

# Computing - Programming: Scratch

|               |                                                                                                     |
|---------------|-----------------------------------------------------------------------------------------------------|
| algorithm     | Steps or instructions to solve a problem or complete a task.                                        |
| animation     | Bringing concepts to life through 2D or 3D moving pictures or photographs, e.g. cartoons.           |
| coding        | Writing instructions for a computer.                                                                |
| code block    | Similar to puzzle pieces, they can be dragged, dropped and snapped together to create an algorithm. |
| debug         | To find and fix errors in code.                                                                     |
| decomposition | Breaking a problem into smaller parts.                                                              |
| loop          | A repeated sequence of instructions.                                                                |
| remixing code | Altering code that already exists.                                                                  |
| sprite        | An image or character that moves or reacts to commands.                                             |
| tinker        | To explore and play with something to discover its key functions.                                   |

## Scratch code blocks colour key:

Motion

Sound

Control

Operators

My Blocks

Looks

Events

Sensing

Variables

## Key facts

Scratch is a coding program in which you can develop interactive games and animations.



There are four different ways to add a sprite.



# 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@exampldomain.com

Cc: example@kapowprimary.com

Bcc: email@exampldomain.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.

## Comparison cards databases

|                   |                                                                                                                                            |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 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:



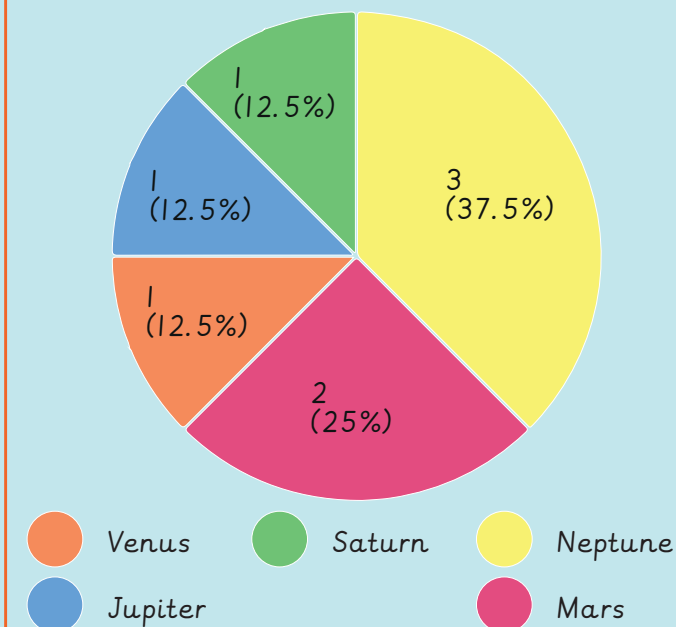
Database: Can you identify each alien?

| 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?

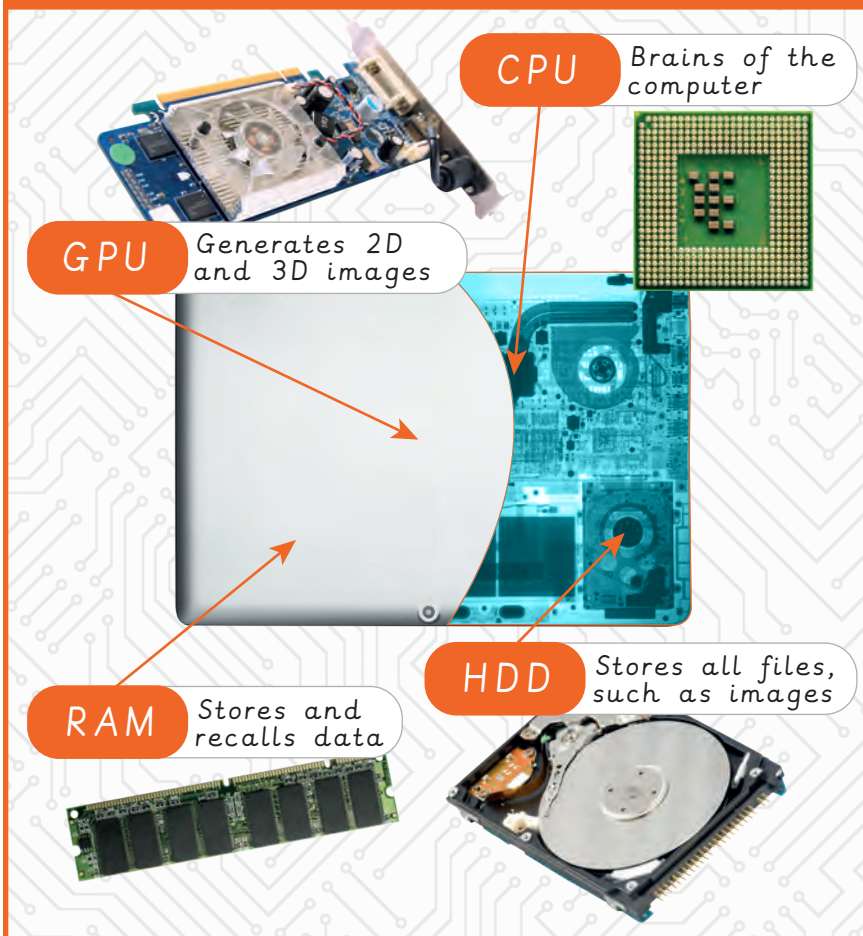


# Journey inside a computer

|                        |                                                                                                                                                                          |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 Units are the brains of a computer and deal 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<br>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, can take 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.             |

## Key facts

### Computer parts inside of a laptop:



### Other portable electronic devices:



## Year 3 - Online safety

|                        |                                                                                                                                                         |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| auto complete          | When software guesses what is being typed and suggests a word or phrase.                                                                                |
| belief                 | Something we accept to exist or be true, usually without proof.                                                                                         |
| fact                   | Something that can be proven to be true by evidence.                                                                                                    |
| fake news              | Online news or stories that are not true.                                                                                                               |
| opinion                | A view or judgement about something.                                                                                                                    |
| privacy settings       | The controls put in place to manage what kind of information and how much of your information can be shared with or seen by other people and companies. |
| social media platforms | Websites and apps where people can share information about what is happening in their lives (e.g. Snapchat, Instagram, Twitter, etc).                   |

If something online makes you feel uncomfortable or scared:

Block it and report it.



Check your device and privacy settings.



Tell a trusted adult.



## Key facts

BBC's Own It website (<https://www.bbc.com/ownit>) has lots of tips and information to help you stay safe online.



It is important to think about what information we share online.



Digital devices are communicating all the time and sharing our personal information between themselves.

Age restrictions show the minimum age you should be to use social media sites and apps.

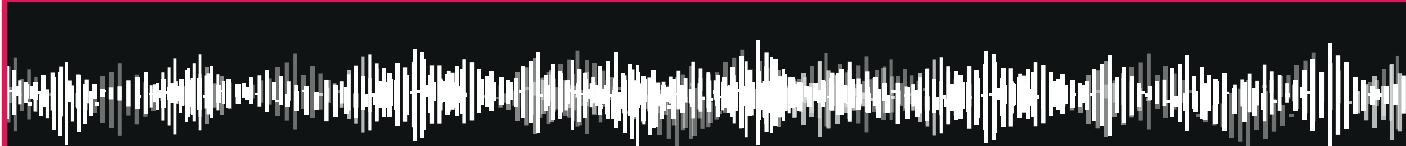


## Video trailers

|                       |                                                                                                                                  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 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).

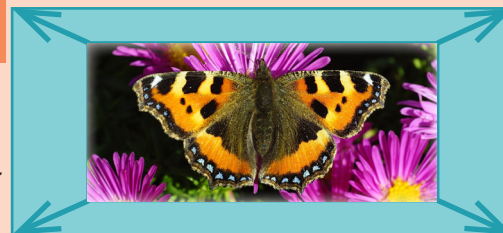
### Morph

The media appears from a selected corner.



### Cross zoom

The media zooms and fades in from the middle.



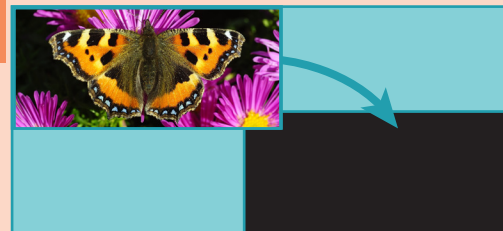
### Peel off

The page peels off to reveal the media.



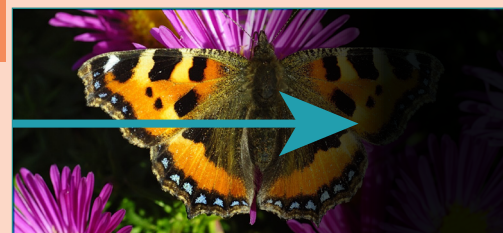
### Dip to black

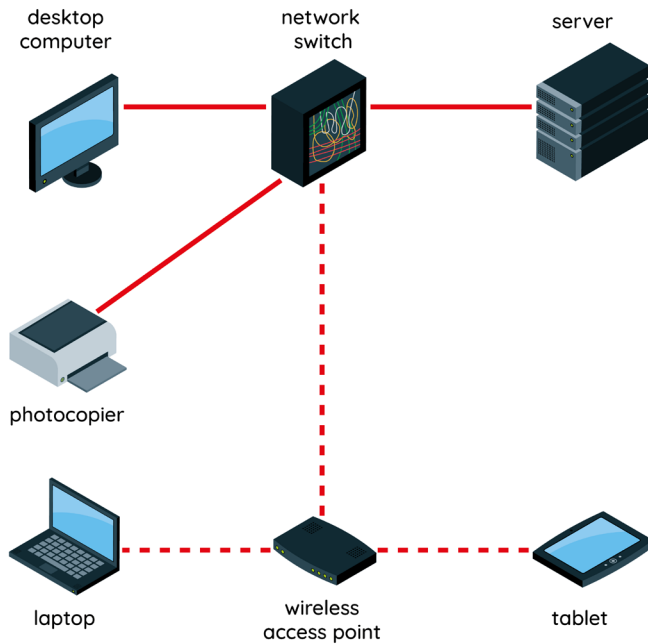
The media fades to a black screen.



### Directional wipe

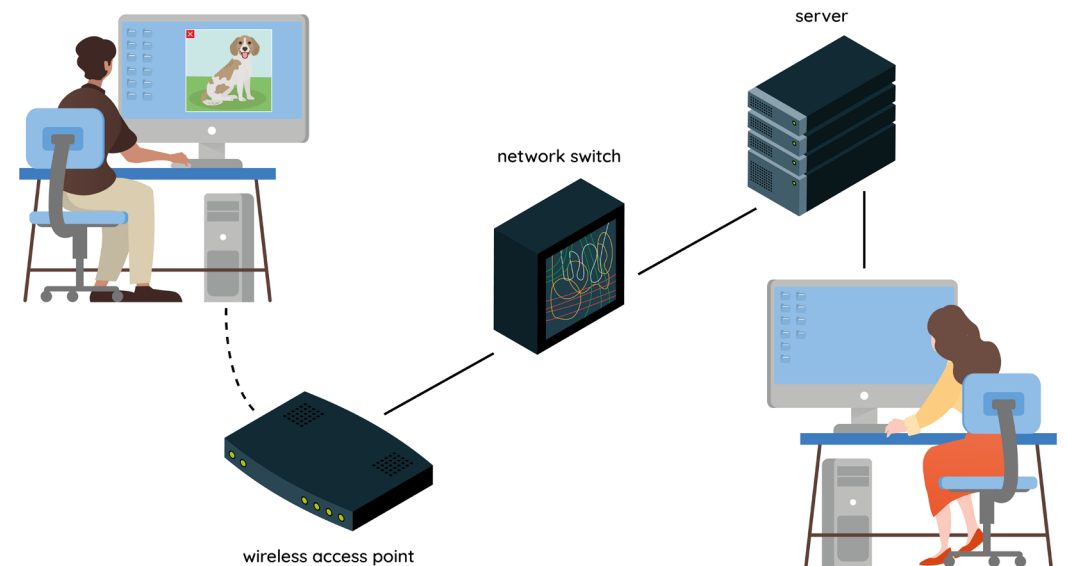
The media appears from a selected side.



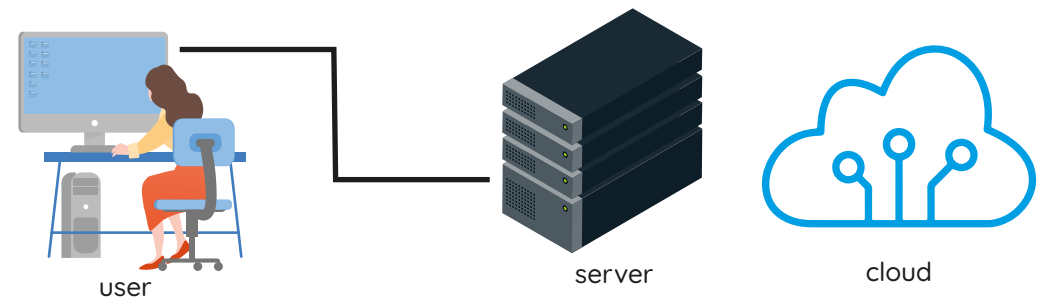


A network is made up of different devices.

When a file is shared, it travels through these devices on the network.



Different files can be sent through a network, including music, videos and photos.



When a user requests a website, the server retrieves its stored data and sends it back as the displayed website.

|                       |                                                                                                           |
|-----------------------|-----------------------------------------------------------------------------------------------------------|
| device                | Equipment created for a certain purpose or job.                                                           |
| internet              | A global network of computers and servers that share and exchange information.                            |
| network               | Multiple devices connected via the internet or a local network to share files and information.            |
| network switch        | A device that deals with the movement of network information.                                             |
| packet data           | The transmission of data in small pieces over a network, which are then reassembled at their destination. |
| router                | A device that provides internet access to a network via wired or wireless connections.                    |
| server                | A computer that supplies data and information to other devices.                                           |
| the cloud             | Refers to data and files that are stored and accessed on servers via the internet.                        |
| user                  | An individual who uses a computer and its applications.                                                   |
| Wi-Fi                 | A wireless network connection that allows devices to connect without cables.                              |
| wired                 | A 'wired' device is connected to the network via cables.                                                  |
| wireless              | A 'wireless' device connects to the network via signals.                                                  |
| wireless access point | A device that enables other electronic devices to connect wirelessly to the internet.                     |