

Unit: 1.1 – Online Safety and Exploring Purple Mash

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

Key Vocabulary

Log in – Using a username and password to access a system.

Username – A name that is used by a person to access an online site.

Password – A series of letters, numbers and special characters that is entered after the username to access an online site. In Purple Mash, this can also be a series of pictures.

Avatar – A digital picture to represent someone.

My Work – The place on Purple Mash where your work is stored. Only you and your teachers can access this.

Log out – Leaving a computer system.

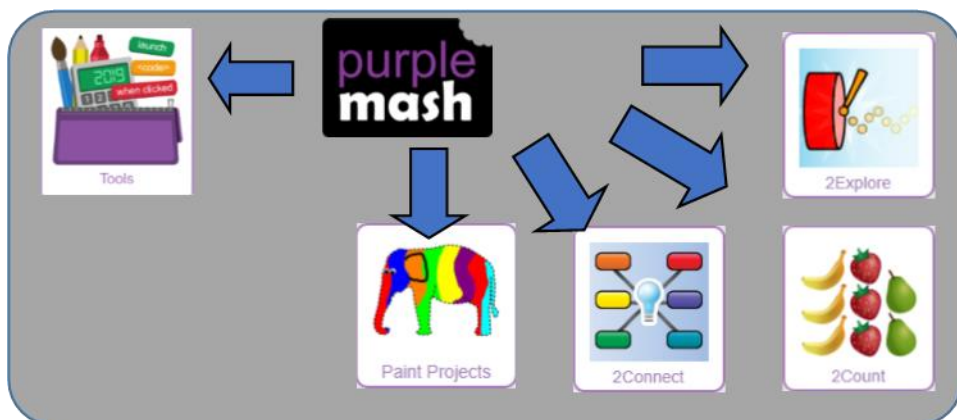
Save – Store your work as you create something so it can be accessed later.

Notification – A system that lets you know if you have something to look at. On Purple Mash this is shown by a bell.

Topics – The area on Purple Mash that contains ready-made resources.

Tools – The area on Purple Mash with the different learning apps.

Key Resources



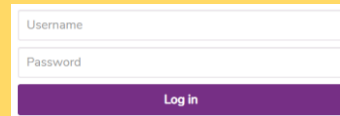
YEAR 1: COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER



Unit: 1.1 – Online Safety and Exploring Purple Mash

Key Images

Login screen



Avatar



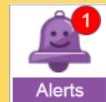
Save your work



The area of Purple Mash where your work is stored.



This picture shows you if you have any notifications.



Topic section of Purple Mash.



Tools section of Purple Mash.



Key Questions

What is a password and why should we keep them safe?

A password is a secret word or phrase that allows a user to access a website. Passwords are like toothbrushes in that they should not be shared with anyone else.

What is a digital avatar?

In Purple Mash an avatar is a picture you create in the software to represent you. It is safer to use an avatar on the internet than have a picture of yourself.

Where is my work stored on Purple Mash?

In Purple Mash most of the work you save will be saved in the My Work section of Purple Mash. The only person that can see this work is the teacher and you.



Unit: 1.2– Grouping and Sorting

Key Learning

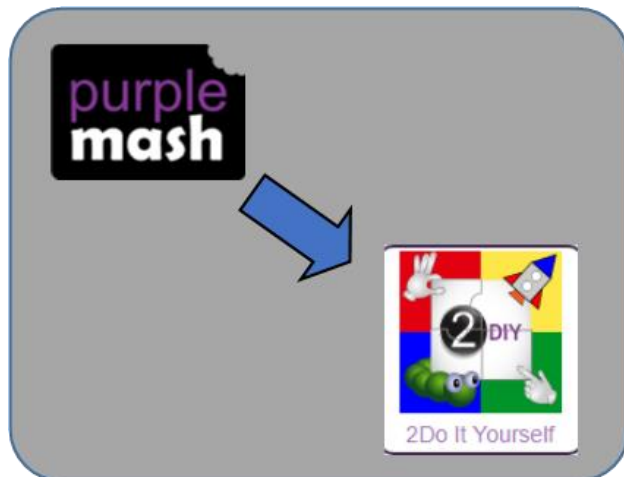
To sort items using a range of criteria.
To sort items on the computer using the 'Grouping' activities in Purple Mash.

Key Vocabulary

Sort – Put things together by features they have in common.

Criteria – A way in which something is judged.

Key Resources



Key Questions

In what ways can we sort objects?

We can sort objects by different criteria. These include the size of the objects, the colour of the objects or the number of sides the object has. The criteria will depend on the type of objects being sorted.

Unit: 1.3 – Pictograms

Key Learning

To understand that data can be represented in picture format.

To contribute to a class pictogram.

To use a pictogram to record the results of an experiment.

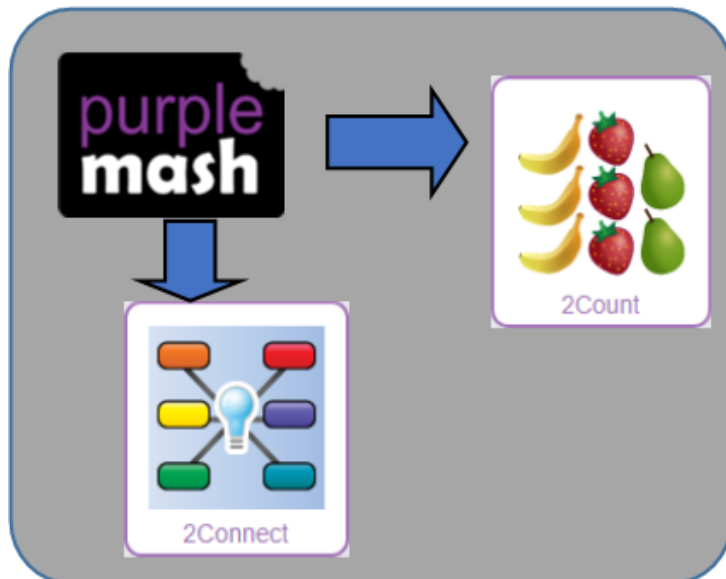
Key Vocabulary

Pictogram – A diagram that uses pictures to represent data.

Data – Facts and statistics collected together that can provide information.

Collate – Collect and combine (texts, information, or data).

Key Resources

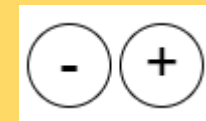


Key Images

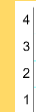
Open, close and share



Add or delete columns



Frequency



Add or delete objects from the Pictogram.



Unit: 1.4 – Lego Builders

Key Learning

To compare the effects of adhering strictly to instructions to completing tasks without complete instructions.

To follow and create simple instructions on the computer.

To consider how the order of instructions affects the result.

Key Vocabulary

Instruction – Information about how something should be done.

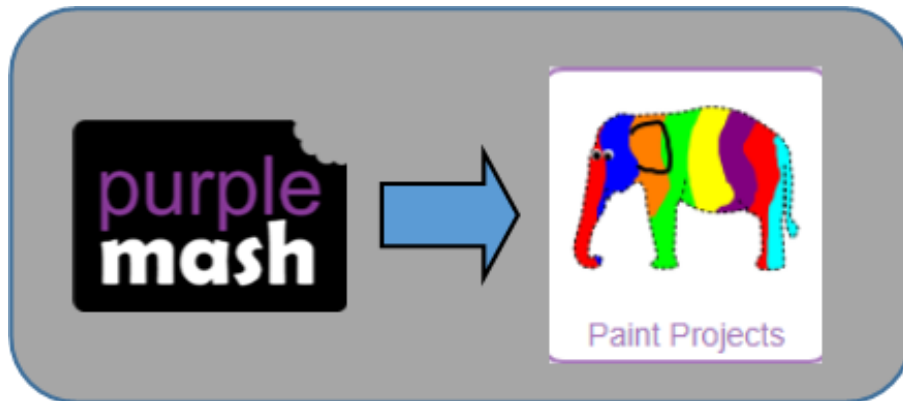
Algorithm – A precise, step-by-step set of instructions used to solve a problem or achieve an objective.

Computer – an electronic device for storing and processing data.

Program – To provide (a computer or other machine) with coded instructions.

Debug – To find and remove errors from computer hardware or software.

Key Resources



Key Questions

What is an instruction?

An instruction takes you through something step by step so that you can successfully complete a task.

Why do we need to debug code?

When you write code, it won't always work correctly first time. When you search for the errors and correct them this is known as debugging.



Unit: 1.5 – Maze Explorers

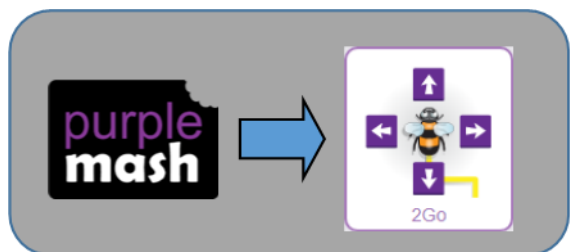
Key Learning

- To understand the functionality of the direction keys.
- To understand how to create and debug a set of instructions (algorithm).
- To use the additional direction keys as part of an algorithm.
- To understand how to change and extend the algorithm list.
 - To create a longer algorithm for an activity.
 - To set challenges for peers.
 - To access peer challenges set by the teacher as 2dos.

Key Vocabulary

- Direction** – A course along which someone or something moves.
- Challenge** – A task or situation that tests someone's abilities.
- Arrow** – A mark or sign resembling an arrow, used to show direction or position.
- Undo** – Cancel or reverse the instruction.
- Rewind** – Move back several steps or to the start.
- Forward** – To move in the direction that one is facing or travelling.
- Backwards** – To move in the opposite direction to which one is facing.
- Right turn** – To move the object in a clockwise direction.
- Left turn** – To move the object in an anti-clockwise direction.
- Debug** – To find and remove errors from computer hardware or software.
- Instruction** – Information about how something should be done.
- Algorithm** – A precise, step-by-step set of instructions used to solve a problem or achieve an objective.

Key Resources





Unit: 1.5 – Maze Explorers

Key Images

Open, close or share a file.



Change the speed in which the screen object moves.



Rewind an instruction.



Undo an instruction.



Change the settings in 2Go.



Change the colour of the path that the object leaves in 2Go.



Control the direction in which the object moves.



Key Questions

What is 2Go?

2Go is a program that allows you to move an object around the screen using either the arrows or by creating a simple sequence of instructions.

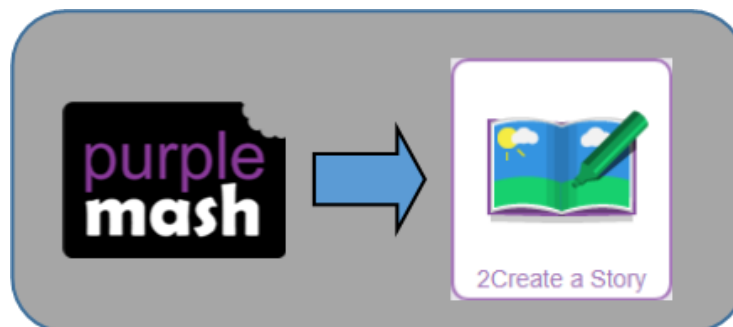
How do I undo a mistake on 2Go?

In 2Go you can either click on the undo button to go back one step or the rewind button to go back to the start of the challenge.



Unit: 1.6 – Animated Story Books

Key Resources



Key Learning

- To introduce e-books and the 2Create a Story tool.
- To add animation to a story.
- To add sound to a story, including voice recording and music the children have composed.
- To work on a more complex story, including adding backgrounds and copying and pasting pages.
- To share e-books on a class display board.

Key Vocabulary

- Animation** – process of giving the illusion of movement to drawings and models.
- E-Book** – a book that they can read on the computer or on a tablet.
- Font** – the style of text used in a piece of writing on the computer or tablet.
- File** – a piece of work on the computer.
- Sound Effect** – a sound other than speech or music made for use in a play, film or computer file.
- Display Board** – a way to share your work on Purple Mash.

Unit: 1.6 – Animated Story Books

Key Images

Open, save or share a file.



Plan out your story.



Play your story.



Add animation and sounds to the story.



Choose a story background.



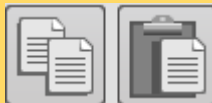
Undo or redo the last action.



Choose the font for the story.



Copy and paste.



Key Questions

What is 2Create a Story?

With 2Create a Story you can create ebooks including animated pages, sounds, narration and music.

What is an animated story?

An animated story is a story where the images in the foreground can move in a variety of ways.

How can I make my story better?

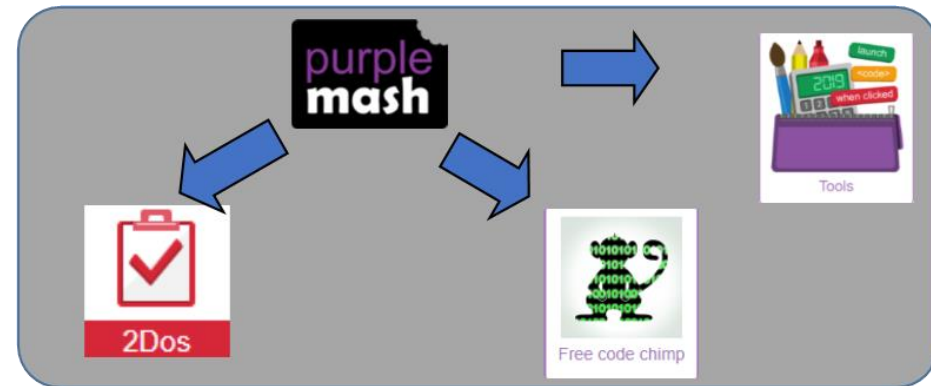
As well as adding animation to the story it can be improved by adding sounds or sound effects to the different pages.

Unit: 1.7 – Coding

Key Learning

- To understand what coding means.
- To use design mode to set up a scene.
- To add characters.
- To use code blocks to make the character perform actions.
- To use collision detection.
- To save and share work.
- To know the save, print, open and new icon.

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.

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

Button – An object on the screen, which can be clicked on.

Character - A type of object in 2Code that can be programmed to change actions or properties.

Code block - A group of commands that are joined together and are run when a specific condition is met or when an event occurs.

Code Design – Design what your program will look like and what it will do.

Coder - A person who writes computer code.

Coding – Writing instructions that can be interpreted by a computer to create a program.

Collision Detection - Detecting when two characters on the screen touch each other.

Command - A single instruction in a computer program.

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

Input - Information going into the computer. Can include moving or clicking the mouse, using the keyboard, swiping and tilting the device.

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

Program – In 2Code this is several commands that run purposefully together.

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

Scale - The size of an object in 2Code.

Stop command - A command that stops a character moving.

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

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

When Key - An event command. It makes code run when you press the specified key on the keyboard.



Unit: 1.7 – Coding

Key Images

Open the main menu



Save your work



Watch the instruction video



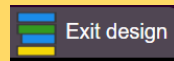
Get a hint when you are stuck in
2Code



Open design mode in 2Code



Switch to code mode in 2Code



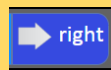
The background object



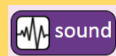
A 'when clicked' code block



An object property



Sound output block





Key Questions

What is coding?

Writing instructions in a way that a computer can interpret them to make a program.

How can you make characters move in a 2Code program?

 In design mode, add a character. Change properties such as the name and scale.  Exit from design mode and drag your character's code block into the coding window. From the properties menu, select right, left, up or down.

Why is it useful to design before coding?

It helps you to get a clear idea of what you want your program to do. You can use the design to decide which objects you need to add, what to call them and what actions they should perform.



Unit: 1.8 – Spreadsheets

Key Learning

To know what a spreadsheet program looks like.

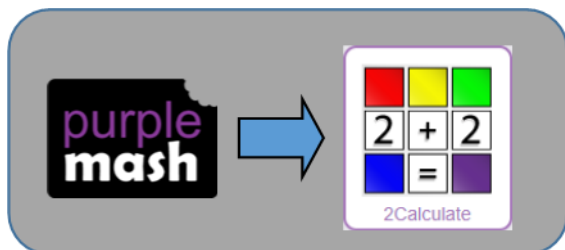
How to open 2Calculate in Purple Mash.

How to enter data into spreadsheet cells.

To use 2Calculate image tools to add clipart to cells.

To use 2Calculate control tools: lock, move cell, speak and count.

Key Resources



Key Vocabulary

Arrow keys – On a standard keyboard these can be used to move around the cells of a spreadsheet.

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

Cursor – An indicator on a computer screen identifying the point that will be affected by input from the user. Often a blinking vertical line.

Columns – Vertical reference points for the cells in a spreadsheet.

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

Clipart - Simple pictures and symbols available for computer users to add to documents.

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.

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.

Unit: 1.8 – Spreadsheets

Key Images

Open the main menu



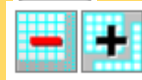
Save your work



Open a previously saved file



Increase or decrease spreadsheet size



The 2Calculate toolbox



The 2Calculate image toolbox



Clipart Picker



The 2Calculate control toolbox



Move Cell tool



Speak tool



Lock Cell tool



Count tool



Key Questions

What does a spreadsheet look like?

It has a grid of cells.

These are in rows and columns.

The cells can be coloured, and you can type into them.

You can use the toolbox to do different things with the data in the cells.

How could you use a spreadsheet to add up values?

You can enter numbers and operators such as +, -, x in the cells. Entering an equals sign in the correct cell will perform calculations.

How could you use the count and speak tools?

The count tool will count the number of cells containing the same value or colour as it. The speak tool will say this number each time you click on the cell or the number changes.



Unit: 1.9 – Technology Outside School

Key Learning

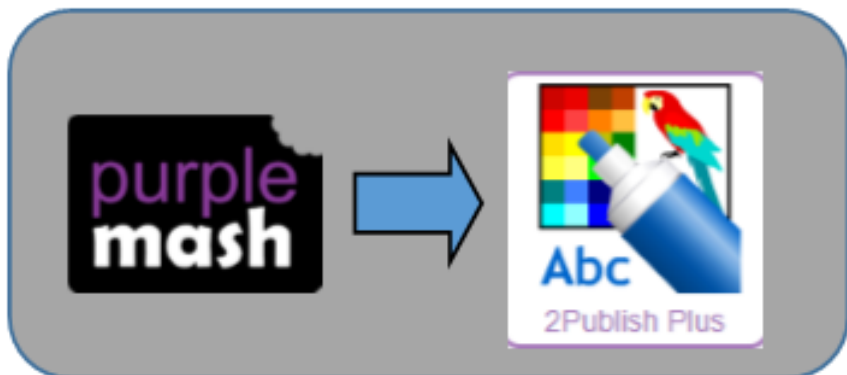
To walk around the local community and find examples of where technology is used.

To record examples of technology outside school.

Key Vocabulary

Technology - Science and engineering knowledge put into practical use to solve problems or invent useful tools.

Key Resources



Key Questions

What is technology?

Technology is the use of knowledge to invent new devices or tools. Throughout history, technology has made people's lives easier.

How does technology make our lives easier?

Technology has made life easier in many areas. It is now much easier to communicate around the world. Messages that used to take weeks to reach the sender can now be sent and received in seconds. We are surrounded by technology from your toys, to machines in your house to systems that control traffic and planes.