

# Year 4 – ICT – Autumn 1 – Coding

## Key Questions:

Can I Explain the stages of the design, code, test, debug coding process?

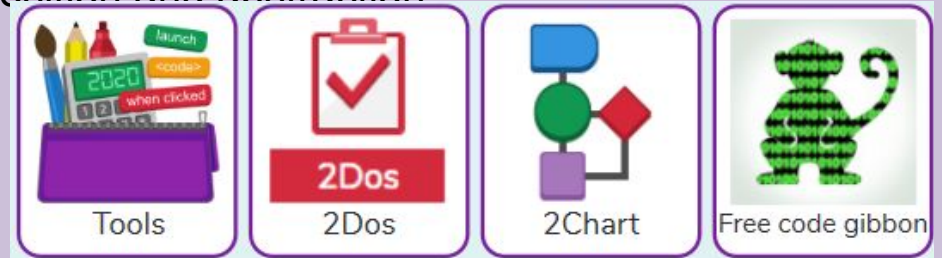
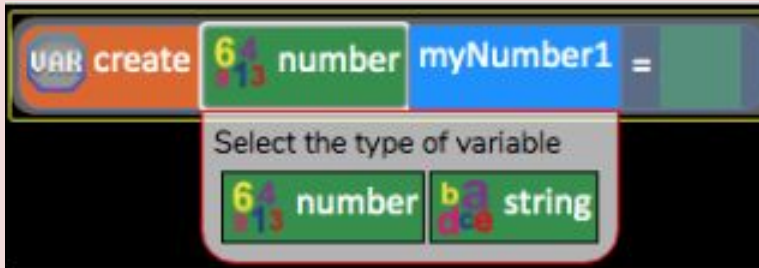
What do the terms decomposition and abstraction mean?

## What will I learn?

- To use selection in coding with the 'if/else' command.
- To understand and use variables in 2Code.
- To use flowcharts for design of algorithms including selection.
- To use the 'repeat until' with variables to determine the repeat.
- To learn about and use computational thinking terms; decomposition and abstraction

## Activity:

Can you create a variable?



## Key Images



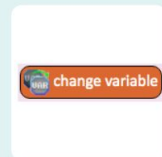
Design

Open design mode in 2Code.



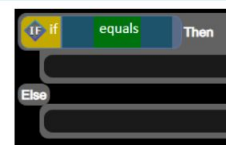
Exit Design

Switch to code mode in 2Code.

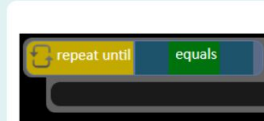


change variable

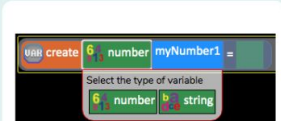
A change variable block.



An 'if/Else' command



Creating a variable in 2Code



Creating a variable in 2Code

Key words: if/else, selection, simulation, input, output, repeat, variable, timer

# Year 4 – ICT – Autumn 2 – Online Safety and Spreadsheets

## Key learning

A digital footprint is information on a person.

**SPAM** is digital junk mail.

Plagiarism is pretending someone else's words are yours.

## I will learn:

- How I can protect myself from online identity theft.
- 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.
- 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 my life.

**Key words: virus, digital footprint, Phishing, cookies, plagiarism, malware, SPAM, copyright**

## What will I learn?

- Formatting cells as currency, percentage, decimal to different decimal places or fraction.
- Using the formula wizard to calculate averages.
- Combining tools to make spreadsheet activities such as timed times tables tests.
- Using a spreadsheet to model a real-life situation.
- To add a formula to a cell to automatically make a calculation in that cell.

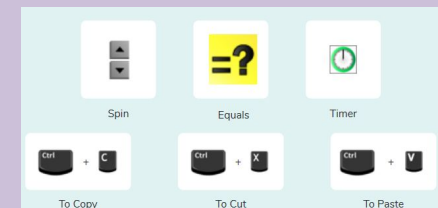
## Activity:

Put the following information into a spreadsheet:

Vanilla	2
Chocolate	1
Strawberry	4
Mint	3
Pistachio	1

Calculate what percentage of the class like Strawberry and vanilla.

**Key words: advanced mode, spin tool, image toolbox, column, row, equals tool, cells.**



# Year 4 – ICT – Spring 1 – Writing for Different Audiences

**Key Questions:**  
Why should I change the font when I am

**Key words:** font, bold, italic, underline

## What will I learn?

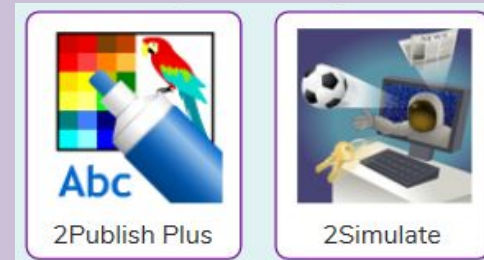
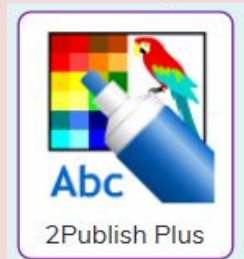
- To explore how font size and style can affect the impact of a text.
- To use a simulated scenario to produce a news report.
- To use a simulated scenario to write for a community campaign.

## Activity:

Write a letter about how you enjoy using a computer to write with.

Now change the font to make it look:

- Formal
- Informal
- Exciting
- Boring



## Key Images

A

Text Toolbar. Click here to format your text.

# Year 4 – ICT – Spring 2 – Logo and Animation

## LOGO

### Key Questions:

What is Logo?

How do I repeat a command?

### What will I learn?

- To learn the structure of the coding language of Logo.
- To input simple instructions in Logo.
- Using 2Logo to create letter shapes.
- To use the Repeat function in Logo to create shapes.
- To use and build procedures in Logo.

## ANIMATION

### Key Questions:

What is meant by data?

What is a database?

What is a branching database?

### What will I learn?

- 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.

**Key words: animation, onion skinning, frame, flipbook, stop motion, background**



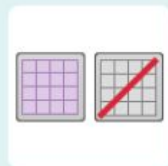
Open, close and share work



Choose the turtle style



Choose a background



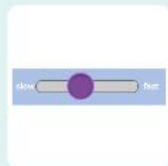
Switch the grid on and off



Press and the logo mouse follows the instructions



Reset the mouse to the start position



Change the speed at which the mouse moves



Write the Logo instructions here



Open, close or share animation.



Add or delete a frame from the animation.



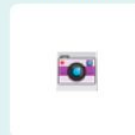
Play the animation.



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.

# Year 4 – ICT – Summer – Effective Searching

## Key Questions:

What is a search engine?

How can you check to make sure a website is not a hoax?

How can you fact-check information?

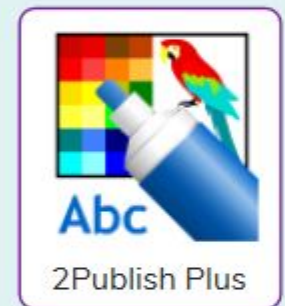
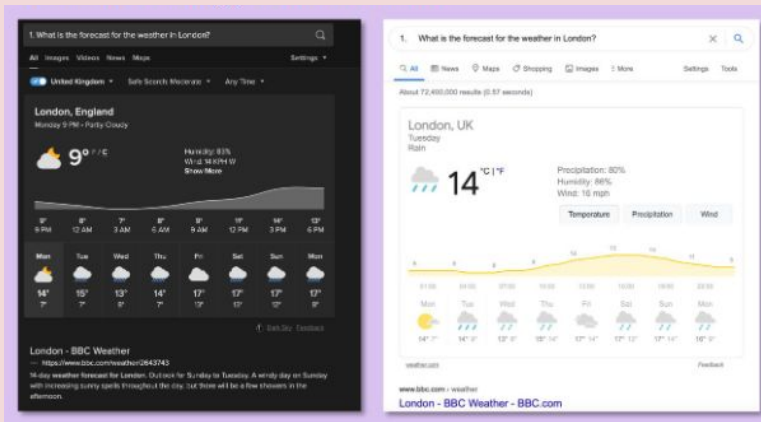
## What will I learn?

- To locate information on the search results page.
- To use search effectively to find out information.
- To assess whether an information source is true and reliable.

**Key words:** Easter egg, Internet, internet browser, search, search engine, spoof website, website, hoax, fact-check

## Activity:

Use a range of different search engines to find out what the weather is going to be like for the week. Do they all give you the same results?





# Year 4 – ICT – Summer – Hardware

## Key Statements:

Hardware is the physical components of a computer.

Software is the program that runs on a computer.

A peripheral is a device that you put information into and get information out of.

## There are 5 main parts of a computer:

- ★ A motherboard.
- ★ A Central Processing Unit (CPU)
- ★ A Graphics Processing Unit (GPU), also known as a video card.
- ★ Random Access Memory (RAM), also known as volatile memory.
- ★ Storage: Solid State Drive (SSD) or Hard

**Key words: motherboard, CPU, RAM, graphics card, network card, monitor, speakers, keyboard, mouse**

## Key Resources

purple  
mash



2Connect



2Quiz

## What I have learned already:

Computers can be used for spreadsheets, coding, sending emails, playing games etc. I know how to keep myself safe on a computer and that a computer can contain viruses. I can use logo and know how to control different parts of a computer.

# Year 4 – ICT – Summer – Making Music

## Key Questions:

What is the difference between melody and rhythm?

How can I change the texture of the sound?

## What will I learn?

- To identify and discuss the main elements of music.
- To understand and experiment with rhythm and tempo.
- To create a melodic phrase.
- To electronically compose a piece of music.

**Key words:** pitch, tempo, melody, rhythm, dynamics, rippler, pulse, texture, house music

## Activity:

Open up and explore the Busy Beats program. Create some sounds and then explore each button in the menu to see how it affects your music.

