purple mash

KNOWLEDGE ORGANISERS

A 2Simple Primary Product

2simple PRIMARY

CONTENTS:

BRING THE WHOLE CURRICULUM TO LIFE

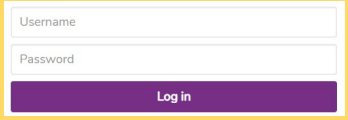
A 2Simple Primary Product

PURPLE MASH DIGITECH 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.

PURPLE MASH DIGITECH SCHEME OF WORK - KNOWLEDGE ORGANISER

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.

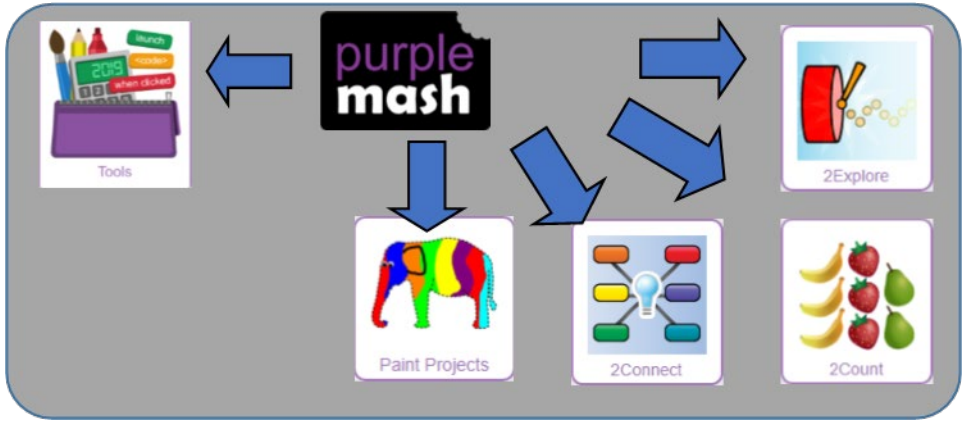
To start to add pictures and text to work.

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 Resources



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.

PURPLE MASH DIGITECH SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 2.1 – Coding

Key Learning

To understand what an algorithm is.

To design algorithms and then code them.

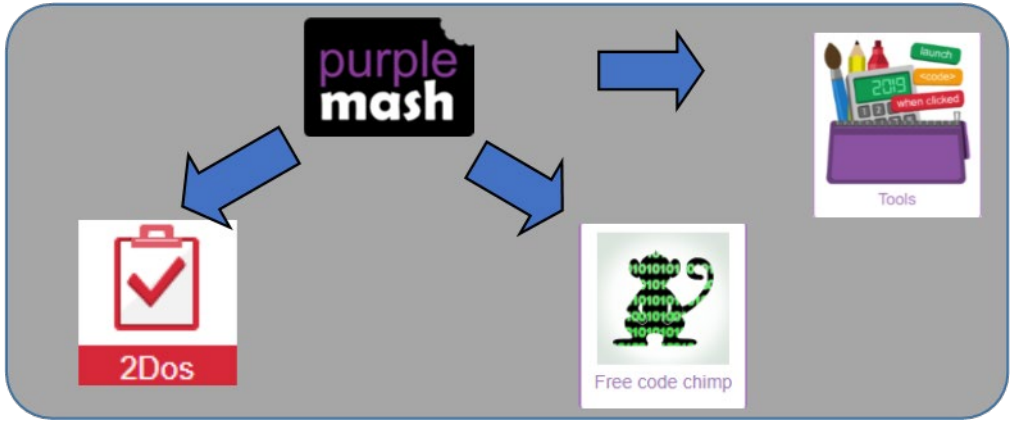
To compare different object types.

To use the repeat command.

To use the timer command.

To know what debugging is and debug programs.

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.

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

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

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.

Command - A single instruction in a computer program.

Debug/Debugging - Looking for any problems in the code, fixing and testing them.

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.

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.

Scale - The size of an object in 2Code.

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

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.

PURPLE MASH DIGITECH SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 2.1 – Coding

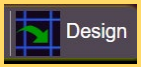
Key Images

Open the main menu

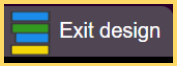
Save your work

Watch the instruction video

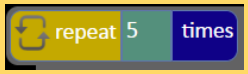
Open design mode in 2Code



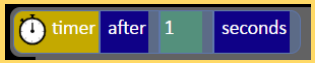
Switch to code mode in 2Code



A repeat code block



A timer code block



An object property

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.

Can you explain what the repeat command and the timer command do?

A repeat command will repeat actions a specified number of times.

A timer will repeat every time the timer fires this could be **every** 4 seconds or **after** a certain number of seconds.

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.

PURPLE MASH DIGITECH SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 3.5 – Email

Key Learning

To think about different methods of communication.

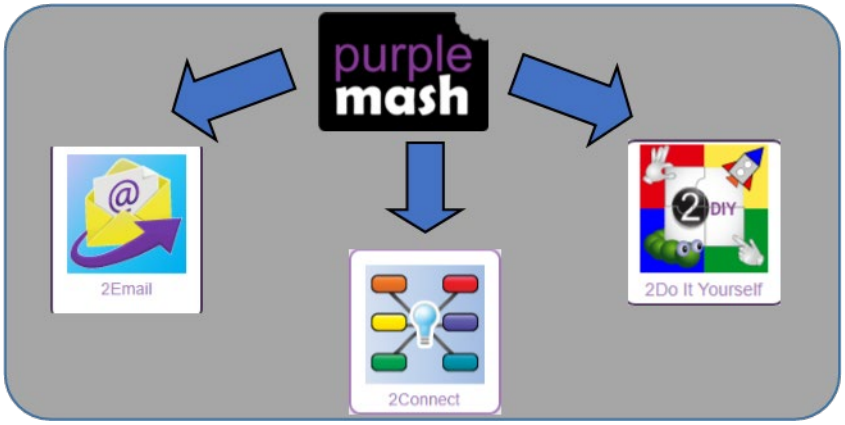
To open and respond to an email using an address book.

To learn how to use email safely.

To add an attachment to an email.

To explore a simulated email scenario.

Key Resources



Key Vocabulary

Communication – The sharing or exchanging of information by speaking, writing, or using some other medium such as email.

Email – Messages sent by electronic means from one device to one or more people.

Compose – To write or create something.

Send – To make an email be delivered to the email address it is addressed to.

Report to the teacher – A way in 2Email to tell the teacher if you have received an email that makes you feel upset or scared.

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

Address book – A list of people who you regularly send an email to.

Save to draft – Allows you to save an email that you are working on and send it later.

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 email.

CC – A way of sending a copy of your email to other people so they can see the information in it.

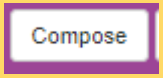
Formatting – Allows you to change the way the text of an email looks. For example, you can make the text bold or underline it.

PURPLE MASH DIGITECH SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 3.5 – Email

Key Images

Click here to write your email.

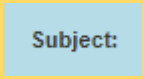


A list of people you have sent emails to before.

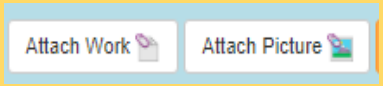
Who is the email to be sent to?

Who else will the email be sent to?

What is the email about?



Allows you to attach work and pictures to the email.



Click the button to send the email.

Formatting bar where you can change how the message looks.

Key Questions

What is email?

Email is a method of sending electronic communication from one device to another.

What should I do if I receive an email that makes me upset or scared?

If you are at school, you should tell the teacher immediately. If you receive the message at home, then you should tell a parent or guardian.

What information can I send in an email?

As well as sending a message, files such as photographs, videos, music and other resources can be attached to the email and sent to the receiver.

PURPLE MASH DIGITECH SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 4.6 – Animation

Key Learning

To discuss what makes a good animated film or cartoon.

To learn how animations are created by hand.

To find out how 2Animate can be created in a similar way using the computer.

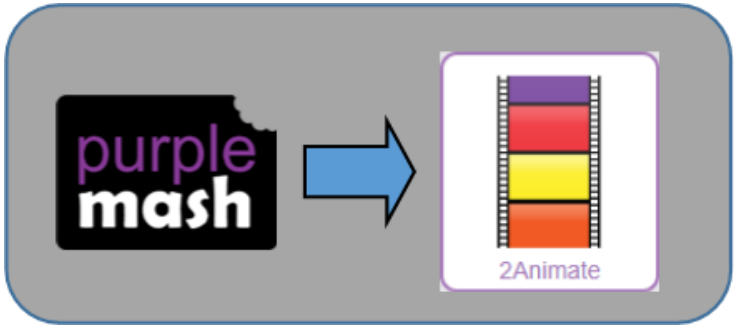
To learn about onion skinning in animation.

To add backgrounds and sounds to animations.

To be introduced to 'stop motion' animation.

To share animation on the class display board and by blogging.

Key Resources



Key Vocabulary

Animation – A process by which still pictures appear to move.

Flipbook – A book with pictures drawn in a way that makes them appear to move when the pages are flicked.

Frame – A single image in an animation.

Onion skinning – A process where the shadow image of the previous frame is present to help you line up the objects of the animation correctly.

Background – A non-moving image that appears behind the animated images.

Play – Press this button to make the animation start.

Sound – Music or oral effects that can be added to the animation.

Stop motion – A technique whereby the camera is repeatedly stopped and started, for example to give animated figures the impression of movement.

Video clip – A short piece of film or animation.

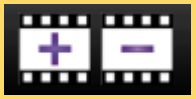
PURPLE MASH DIGITECH SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 4.6 – Animation

Key Images

Open, save and share animation.

Add or delete a frame from the animation.



Play the animation.

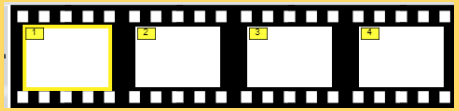
Switch onion skinning on or off.

Add a background picture to the animation.

Insert a photograph from a webcam into the animation.

Insert a sound file into the animation.

Number of frames in the animation.



Key Questions

What is an animation?

Animation is the process of giving the illusion of movement to drawings, models, or inanimate objects. Animated motion pictures and television shows are highly popular forms of entertainment.

What is meant by onion skinning?

Onion skinning is a 2D computer graphics term for a technique used in creating animated cartoons and editing movies to see several frames at once.

What is meant by stop frame animation?

Stop motion animation is a filming technique in which objects (such as clay models) are photographed in a series of slightly different positions so that the objects seem to move.

PURPLE MASH DIGITECH SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.8 – Sustainable Digital Solutions

Key Learning

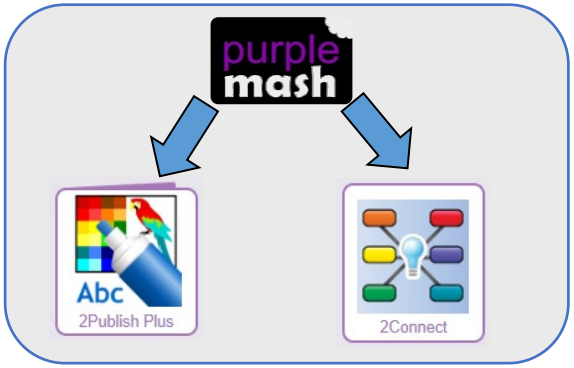
To explore the ethics and impacts of management practices on the use of communication networks.

To explore past information systems considering economic, environmental and social sustainability.

To understand the opportunities and consequences of future applications of information systems.

To design a sustainable information system to meet a community or national need.

Key Resources



Key Questions

What does it mean to regulate or sensor a communication network?	That a government or other authority group can view information within communication networks and limit or block the information if deemed that government or authority group do not approve.
Why does using renewable energy support sustainability?	We are not relying on resources that take thousands or millions of years to create, meaning future generations can will be able to continue to use energy in the same manner if required.
What is the purpose of designing sustainable digital solutions?	Digital solutions often become relied on by community members. It is important that these can be maintained for the present and future.

Key Vocabulary

Communication Networks – allow the sending and receiving of a message.

Regulate - to bring under the control of authority

Censor – limits set by authority

Indigenous Clan - Indigenous groups that share a common land, language and kinship system, which is based on either patrilineal or matrilineal lines of descent.

Sustainability - meeting the needs of the present in a manner that allows future generations to meet their needs

Renewable energy - is made from resources the natural environment can replace, like wind, water and sunshine.

Non-renewable energy – is made from resources that will run out or will not be replenished for thousands or even millions of years.

Conserving energy – to use less energy, particularly non-renewable energy.

Digital solution – uses digital technologies to address a community need.

PURPLE MASH DIGITECH SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 6.8 – Binary

Key Learning

To know what the terms binary and denary mean and how they relate to the number system, the digital system and the terms base-10 and base-2

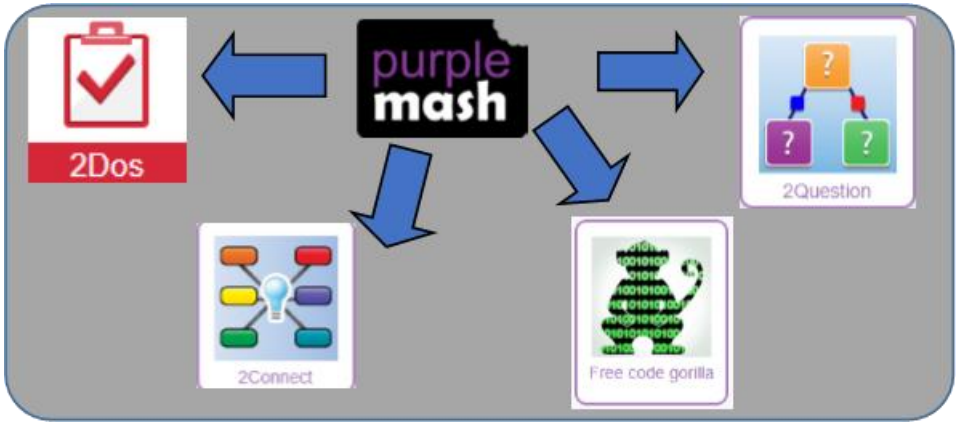
To relate binary to the on and off states of electrical switches.

To convert numbers from decimal to binary.

To convert numbers from binary to decimal.

To represent states of object in their own program using binary.

Key Resources



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.

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.

Binary – See *Base-2.*

Bit – A single 0 or 1 in the binary system.

Byte – 8 bits.

Decimal – See *Base-10.*

Denary – See *Base-10.*

Digit – A single integer used to show a number.

Gigabyte (GB) – 1024 MB.

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

Kilobyte (KB) – 1024 bytes.

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

Megabyte (MB) – 1024 KB.

Nibble – 4 bits.

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

Tetrabyte (TB) – 1024 GB

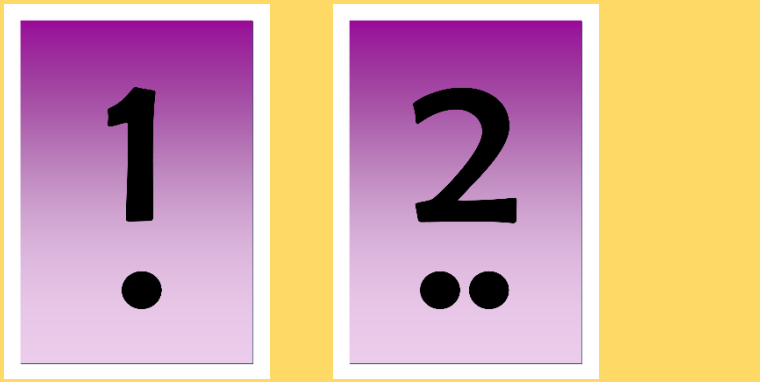
Transistor – A tiny switch that is activated by the electronic signals it receives.

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.

PURPLE MASH DIGITECH SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 6.8 – Binary

Key Images



Key Questions

How does binary relate to the programs that you use or create?

In a computer everything is translated into binary stored by on and off switches that pass electronic signals that the computer interprets. It can then pass the correct signals to the components of the computer such as the sound card to make the requested sound. Or graphics card to make images appear on the screen.

How does binary relate to computer memory.

A single 0 or 1 is called a bit. The word comes from **B**inary Dig**it.**
The bigger the program, the more bits are used so more memory space is taken up. For example, 1 byte is 8 bits, 1 megabyte (Mb) or 8,388,608 bits, 1 gigabyte (GB) is 8,589,934,592 bits!

How would you write the numbers 0 to 10 in binary?

0, 1, 10, 11, 100,101,110,111,1000, 1001, 1010.