



Coding

Key Learning

- To design a playable game with a timer and a score.
- To plan and use selection and variables.
- To understand how the launch command works.
- To use functions and understand why they are useful.
- To understand how functions are created and called.
- To use flowcharts to create and debug code.
- To create a simulation of a room in which devices can be controlled.
- To understand how user input can be used in a program.
- To understand how 2Code can be used to make a text-adventure game.

Key Vocabulary

Action

The way that objects change when programmed to do so. For example, move.

Co-ordinates

Numbers which determine the position of a point, shape or object in a particular space.

Execute\Run

Clicking the Play button to make the computer respond to the code. Execute is the technical word for when you run the code. We say, 'the program (or code) executes.'

Algorithm

A precise step by step set of instructions used to solve a problem or achieve an objective.

Event

An occurrence that causes a block of code to be run. The event could be the result of user action such as the user pressing a key (**when Key**) or clicking or swiping the screen (**when Clicked**, **when Swiped**) or when objects interact (**collision**). In 2Code, the event commands are used to create blocks of code that are run when events happen.

Key Resources



Command

A single instruction in a computer program.

Decomposition

A method of breaking down a task into manageable components. This makes coding easier as the components can then be coded separately and then brought back together in the program.

Debug/Debugging

Fixing code that has errors so that the code will run the way it was designed to.

Flowchart

A diagram that uses specifically shaped, labelled boxes and arrows to represent an algorithm as a diagram.

Function

A block or sequence of code that you can access when you need it, so you don't have to rewrite the code repeatedly. Instead, you simply **call** the function each time you want it.

Object

Items in a program that can be given instructions to move or change in some way (action). In 2Code Gorilla, the **object types** are button number, input, text, shape turtle, character, object, vehicle, animal.

Procedure

An independent code module that fulfils a task and is referenced within a larger body of code. In 2Code a procedure might be coded as a function.

Selection

Selection is a decision command. When selection is used, a program will choose which bit of code to run depending on a condition. In 2Code selection is accomplished using 'if' or 'if/else' statements.

Tab

In 2Code, this is a way to organise a program into separate pages (tabs) of code.

Key Vocabulary

Input

Information going into the computer. This could be the user moving or clicking the mouse, or the user entering characters on the keyboard. On tablets there are other forms such as finger swipes, touch gestures and tilting the device. In 2Code the commands **prompt for input** and **get input** are used to prompt the user to enter typed input and then use this input.

Properties

These determine the look and size of an object. Each object has properties such as the image, scale and position of the object.

Sequence

This is when a computer program runs commands in order.

Simulation

A model that represents a real or imaginary situation. Simulations can be used to explore options and to test predictions.

Timer

Use this command to run a block of commands after a timed delay or at regular intervals.

Launch Command

This command will open another Purple Mash file or an external website that you specify when it is called.

Output

Information that comes out of the computer e.g. **sound**, **prompt**, **alert** or **print to screen**.

Predict

Use your understanding of a situation to say what will happen in the future or will be a consequence of something

Repeat

This command can be used to make a block of commands run a set number of times or forever.

Repeat Until

In 2Code this command will repeat a block of commands until a condition is met.

Variable

A named area in computer memory. A variable has a **name** and a **value**. The program can change this variable value. Variables are used in programming to keep track of things that can change while a program is running.



Online Safety

Key Learning

- To identify benefits and risks of mobile devices broadcasting the location of the user/device.
- To identify secure sites by looking for privacy seals of approval.
- To identify the benefits and risks of giving personal information.
- To review the meaning of a digital footprint.
- To have a clear idea of appropriate online behaviour.
- To begin to understand how information online can persist.
- To understand the importance of balancing game and screen time with other parts of their lives.
- To identify the positive and negative influences of technology on health and the environment.

Key Resources



2Investigate



2DIY



2DIY3D



Free code gorilla

Key Questions

Why do I need to be aware of the dangers of being online?

Although the Internet is a brilliant resource for learning and entertainment some people use the Internet to cause you harm. Being aware of these dangers can help keep you safe and protect your privacy.

What is meant by my digital footprint?

The term digital footprint is used to describe the traces that people leave behind when they have visited a website or used social media. Your digital footprint is unique to you.

Why is it important to think about how much time use a screen for?

Using a screen can help you surf the Internet or enjoy computer games but you need to be careful how much time you spend using a screen. For instance, using a screen at night can damage your sleep patterns. Turn your screen off regularly and enjoy the world outside.

Data analysis
The process of interpreting and understanding data that has been collected and organised.

Location sharing
A way of sharing with others your device's location, these can be switched off for added security.

Phishing
The practice of sending email pretending to be from reputable companies in order to persuade individuals to reveal personal information, such as passwords and credit cards numbers.

Key Vocabulary

Digital footprint
The information about a person that exists on the Internet as a result of their online activity.

Password
A secret word, phrase or combination of letters, numbers and symbols that must be used to gain admission to a site or application such as a website.

Print Screen
Capturing an image of the current screen on a device. Also known as a screen shot.

Secure websites
Secure website have particular privacy features to look out for such as a padlock or https.

Inappropriate
Something that is not suitable or proper in the situation.

PEGI rating
These show the age that digital content is suitable for and the type of content that it contains.

Screen time
The time spent using a device with a screen, such as a computer, television, tablet or phone.

Spoof
An imitation of something that appears to look genuine.



Blogging

Key Learning

- To identify the purpose of writing a blog.
- To identify the features of a successful blog.
- To plan the theme and content for a blog.
- To understand how to write a blog and a blog post.
- To consider the effect upon the audience of changing the visual properties of the blog.
- To understand how to contribute to an existing blog.
- To understand how and why blog posts are approved by the teacher.
- To understand the importance of commenting on blogs.

Key Resources



purple
mash



2Blog



2Connect

Key Questions

What is a blog?

A blog is a website or webpage that is regularly updated by the author. A blog also allows the reader to post comments or opinion based on what is written.

What can a blog be about?

A blog can be written about any subject. You could write a blog about school such as information about the subject you are studying. Alternatively, you could write a blog about your favourite team or movie.

How are the audience involved in a blog?

A key feature of blogs is that the audience can leave a comment or opinion about what they have read on the blog.

Approval
The act of acknowledging something is appropriate.

Blog post
A piece of writing or other item of content published on a blog.

Key Vocabulary

Archive
In this case, where older blog or vlog posts are stored.

Collaborate
Work jointly on an activity or project.

Vlog
A personal website or social media account where a person regularly posts short videos.

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.

Commenting
To express an opinion or reaction in speech or writing.



Text Adventures

Key Learning

- To find out what a text adventure is.
- To use 2Connect to plan a story adventure.
- To make a story-based adventure using 2Create a Story.
- To introduce an alternative model for a text adventure which has a less sequential narrative.
- To use written plans to code a map-based adventure in 2Code.

Key Resources

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2Create a Story



2Connect

Key Vocabulary

Text-based Adventure

A computer game that uses text instead of graphics.

Debug/ Debugging

Fixing code that has errors so that the code will run the way it was designed to.

Sprite

A computer graphic which may be programmed to move on-screen.

Selection

When selection is used, a program will choose a different outcome depending on a condition.

Function

In this context, a section of code that gets run when it is called from the main code. A function in a program is usually a piece of code that gets run lots of times.

Key Images



Create an adventure story in 2Create a Story



Plan out your story



Add a button to the story



Add a sprite to the story



Add sound to the story



Choose a background



Undo or redo the last action



Play your text based adventure

Key Questions

What is a text based adventure?

A text based adventure is a type of game that uses text rather than graphics to tell the story. The player normally selects the next move from a series of text based options.

Why is it important to plan a text based adventure?

Text based adventures can often be complicated and give the player lots of options about what to do next. Planning the game ensures the player doesn't make a decision that has no outcome.



Networks

Key Learning

- To learn about what the Internet consists of.
- To find out what a LAN and a WAN are.
- To find out how the Internet is accessed in school.
- To research and find out about the age of the Internet.
- To think about what the future might hold.

Key Resources

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mash



Tim Berners- Lee
Profile



Communication
Questionnaire

Key Questions

What is the difference between the Internet and the World Wide Web?

The Internet is a global network of networks while the Web, also referred formally as the World Wide Web (www) is collection of information which is accessed via the Internet.

What is the difference between a LAN and a WAN?

Both are networks that connect computers together. A LAN (Local Area Network) is normally for computers connected less than 1KM distance, whilst a WAN (Wide Area Network) extends over a large geographical area.

Who is Tim Berners-Lee?

Tim Berners-Lee is the inventor of the World Wide Web. The WWW is the system that delivers webpages over the internet.

Key Vocabulary

Internet

A global computer network providing a variety of information and communication facilities consisting of interconnected networks using standardized communication protocols.

Local area network (LAN)

A computer network that links devices within a building or group of adjacent buildings, especially one with a radius of less than 1 km.

Hub/Switch

The connection point for networks where data packets from many locations converge and are then sent out to different devices.

Network

Several interconnected computers, machines, or operations.

Router

A device which forwards data packets to the appropriate parts of a computer network.

World Wide Web

An information system on the Internet which allows documents to be connected to other documents by hypertext links, enabling the user to search for information by moving from one document to another.

Wide area network (WAN)

A collection of local-area networks (LANs) or other networks that communicate with one another over a large physical area or even globally.

Wi-Fi

A facility allowing computers, smartphones, or other devices to connect to the Internet or communicate with one another wirelessly within a particular area.