



Unit: 6.2 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.



Unit: 6.2 Online Safety

Key Vocabulary

Digital footprint

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

Password

A string of characters that allow access to a computer system or service.

PEGI rating

A rating that shows what age a game is suitable for.

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.

Screen time

Time spent using a device such as a computer, television, or games console.

Spoof website

A website that uses dishonest design to trick users into thinking that it represents the truth.



Unit: 6.1 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 Resources



Key Vocabulary

Action

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

Alert

This is a type of output. It shows a pop-up of text on the screen.

Algorithm

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

Background

The part of the program design that shows behind everything else. It sets the scene for the story or game.

Button

An object that can trigger an event in response to being clicked.

Called

A line of code that triggers a function to be executed.

Command

A single instruction in a computer program.

Co-ordinates

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

Debug/Debugging

Looking for any problems in the code, fixing and testing them.

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.

Developer

A person who writes, debugs and executes code to create a program.



Unit: 6.1 Coding

Key Vocabulary

Nested

When you write a command inside something else e.g. a block of commands could be nested inside a timer.

Object

An element in a computer program that can be changed using actions or properties. In 2Code, buttons, characters and vehicles are types of objects.

Predict

Say what you think will happen when a piece of code is run.

Procedure

A set of coded instructions that perform a certain task.

Prompt

A question or request asked in coding to obtain information from the user in order to select which code to run.

Properties

All objects have properties that can be changed in design or by writing code e.g. image, colour and scale properties.

Repeat

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

Run

To cause the instruction in a program to be carried out.

Event

Something that causes a block of code to be run.

Flowchart

A diagram which represents an algorithm.

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.

Get Input

This puts the text that a user types into the computer's temporary memory to be used to control the program flow.

If/Else

A conditional command. This tests a statement. If the condition is true, then the commands inside the 'if block' will be run. If the condition is not met, then the commands inside the 'else block' are run.

Launch Command

A command that launches another program within the existing program.

Number Variable

A variable that is numerical.

Scene

A visual aspect of a program.

Selection

This is a conditional/decision command. When selection is used, a program will choose a different outcome depending on a condition.

Simulation

A model that represents a real or imaginary situation.

String

A sequence of characters, which could form words, phrases or even whole sentences.

Tab

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

Timer

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

User Input

When a program requires an input from a user such as a click or text from a keyboard.

Variable

A named area in computer memory. A variable has a name and a value. The program can change this variable value.



Unit: 6.3 Spreadsheets

Key Learning

- To use a spreadsheet to investigate the probability of the results of throwing many dice.
- To use a spreadsheet to calculate the discount and final prices in a sale.
- To use a spreadsheet to plan how to spend pocket money and the effect of saving money.
- To use a spreadsheet to plan a school charity day to maximise the money donated to charity.

Key Resources



Key Vocabulary

Average Function

A feature that allows a user to find the average values of selected cells.

Columns

Vertical reference points for the cells in a spreadsheet.

Count (how many) tool

Counts the number of whatever value object is in the cell to its immediate left and puts the answer in the cell to its immediate right.

Advance mode

A mode of 2Calculate in which the cells have references and can include formulae.

Cells

An individual section of a spreadsheet grid. It contains data or calculations.

Dice

When clicked, this will simulate a dice roll by switching to one of the faces of a die.

Copy and Paste

A way to copy information from the screen into the computer's memory and paste it elsewhere without re-typing.

Charts

Use this button to create a variety of graph types for the data in the spreadsheet.



Unit: 6.3 Spreadsheets

Key Vocabulary

Equals tool

Tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool.

Move cell tool

This tool makes a cell's contents moveable by drag-and-drop methods.

Spreadsheet

A computer program that represents information in a grid of rows and columns. Any cell in the grid may contain either data or a formula that describes the value to be inserted based on the values in other cells.

Random tool

Click to give a random value between 0 and 9 to the cell.

Formula

Use the formula wizard or type into the formula bar to create a formula in a cell, this will calculate the value for the cells based upon the value of other cells in the spreadsheet.

Rows

Vertical reference points for the cells in a spreadsheet.

Timer

When placed in the spreadsheet, click the timer to add 1 to the value of the cell to its right every second until it is clicked again.

Spin Tool

Adds or subtracts 1 from the value of the cell to its right.

Formula Wizard

The wizard guides you in creating a variety of formulae for a cell such as calculations, totals, averages, minimum and maximum for the selected cells.



Unit: 6.4 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.



Unit: 6.4 Blogging

Key Vocabulary

Audience

In this case the readership of the blog.

Blog page

A webpage onto which blog posts are hosted.

Collaborative

Produced by or involving two or more parties working together.

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.

Blog post

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

Icon

A symbol or graphic representation on a screen.



Unit: 6.7 Quizzing

Key Learning

- To create a picture-based quiz for young children.
- To learn how to use the question types within 2Quiz.
- To explore the grammar quizzes.
- To make a quiz that requires the player to search a database.
- To make a quiz to test your teachers or parents.

Key Resources



2Quiz



2DIY



Text Toolkit



2Connect



2Investigate

Key Vocabulary

Audience

The people giving attention to something.

Collaboration

The action of working with someone to produce something.

Concept map

A tool for organising and representing knowledge. They form a web of ideas which are all interconnected.

Database

A structured set of data held in a computer, especially one that is accessible in various ways.

Quiz

A test of knowledge, especially as a competition between individuals or teams as a form of entertainment.



Unit: 6.7 Quizzing

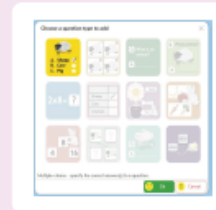
Key Images



Create a quiz using 2Do It Yourself



Create a quiz using Text Toolkit



Choose a question type in 2Quiz



Create a concept map from scratch (blank) or an existing template.



Create a blank database

Key Questions

What factors do you need to consider when creating a quiz?

The intended audience; age and reading ability and interests.
The aim of the quiz; is it for fun like a game, or to make sure that the user has learnt something?

Name three question types in 2Quiz.

- Sequencing
- Grouping and Sorting
- Text based
- Multiple-choice
- Labelling

Apart from the questions, what else does a quiz need to contain?

A title screen and instructions for the user.
Feedback for the user (some quizzes).
Time limits (some quizzes).
Images for interest as well as part of the questions



Unit: 6.5 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



2Create a Story



2Connect

Key Vocabulary

Text-based adventure

A computer game that uses text instead of graphics.

Concept map

A tool for organising and representing knowledge. They form a web of ideas which are all interconnected.

Debug

Identify and remove errors from (computer hardware or software).

Sprite

A computer graphic which may be moved on-screen.

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.



Unit: 6.5 Text Adventures

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.

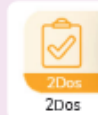


Unit: 6.8 Binary

Key Learning

- To examine how whole numbers are used as the basis for representing all types of data in digital systems.
- To recognise that digital systems represent all types of data using number codes that ultimately are patterns of 1s and 0s (called binary digits, which is why they are called digital systems).
- To understand that binary represents numbers using 1s and 0s and these represent the on and off electrical states respectively in hardware and robotics.

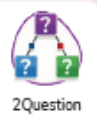
Key Resources



2Dos



2Connect



2Question



Free code gorilla

Key Vocabulary

Base 10

The number system commonly used in day-to-day life. Using the digits 0,1,2,3,4,5,6,7,8,9 to make. Also known as decimal or denary.

Bit

A single 0 or 1 in the binary system.

Digit

A single integer used to show a number.

Byte

8 bits.

Gigabyte (GB)

1024 MB.

Base 2

A number system based only on the numerals 0 and 1. Also known as binary. The digits 1 and 0 used in binary reflect the on and off states of transistors.

Decimal

See Base-10.

Integer

Any whole number. This includes negative and positive numbers but not fractions or decimals.

Denary

See Base-10.

Kilobyte (KB)

1024 bytes.

Binary

See Base-2.



Unit: 6.8 Binary

Key Vocabulary

Machine code

The code that signals to a computer which transistors should be on or off. Machine code is written in binary.

Switch

A component that can be one of two states at any time: on or off.

Variable

A variable is used in programming to keep track of things that can change while a program is running. A variable must have a name. The value of the variable is the information to store.

Terabyte (TB)

1024 GB

Megabyte (MB)

1024 KB.

Transistor

A tiny switch that is activated by the electronic signals it receives.

Nibble

4 bits.

Key Images

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