own, original content so you aren't breaking copyright laws.
 - Block and report cyberbullies.
- Be aware that viral videos might be fake.