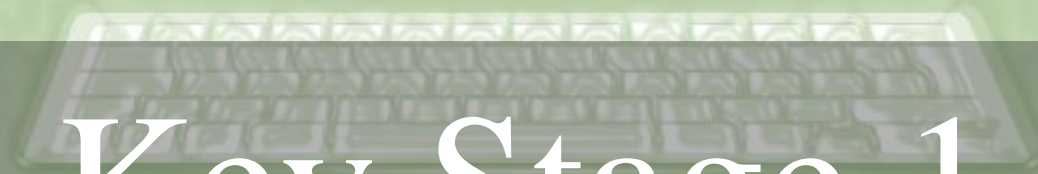




Computing Knowledge Organisers

Autumn Term



Key Stage 1

Key Learning

- To log in safely.
- To learn how to find saved work in the Online Work area and find teacher comments.
- To learn how to search Purple Mash to find resources.
- To become familiar with the icons and types of resources available in the Topics section.
- To start to add pictures and text to work.
- To explore the Tools and Games section of Purple Mash.
- To learn how to open, save and print.
- To understand the importance of logging out.

Real life contexts/ Other opportunities to apply my skills

PSHE – Corum

PM Resources



Key Questions

What is a password and why should we keep them safe?
What is a digital avatar?
Where is my work stored on Purple Mash?

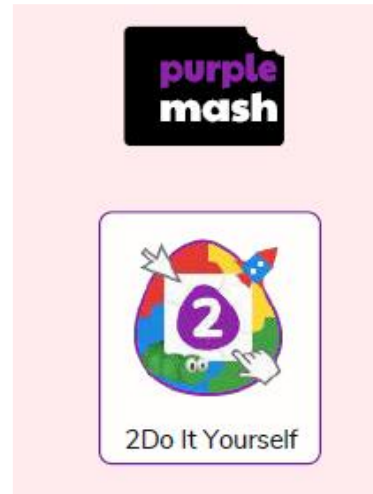
Key Vocabulary

Alert A system that lets you know if you have something to look at.	Avatar A digital picture to represent someone.	Button An area where you click to make something happen.
Device A piece of electrical equipment made for a purpose.	File Name The name given to an online piece of work.	Icon An image on a web page that you can click on to navigate to somewhere.
Log in Using a username and password to access a system.	Log out Leaving a computer system.	Menu A button which gives the user different options.
My Work Area The place on Purple Mash where your work is stored. Only you and your teachers can access this.	Notification A message telling you about something.	Password A series of letters, numbers and special characters that is entered after the username to access an online site.
Purple Mash Tools A selection of programs which help you carry out different tasks.	Private Keeping information restricted from other people.	Search A way of finding specific resources you want to look at.

Key Learning

- To sort items using a range of criteria.
- To sort items on the computer using the 'Grouping' activities in Purple Mash.

PM Resources



Key Vocabulary

Criteria

A way in which something is judged.

Groups

Objects arranged and put together because they have features in common.

Sort

Put things together by features they have in common.

Real life contexts/ Other opportunities to apply my skills

Maths links – Sorting and grouping shapes
Science – grouping animals

Teach computing – grouping data 1.4

Key Questions

In what ways can we sort objects?

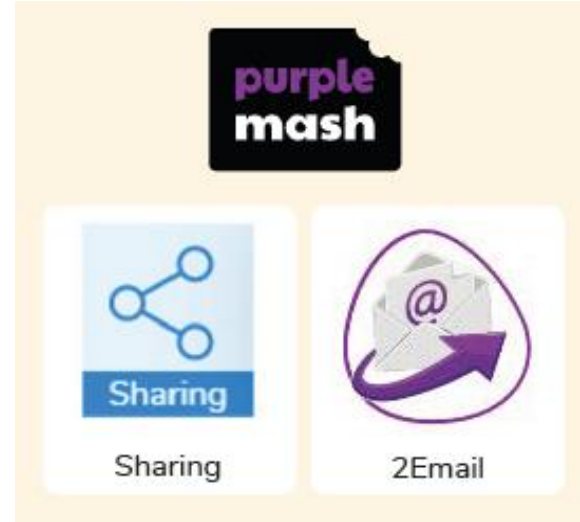
Key Learning

- 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.

Real life contexts/ Other opportunities to apply my skills

Corum

PM Resources



Key Questions

What is a search bar?
What is an email?
What is meant by a Digital Footprint?

Key Vocabulary

Search

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

Displayboard

In Purple Mash, this is a tool that enables you to share work with a wide audience.

Internet

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

Sharing

Post or repost (something) on a website.

Email

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

Attachment

A computer file sent with an email.

Digital Footprint

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

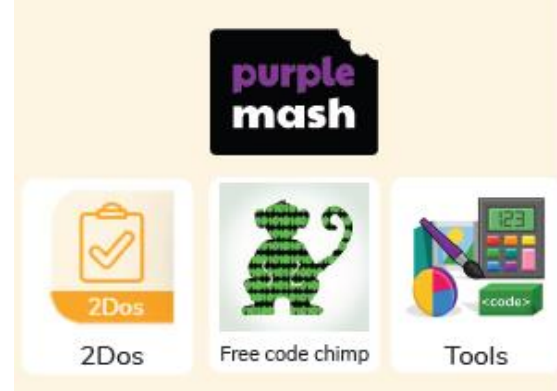
Key Learning

- 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.

Real life contexts/ Other opportunities to apply my skills

Teach computing – Programming A robot algorithms

PM Resources



Key Questions

What is an algorithm?
Why is it useful in coding?
Why is it important to know there are different object types?
Do all coders need to debug?

Key Vocabulary

Action

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

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.

Object

An element in a computer program that can be changed using actions or properties.

Predict

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

Properties

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

Button

An object on the screen which can be clicked on.

Collision Detection

Detecting when two characters on the screen touch each other.

Debug/Debugging

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

Run

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

Scale

The size of an object in 2Code.

Scene

A visual aspect of a program.

Sequence

When a computer program runs commands in order.

Sound

This is a type of output command that makes a noise.

Design Mode

Used to create the look of a 2Code computer program when it is run.

Event

Something that causes a block of code to be run.

Key Pressed

Pushing down a key on the device's keyboard.

Nesting

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

Test

When code is run to check that it works correctly.

Text

Typed letters on the screen.

Timer

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

When clicked/swiped

An event command. It makes code run when you click or swipe on something (or press/swipe your finger on a touchscreen).

Key Learning

- To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine.
- To learn how to copy and paste in 2Calculate.
- To use the totalling tools.
- To use a spreadsheet for money calculations.
- To use the 2Calculate equals tool to check calculations.
- To use 2Calculate to collect data and produce a graph.

Real life contexts/ Other opportunities to apply my skills

Microsoft and Google spreadsheets

PM Resources



Key Questions

Why would you copy and paste when using a spreadsheet?
How could a spreadsheet help you when you are planning?
Can you read a spreadsheet?

Key Vocabulary

Backspace key

Use this key to delete the character before the current cursor position.

Copy and Paste

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

Columns

Vertical reference points for the cells in a spreadsheet.

Cells

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

Count Tool

In 2Calculate, this counts the number of cells with a value that matches the value of the cell to the left of the tool.

Delete key

Use this key to remove the contents of a cell.

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.

Image Toolbox

Use this to insert images into cells.

Lock tool

This tool prevents cell values being changed.

Move cell tool

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

Rows

Vertical reference points for the cells in a spreadsheet.

Speak Tool

This tool will speak the contents of a cell containing a number each time the value changes.

Spreadsheet

A computer program that represents information in a grid of rows and columns.



Lower Key Stage 2

Key Learning

- To know what makes a safe password.
- To learn methods for keeping passwords safe.
- To understand how the Internet can be used in effective communication.
- To understand how a blog can be used to communicate with a wider audience.
- To consider the truth of the content of websites.
- To learn about the meaning of age restrictions symbols on digital media and devices.

Real life contexts/ Other opportunities to apply my skills

PM Resources



Key Questions

What is a password and why should we keep them safe?
Is everything I read on the Internet true?
How do I know if I am old enough to play a computer game?

Key Vocabulary

Appropriate

When using online services such as blogging or sharing information. It's important that users behave appropriately. Users should be truthful, respectful, kind, seek any permissions and report anything they feel uncomfortable with.

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.

Spoof

An imitation of something that appears to look genuine.

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.

Personal Information

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

Reputable source

Reputable sources are known places or sites that have accurate information. For example, well known news sites or encyclopaedias.

Reliable Source

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

Website

A set of related web pages located under a single name.

Inappropriate

Behaviour or content online that is upsetting, rude, unkind or makes someone feel unsafe or concerned.

Internet

A global computer network providing a variety of information and communication facilities, consisting of interconnected networks and computers.

Permission

When someone shares or accesses content online, it's important that permission is given if it belongs to someone else or has information about them.

Verify

When seeking content online, it is important that a user verifies the information. They can do this by checking other sources and looking for signs that may indicate inaccuracy in the information.

Key Learning

- To introduce typing terminology.
- To understand the correct way to sit at the keyboard.
- To learn how to use the home, top and bottom row keys.
- To practise typing with the left and right hand.

PM Resources



Key Vocabulary

Posture

The correct way to sit at the computer.

Keys

Buttons that are pressed on a computer keyboard or typewriter. These can be described by their position; bottom row, top row and home row (middle row).

Space bar

The bar at the bottom of the keyboard.

Typing

The action or skill of writing something by means of a typewriter or in this case a computer.

Real life contexts/ Other opportunities to apply my skills

Key Questions

Why should I have a good posture at the computer?

Why should I type certain keys with certain finger?

Key Learning

- To understand how children can protect themselves from online identity theft.
- To understand that information put online leaves a digital footprint or trail and that this can aid identity theft.
- To identify the risks and benefits of installing software including apps.
- To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism.
- To identify appropriate behaviour when participating or contributing to collaborative online projects for learning.
- To identify the positive and negative influences of technology on health and the environment.
- To understand the importance of balancing game and screen time with other parts of their lives.

Real life contexts/ Other opportunities to apply my skills

Skills and learning will also be covered in our PSHE lessons throughout the year.

PM Resources



Key Questions

What is meant by a Digital Footprint?
What is SPAM?
What is meant by plagiarism?

Key Vocabulary

AdFly
An online advertising marketplace that allows publishers to monetize their website traffic by placing advertisements on their site.

Collaborate
To work jointly on an activity or project.

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

Plagiarism
Taking someone else's work or ideas and passing them off as one's own.

Spam
Messages sent over the Internet, typically to many users, for the purposes of advertising, phishing or spreading malware.

Attachment
A file, which could be a piece of work or a picture, that is sent with an email.

Cookies
A small amount of data generated by a website and saved by a web browser. Its purpose is to remember information about the user.

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

Ransomware
A type of malicious software designed to block access to a computer system until a sum of money is paid.

Virus
A piece of code which can copy itself and typically has a damaging effect on the device, such as corrupting the system or destroying data.

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.

Phishing
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.

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.

Watermark
Watermarks are used mainly on images or videos to show who the content belongs to.

Key Learning

- To begin to understand selection in computer programming.
- To understand how an IF statement works.
- To understand how to use co-ordinates in computer programming.
- To understand the 'repeat until' command.
- To understand how an IF/ELSE statement works.
- To understand what a variable is in programming.
- To use a number variable.
- To create a playable game.

Real life contexts/ Other opportunities to apply my skills

We will also utilise apps such as Scratch in order to practice skills in this area.
Will make use of Teach Computing resources for application of skills.

PM Resources



Key Questions

Explain the stages of the design, code, test, debug coding process.
How can variables and if/else statements be useful when coding programs with selection?
What does selection mean in coding and how can you achieve this?
What is the difference between the different object types?

Key Vocabulary

Action The way that objects change when programmed to do so. For example, move 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 In 2Code the background is an image in the design that does not change.	Button A type of object that responds to being clicked on.	Code blocks A way to write code using blocks which each have an object or an action. Each group of blocks will run when a specific condition is met or when an event occurs.
Command A single instruction in 2Code.	Debug/Debugging Fixing code that has errors so that the code will run the way it was designed to.	Design In coding, this is a plan for the program showing the visual look of the user interface (the screen) with the objects. The algorithm can be represented as part of the design, showing actions and events.
Execute This is the proper word for when you run the code. We say, 'the program (or code) executes.'	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). In 2Code, the event commands are used to create blocks of code that are run when events happen.	'If' Statement A computer uses an IF statement to decide which bit of code to run. IF a condition is true, then the commands inside the block will be run.
Flowchart A diagram that uses specifically shaped, labelled boxes and arrows to represent an algorithm as a diagram.	'If/Else' Statement 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.	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.
Nest When coding commands are put inside other commands. These commands only run when the outer command runs.	Object Items in a program that can be given instructions to move or change in some way (action). In 2Code Gibbon, these include character, turtle, button, vehicle, animal, food, shape, number, input and label.	Prompt A question or request asked in coding to obtain information from the user in order to select which code to run.
Implement When a design is turned into a program using coding.	Repeat until In 2Code this command will repeat a block of commands until a condition is met.	Repeat This command can be used to make a block of commands run a set number of times or forever.
Properties These determine the look and size of an object. Each object has properties such as the image, scale and position of the object.	Predict Use your understanding of a situation to say what will happen in the future or will be a consequence of something.	Run Clicking the Play button to make the computer respond to the code.
Timer In coding, use a timer command to run a block of commands after a timed delay or at regular intervals.	Selection Selection is a decision command. When selection is used, a program will choose which bit of code to run depending on a condition.	Sequence This is when a computer program runs commands in order.
		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.



Upper Key Stage 2

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.

Real life contexts/ Other opportunities to apply my skills

Also covered in PSHE lessons

PM Resources



Key Questions

Who do I tell if I see anything online that makes me upset or scared? Why are passwords so important? Why is it important to reference sources in my work?

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.

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.

Real life contexts/ Other opportunities to apply my skills

Experience of Scratch computing

PM Resources



Key Questions

What does simulating a physical system mean?
Describe how you would use variables to make a timer countdown and a score pad for a game. Give examples of how you could use Launch code. What do the terms decomposition and abstraction mean?

Key Vocabulary

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

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

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

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.

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

Action
The way that objects change when programmed to do so. For example, move or change a property.

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

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.

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

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. In 2Code, variables can be **strings**, **numbers** or **computer-generated variables** to control objects of a type.

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

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.

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.

Key Learning

- To learn how to search for information in a database.
- To contribute to a class database.
- To create a database around a chosen topic.

PM Resources



Key Vocabulary

Arrange

Sorting information in order against a search request.

Avatar

An icon or figure representing a person in a video game, Internet forum, etc.

Chart

A diagram that represents data. Charts include graphs and other diagrams such as pie charts or flowcharts.

Collaborative

Produced by, or involving, two or more parties working together.

Data

A collection of information, especially facts or numbers, obtained by observation, questions or measurement to be analysed and used to help decision-making.

Database

A set of data that can be held in a computer in a format that can be searched and sorted for information.

Field

A heading in a database record against which information is entered.

Record

A collection of data about one item entered into a database.

Database Report

A way of producing a written paragraph that incorporates the data from the fields and records of the database.

Group

Putting similar pieces of information together in a database so it is easy to read, understand and interpret.

Search

A way of finding information.

Statistics

The study and manipulation of data, including ways to gather, review, analyse, and draw conclusions from data.

Sort

Organising data by a rule such as alphabetical or numerical.

Real life contexts/ Other opportunities to apply my skills

Exposure to Microsoft Access, J2Data (Teach Computing Curriculum) or Google Chrome equivalent

Key Questions

What is a database?

Why is the collaborative feature important?

In what ways can I sort information in a database?

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.

Real life contexts/ Other opportunities to apply my skills

Also covered in PSHE lessons

PM Resources



Key Questions

Why do I need to be aware of the dangers of being online?
What is meant by my digital footprint?
Why is it important to think about how much time you use a screen for?

Key Vocabulary

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.

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.

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.

Real life contexts/ Other opportunities to apply my skills

Possible use of programmable devices eg Microbits,
Crumbles
Scratch coding

PM Resources



Key Questions

How can you use tabs?
What is a function in coding?
How can a program receive user input?

Key Vocabulary

Action
The way that objects change when programmed to do so. For example, move or change a property.

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)'

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.

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

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.

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.

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.

Key Learning

- To know what a spreadsheet looks like.
- To navigate and enter data into cells.
- To introduce some basic data formulae for percentages, averages and max and min numbers.
- To demonstrate how the use of spreadsheets can save time and effort when performing calculations.
- To use a spreadsheet to model a situation.
- To demonstrate how a spreadsheet can make complex data clear by manipulating the way it is presented.
- To create a variety of graphs in sheets.
- To apply spreadsheet skills to solving problems.

Real life contexts/ Other opportunities to apply my skills

Links to previous spreadsheet learning on 2Calculate
Exposure to Microsoft Excel
Creating graphs in Excel/Purple Mash/Google Sheets to display data in Science experiments

PM Resources



Key Questions

What is a spreadsheet used for?
How do you carry out a multiplication calculation?
How can you use functions to save time?

Key Vocabulary

Auto fit

A function of a spreadsheet that alters column widths to fit data.

Chart

A diagram that represents data. Charts include graphs and other diagrams such as pie charts or flowcharts.

Conditional formatting

When a cell or cells are formatted in a specific way depending upon the values in the cell or cells.

Formula(e)

A group of letters, numbers, or other symbols which represent a mathematical rule. It allows a spreadsheet to carry out calculations.

Horizontal axis

The x-axis of a graph is called the horizontal axis.

Spreadsheet

A software tool used for organising information and performing calculations on the data. A spreadsheet workbook file is organised into sheets.

Cell

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

Column

Vertical, lettered reference points for the cells in a spreadsheet.

Data

A collection of information, especially facts or numbers, obtained by observation, questions or measurement to be analysed and used to help decision-making.

Formula Bar

An area of the spreadsheet into which formulae can be entered using the '=' sign to open the formula.

Range

A collection of selected cells: all the numbers you want to appear in a calculation. For example, A1:A12 includes all the cells from A1 to A12.

Vertical axis

The y-axis of a graph is called the vertical axis.

Cell Reference

Each cell has a cell reference that shows its position. The cell reference is displayed in the box on the top left (not on tablet version).

Computational Model

Creating or using a simulation (a model) of a real-life situation, on a computer.

Delimiter

A character that separates each piece of data.

Graph

A diagram that represents data there are specific layouts for graphs including bar graphs and line graphs.

Row

Horizontal, numbered reference points for the cells in a spreadsheet.

Text Wrapping

This displays the cells contents on multiple lines rather than one long line, allowing all the contents to be shown.