

Journey inside a computer

Algorithm	A sequence of instructions when followed, solve a problem.
Computer	Electronic machine that accepts and processes information to produce an output, and then stores the results.
Computer Program	A series of instructions, that are written for a computer to follow, using inputs and outputs to produce an outcome. Also known as software or applications (apps).
CPU	Central Processing Unit. The brain of a computer that deals with all the data it receives from input and output devices, as well as programs run within the computer.
Data	Information used for a specific purpose or investigation.
Desktop	A tower computer that needs a mouse, keyboard and monitor, that remains in one place.
GPU	Graphics Processing Unit. It is a piece of hardware that is used to help generate 2D and 3D images for programs such as games.
Hard disk drive HDD	An internal or external device that can store information such as files, documents, images and programs.
Instructions	A series of steps that need to be performed in order.
QR code	Quick Response code. Is presented in a similar way to a bar code and when scanned, takes you to a specific website or provide information.
RAM	Random Access Memory. A piece of hardware that allows data to be recalled or stored within a computer.
ROM	Read Only Memory. Information stored within ROM can only be read and not edited.
Tablet device	A handheld computer, that consists of a touchscreen, operating system and a rechargeable battery.
Trackpad	An input device commonly found built into laptops. It is used to move the cursor with the touch of your finger, and some allow for multiple finger gestures.

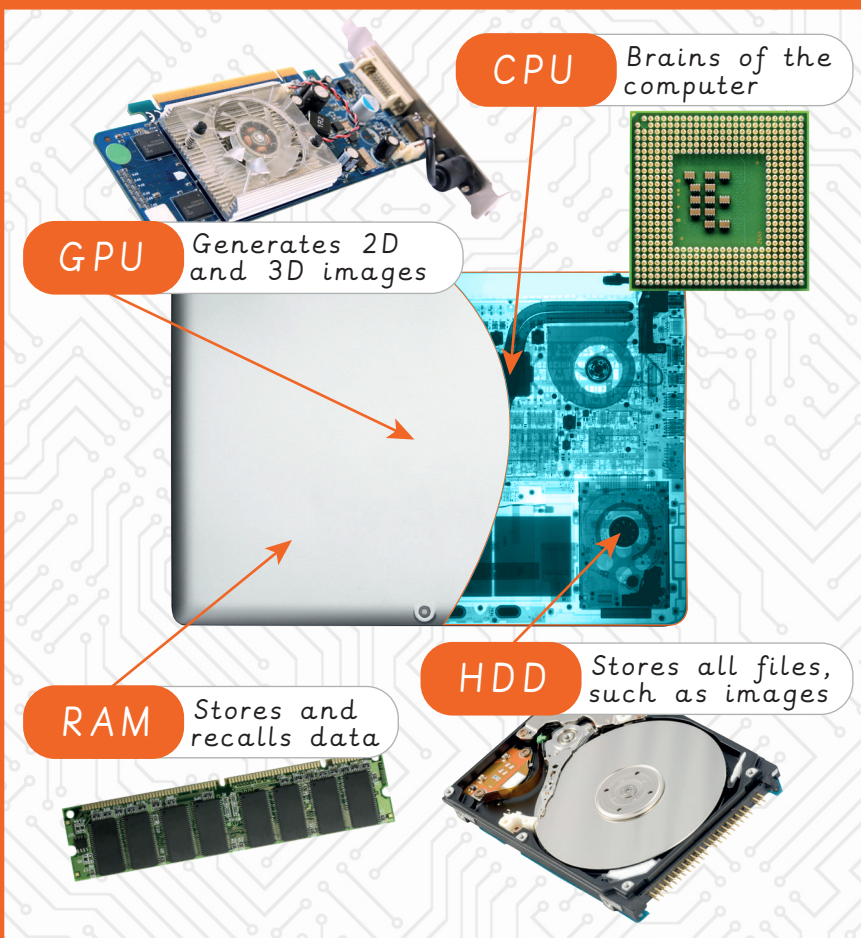


Scan each of these quick response codes, with a QR scanner app or device and see where they go!



Key facts

Computer parts inside of a laptop:



Other portable electronic devices:



Digital literacy

Application	A computer program, sometimes referred to as an app.
Desktop	A tower computer that needs a mouse, keyboard and monitor, that remains in one place.
Digital device	Electronic devices that operate off a binary system in 1s and 0s.
Edit	To change and amend something.
Film	Recorded moving pictures, that can make up a clip or film.
Film editing software	Software with editing abilities to cut, crop and add effects to video footage.
Graphics	The use of images or visuals designed to communicate, demonstrate a concept or promote something.
Import (software)	To pull another file into software, to place, edit and manipulate.
Key events	Important parts within a narrative or a particular period in time.
Laptop	A compact computer that is easy to carry and move around.
Plan	An idea about how to do something in future.
Recording (media)	To capture sounds or video footage, using an electronic device.
Sound effects	Sounds to enhance an event or bring fantasy aspects to life in a film or other media, for example, the whoosh of a time machine.
Time code	Time references on film or animations.
Video	Recorded moving pictures, that can make up a clip or film.
Voiceover	A voice recording which overlays a video or presentation.

Did you know?

Digital sound waves can be viewed and edited on a computer. They look like this:



Key facts

Transitions are visual effects that can be applied to occur in-between digital media (slides, images or video clips).

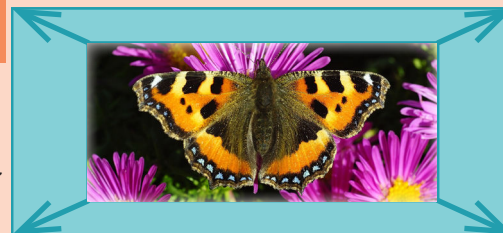
Morph

The media appears from a selected corner.



Cross zoom

The media zooms and fades in from the middle.



Peel off

The page peels off to reveal the media.



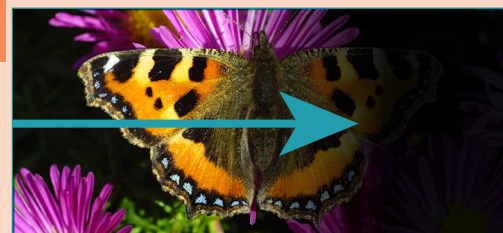
Dip to black

The media fades to a black screen.



Directional wipe

The media appears from a selected side.



Emailing

Account	An online or intranet service, which stores information safely behind a username and password.
Attachment (email)	A function that lets you add files to an electronic message (email) before sending.
BCC	Blind Carbon Copy allows you to send a copy of the email written to another person's email address, but other readers will not be able to see this in their email thread.
CC	Carbon Copy lets you send a copy of the email you have written to another person's email address.
Computer	Electronic machines that accept and process information to produce an output, and then store the results.
Cyberbully	Someone who bullies others through the internet.
Cyberbullying	Constantly being unkind to someone using online platforms, for example email and instant messaging.
Domain	The online location or hosting website that the email address belongs to.
Email	Electronic-mail which allows us to send messages and files from one account to another over a network.
Email account	A central place where a user's emails are stored for them to view, and compose.
Emoji	Small icons that represent feelings or objects, commonly used in emails and instant messaging.
Information	Knowledge that can be remembered, written in documents or stored in different forms as data, such as in video files and audio recordings.
Log off	To lock your account.
Log on	To put in a username and password unique to you, to access your personal account.
Password	A unique combination of letters, numbers or symbols that protects personal information online.
Spam	Nonsense or junk emails, used for advertisement or harassment.
Username	A unique name or email address for your account.

⚠ Watch out for unexpected emails with unknown links. Inform a trusted adult.

Key facts

Find the @ symbol on your keyboard here:



Email address examples

example@kapowprimary.com

example@domainname.co.uk

Example email compose window:

Blind carbon copy

Carbon copy

The email address of the person who will receive the email

Log out

New email

To: example@exampledomain.com

Cc: example@kapowprimary.com

Bcc: email@example.co.uk, email@kapowprimary.com

Subject: Title of the email

Compose a message

Where you write the text for your email.

Attached: image.png

To add attachments to email such as picture, audio or video files. etc

Send email

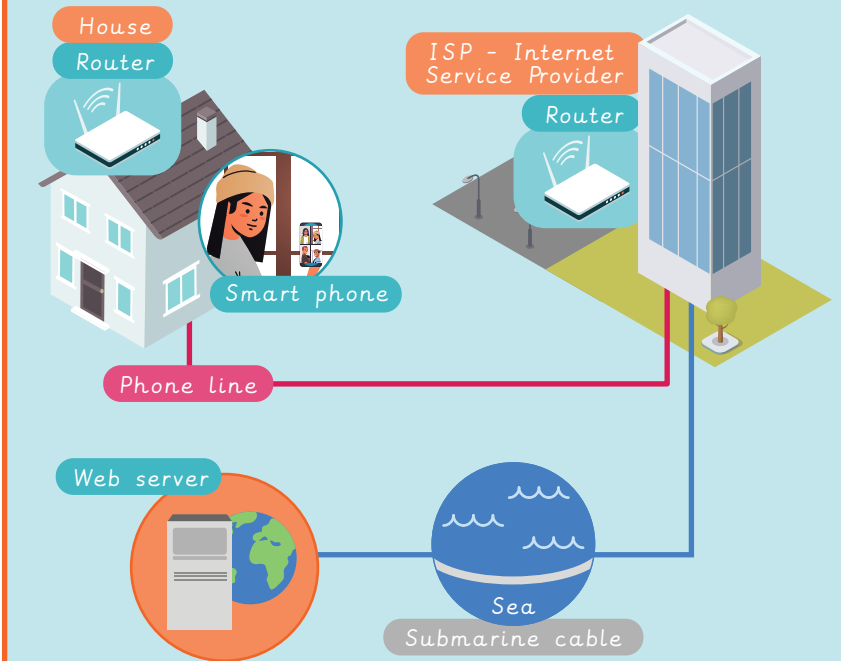
Delete your email draft.

Networks and the internet

Device	Equipment created for a certain purpose or job.
DSL	Digital Subscriber Line. An internet connection for rural areas, where wired services are not available. It uses communication satellites to send and receive data and is a slower internet connection than wired connections.
File	An item on a computer that can keep data in various forms such as images, music and documents.
Internet	A worldwide network, enabling tens of millions of computers around the globe to share vast amounts of information, and communicate with other online users across the globe.
Network	When more than one electronic device is connected in a network through the internet or a local connection in order to share files and information.
Network map	A diagram that shows what type of and how many devices are on a network. It also shows how they are connected to each other.
Network switch	A device that deals with the movement of network information.
Router	The main device responsible for providing internet access to a network, and can be connected to through a wired connection or WiFi.
Server	A computer or computer program that provides data and information to other computing devices.
Submarine cables	Cables that run under the sea to allow information to be accessed and (shared around the world or across continents.)
The Cloud	Refers to data and files that are stored and accessed on servers via the internet.
WiFi	When you have, or can connect to a network that is wireless.
Wired	An electronic device is considered 'wired' when it is connected to the network through cables.
Wireless	An electronic device is considered 'wireless' when it is connected to the network through signals.
Wireless access point	A device that enables other electronic items to connect wirelessly to the internet.

Key facts

Network map:



The internet can be used for:



Programming - Scratch

Animation	Bringing concepts to life through 2D or 3D moving pictures or photographs, for example cartoons.
Application	A computer program.
Code	A set of instructions written in programming language, to tell a computer what to do.
Code block	A visual representation for a section of code that performs a certain job. They can be snapped together to build a program.
Debug	To remove and repair the error or mistake in computer code.
Decompose	To break something down into smaller chunks.
Interface	The menus, buttons and other functions which makes a computer program or website intuitive to humans.
Loop	A repeated sequence of instructions.
Predict	To make an educated guess, as to what might happen or occur as the result of something in the future.
Program	A series of code that instructs the computer to perform specific tasks.
Remixing code	Altering code that already exists.
Repetition code	To create loops in your program, to make it more efficient.
Review	To look at something in detail and give constructive feedback if it requires improvement.
Sprite	Visual objects that can be moved or perform an action through code, for example: move forwards by one step.
Tinker	To explore and play with something to discover the key functions.

Scratch code blocks colour key:

Motion

Sound

Control

Operators

My Blocks

Looks

Events

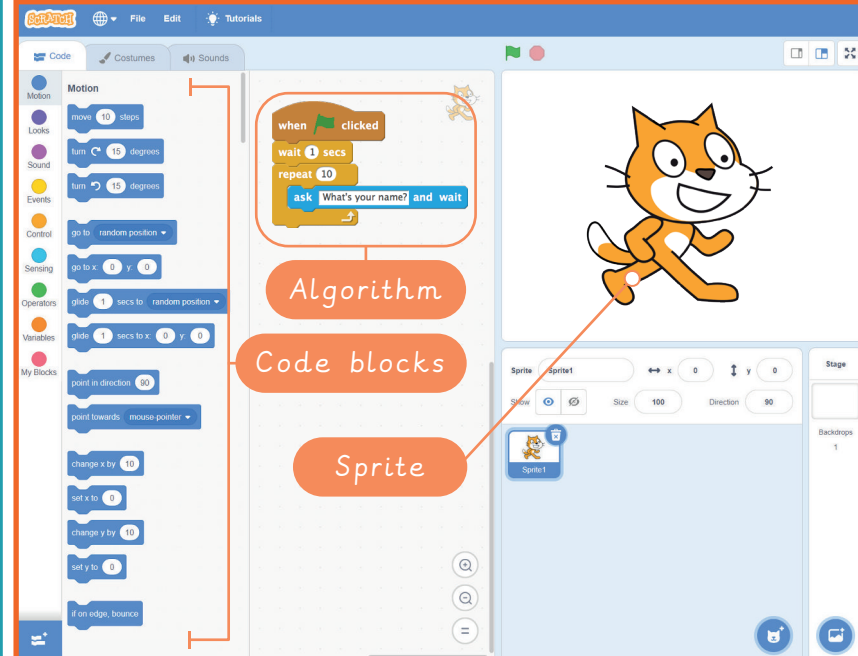
Sensing

Variables

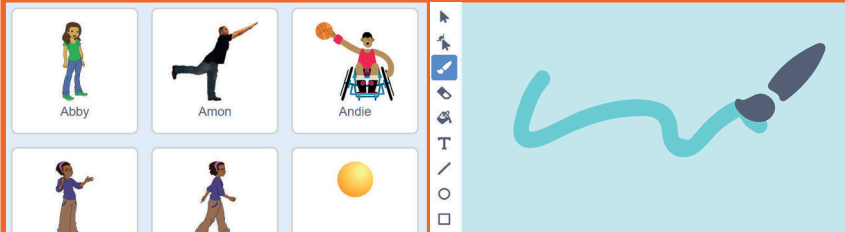
© Scratch

Key facts

Scratch is a coding program, that lets you build interactive games and animations.

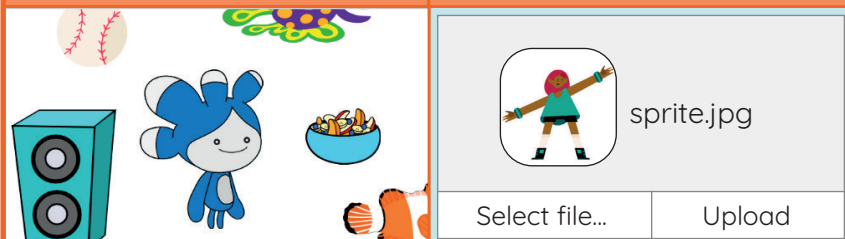


Did you know? In Scratch, you can:



Choose a sprite

Paint your own sprite



Generate a random (surprise!) sprite

Upload a sprite

Top trumps database

Categorise	Put into groups which have similar or the same properties.
Data	Information used for a specific purpose or investigation.
Database	For collecting and organising data stored on an electronic device.
Fields (data)	Categories which information can be sorted into.
Filter (data)	Displays specified or selected data types.
Graphs and charts	Visual methods of representing data.
Information	Knowledge which can be remembered, written in documents or stored in different forms as data, such as in video files and audio recordings.
Record	To log information in the present (for example data during a science experiment), to look back on it in the future.
Sort	To arrange items by an order or into a category.
Spreadsheet	A file where you can input, sort and analyse data across a series of cells.

Key facts

Aliens:



Database: Can you identify each alien?

Aliens:	Colour:	Eyes:	Legs:	Lives:
Edward	Purple	2	0	Neptune
Tony	Yellow	3	2	Mars
Gordon	Green	2	2	Venus
Joanne	Green	3	12	Mars
Flora	Pink	2	2	Jupiter
Derek	Teal	1	0	Neptune
Roberta	Orange	2	2	Neptune
Luna	Purple	1	2	Saturn

Bar graph: How many eyes do they have?



Pie chart: Where do they live?

