



Coding

Key Learning

- To begin to simplify code.
- To create a playable game.
- To understand what a simulation is.
- To program a simulation using 2Code.
- To know what decomposition and abstraction are in computer science.
- To take a real-life situation, decompose it and think about the level of abstraction.
- To understand how to use friction in code.
- To begin to understand what a function is and how functions work in code.
- To understand what the different variables types are and how they are used differently.
- To understand how to create a string.
- To understand what concatenation is and how it works.

Key Resources



Key Vocabulary

Abstraction

A way of de-cluttering and removing unnecessary details to get a program functioning.

Action

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

Algorithm

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

Concatenation

The action of linking a mixture of strings, variable values and numbers together in a series.

Debug\ Debugging

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

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.

Efficient

In coding, simplified code runs faster and uses less processing memory, it is said to be more efficient.

Flowchart

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

Key Vocabulary

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.

Nesting

When coding commands are put inside other commands. These commands only run when the outer command runs.

Physical System

In this context, this is any object or situation that can be analysed and modelled. For example modelling the function of a traffic light, modelling friction of cars moving down surfaces or modelling the functions of a home's security system.

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.

Properties

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

Selection

A conditional 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.

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.

Output

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

Repeat

This command can be used to make a block of commands run a set number of times, until a condition is met or forever.

Sequence

This is when a computer program runs commands in order.

Simplify

In coding this is used to describe modifying the code to complete the same process with less lines of code.



Online Safety

Key Learning

- To gain a greater understanding of the impact that sharing digital content can have.
- To review sources of support when using technology and children's responsibility to one another in their online behaviour.
- To know how to maintain secure passwords.
- To understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this.
- To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online.
- To learn about how to reference sources in their work.
- To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information.
- To ensure reliability through using different methods of communication.

Key Resources

purple
mash



Key Questions

Who do I tell if I see anything online that makes me upset or scared?

When you are at school, you should tell the teacher or another adult. At home, you should tell your parent or guardian or another adult that you trust.

Why are passwords so important?

Passwords protect your information and stop other people accessing it. Passwords are like a toothbrush; they should not be shared with anyone else.

Why is it important to reference sources in my work?

If you use a book or article written by someone else, then you must reference it, so people know where you got the information from. If you don't do this then it is known as plagiarism.

Key Vocabulary

Citation

Making reference to the original source of a piece of information quotation or image.

Copyright

When the rights to something belong to a specific person.

Identity theft

When someone pretends to be another person online. It can be done for financial gain or to steal others' private information.

PEGI ratings

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

Password

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.

Reliable source

A source of information that provides thorough, well-reasoned details based on valid evidence.

Collaborate

To work jointly on an activity or project.

Creative Commons Licence

A non-profit organisation who provide free licences for creators to use. If an image has a CC licence, you may usually use the image for non-commercial purposes. You must still give credit to the original creator of the image.

Malware

Software that is specifically designed to disrupt, damage, or gain unauthorised access to a computer system.

Personal information

Identifying information about yourself such as your name, address and telephone number.

SMART rules

A set of rules based around the word SMART designed to help you stay safe when online. SMART represents the words Safe, Meet, Accept, Reliable, Tell.

Communication

A way of exchanging information for example, email, blogs, speaking, writing.

Encrypt

The translation of data into a secret code to achieve data security.

Ownership

Who has permission or can give permission to use or edit a resource or part of the resource.

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.

Spoof

An imitation of something that appears to look genuine.

Validity

The quality of something being logically or factually sound.



Word Processing with Google Docs

Key Learning

- To know what a word processing tool is for.
- To add and edit images to a word document.
- To know how to use word wrap with images and text.
- To change the look of text within a document.
- To add features to a document to enhance its look and usability.
- To use the sharing capabilities in Google Docs.
- To use tables within to present information.
- To introduce children to templates.

Key Resources



Key Questions

What is a word processing tool used for?

A word processing tool is used to create, edit and print off a document. This can contain text, images, tables or charts. Documents are a type of file that portray information.

What features can you use to make a document more readable?

You can change the font format to give the document a theme and make it more readable. By changing the paragraph formatting, you can ensure the words are spaced evenly. You can add images and use text wrapping to ensure they are positioned well on the page.

How do you successfully add an image to a document?

If you have an image saved onto your computer, you click on insert – pictures – insert image from this device. You can resize and move the image and ensure it fits well on the page by changing the text wrap setting.

Bulleted lists

A list with bullet points, used when the items do not have an order.

Copy and Paste

A way of transferring words or images from one location to another.

Cursor

The flashing vertical line that shows your place in a Word document.

Hyperlink

A clickable link from a document to another location, often a webpage.

Formatting

Changing the look of a document by selecting fonts, colours and how the text is spaced or aligned.

Word Processing tool

A program which allows you to write, edit and print different documents.

Key Vocabulary

Caps Lock

A button on the computer keyboard which changes the letters to upper case (capital letters).

Copyright

When an image, logo or idea has a legal right to not be copied or used without the owner's permission.

Document

A type of file which shows written information and/or images and sometimes charts and tables.

Merge cells

A tool you can use when making a table to join cells which are next to each other in columns or rows.

Text wrapping

A feature which helps you place and position an image neatly on a page or within a paragraph of text.

Captions

Text under an image to provide more information about what is shown.

Creative Commons

Images where the copyright holder, often the creator, has given permission for the image to be used as long as the creator is attributed.

Font

A set of type which shows words and numbers in a particular style and size.

Page Orientation

The direction that the rectangular page is viewed. Portrait means longer side going upwards, Landscape means the longer side going sideways.

Readability

How easy and pleasant it is to read and understand a document.

Word Art

A way to treat text as a graphic so that you can add special effects to text.