



Coding

Key Learning

- To understand what an algorithm is.
- To create a computer program using an algorithm.
- To create a program using a given design.
- To understand the collision detection event.
- To understand that algorithms follow a sequence.
- To design an algorithm that follows a timed sequence.
- To understand that different objects have different properties.
- To understand what different events do in code.
- To understand the function of buttons in a program.
- To understand and debug simple programs.

Key Resources

purple
mash



2Dos



Free code chimp



Tools

Key Vocabulary

Action

Types of commands, which are run on an object. They could be used to move an object or change a property.

Bug

A problem in a computer program that stops it working the way it was designed.

Collision detection

In 2Code, this measures whether 2 objects have touched each other.

Algorithm

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

Button

A type of object that responds to being clicked on.

Command

A single instruction in 2Code.

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 or clicking the screen.

Background

In 2Code the background is an image in the design that does not change.

Click events

An event that is triggered when the user clicks on an object.

Debug / Debugging

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

Execute

This is the proper word for when you run the code. We say, 'the program (or code) executes.'

Implement

When a design is turned into a program using coding.

Interval

In a timer, this is the length of time between the timer code running and the next time it runs e.g. every 1 second.

Properties

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

Key Vocabulary

Instructions

Detailed information about how something should be done or operated.

Object

Items in a program that can be given instructions to move or change in some way (action).

Run

Clicking the Play button to make the computer respond to the code.

Interaction

When objects perform actions in response to each other e.g. a frog turning into a monkey when it collides with a tree.

Output

Information that comes out of the computer e.g. sound.

Key Questions

What is an algorithm? Why is it useful in coding?

An algorithm is a step-by-step set of instructions used to solve a problem or achieve an objective.
A clear algorithm can help you to create code that does what it is supposed to do.

Why is it important to know there are different object types?

Different object types can do different actions. For example, in 2Code, an animal object can do actions such as up, down and stop. A turtle goes forward, backward, pen down and pen up.

If you are good at coding, you don't need to debug. Is this true?

All coders need to debug to make sure that their program works correctly, and the code does what they intended. As you get better at coding, your programs will get more complex and debugging gets even more important.



Online Safety

Key Learning

- To know how to refine searches using the Search tool.
- To use digital technology to share work on Purple Mash to communicate and connect with others locally.
- To have some knowledge and understanding about sharing more globally on the Internet.
- To introduce Email as a communication tool using 2Respond simulations.
- To understand how we should talk to others in an online situation.
- To open and send simple online communications in the form of email.
- To understand that information put online leaves a digital footprint or trail.
- To identify the steps that can be taken to keep personal data and hardware secure.

Key Resources

purple mash



Sharing



2Email

Key Vocabulary

Attachment

A computer file sent with an email.

Filter

A feature of search engines, where a user can filter results according to criteria. For example, news, date published.

Private information

This is personal information that should be kept secure. For example, their date of birth, their full address, credit card numbers.

Digital footprint

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

Internet

A way to send information from one computer to another anywhere in the world using technology such as phones, satellites and radio links.

Search

Look for information (in a database or the World Wide Web) using a search engine.

Email

Messages distributed by electronic means from one computer user to one or more people.

Personal information

This is information that is personal to someone. For example, their favourite food, their name and age.

Secure

Users online should take steps to help keep their personal and private information secure.

Sharing

Post or repost (something) on a website.

Key Images

The image shows a screenshot of the Purple Mash interface. On the left, there is a 'Display board' with icons for 'Share', 'Email', and '2Respond'. Below it is a 'Search Bar' with a search icon and a dropdown menu. At the bottom left is an 'Inbox' section. On the right, an email simulation is shown. Labels with arrows point to various elements: 'Email sender' points to the 'From' field, 'Email subject' points to the 'Subject' field, 'Send the email' points to the 'Send' button, and 'Delete the email' points to the 'Delete' button. The email content includes a message from 'Neil Armstrong' about being the first person to walk on the Moon.

Key Questions

Why is a search bar useful?

The search bar on Purple Mash or on a website helps the user to quickly find the resources they are looking for.

What is an email?

An email is a way of sending messages electronically from one device to another. An email can have items such as pictures and videos attached to it.

What is meant by my Digital Footprint?

A digital footprint is a term used to describe the traces of yourself that you leave online. With every website you visit, you leave a trail or footprint showing that you've been there.



Purple Mash Computing Scheme of Work

Effective Searching

Key Learning

- To understand the terminology associated with searching.
- To gain a better understanding of searching on the Internet.
- To create a leaflet to help someone search for information on the Internet.

Key Questions

How can I search the Internet?

The easiest way to search the Internet is using a search engine. The search engine crawls the Internet looking for answers to the search enquiry. Google is a popular search engine.

Key Vocabulary

Digital Footprint

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

Network

Connected devices that can send and receive information, voice and video.

Web Page

A single page which can include images, videos and charts.

Domain

Part of the Internet owned by an individual, company or organisation.

Search Engine

A program to help you find web pages on the Internet.

World Wide Web

The web pages and documents you see when you are browsing online. It is just one part of the Internet.

Internet

A way to send information from one computer to another anywhere in the world using technology such as phones, satellites and radio links.

Web Address

Identifying address for a file or web page on the Internet. Also known as URL.

Web Site

A collection of web pages that belong to one domain.

Key Resources

