St Monica's Catholic Primary School

Philosophy

Every child is a unique gift from God, with his or her own unique gifts.

Our Catholic school, inspired by the teaching of Jesus Christ, will always endeavour to meet the needs of every child within our school.

At St. Monica's, we strive to ensure that all children and staff are offered the opportunity to develop to their full potential in individual, educational, moral, intellectual and spiritual needs.

Our Mission Statement is "Let Trust, Respect and Love live here."

What we teach and what your children learn in Computing

Please see below a summary of our plans (organised in Knowledge Organisers and Scheme of Work Summaries by Year Group) for teaching and learning in Computing at our school.

If you want further information on the curriculum, including how it is differentiated for children within classes who are at different stages of learning including your child, please contact your child's teacher of email the school on stmonicas@st-monicas.co.uk

Our Intent, Implementation and Impact statement for Computing

Intent:

At St. Monica's Catholic Primary School, we aim to prepare our learners for their future by giving them the opportunities to gain knowledge and develop skills that will equip them for an ever-changing digital world. Our Computing curriculum focuses on progression skills in computer science, information technology, digital literacy and online safety to ensure that children become competent in using technology in and informed and safe way. These skills are revisited repeatedly to ensure that the learning is embedded and that the skills are developed.

Implementation:

Computing is taught in specific Computing lessons. Teachers use the 'Purple Mash' scheme, published by 2Simple. The scheme has been closely referenced against the 2014 National Curriculum attainment targets in order to ensure progression and coverage. Lessons in the scheme have been planned in our school curriculum so they can meet the needs of all of our pupils with a particular focus on key vocabulary for our children who speak more than one language. Our plans are differentiated beyond the core knowledge listed to provide for the learning needs of all learners and to ensure all learners, including SEND, Pupil Premium and high attainers, are challenged, including through cross curricular links. Having specific lessons means that the children are able to develop depth in their knowledge and skills over the duration of each of their Computing topics.

We have over 60 laptops in school which are timetabled for use by EYFS, KS1 and KS2. Meaningful links will be made between the Computing curriculum and the wider curriculum. Employing cross-curricular links motivates pupils and supports them to make connections and remember the steps they have been taught. We also use the 2Do feature on Purple Mash to set home learning. During and at the end of topic, teachers use differentiated statements from our curriculum documents to assess children. This is based on children's work in lessons and their saved work in their own Purple Mash files, including their work on 2Do tasks. These also provide formative assessment for future learning in addition to the informal assessment which has taken place throughout the topics to close gaps, including with regard to previous learning.

Impact:

The implementation of this curriculum ensures that, when children leave St. Monica's Catholic Primary School, they are competent and safe users of IT with an understanding of how technology works. They will have developed skills to express themselves and be equipped to apply their skills in computing to different challenges going forward, including in transition to secondary school.
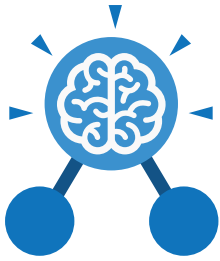
Unit: 5.1
Coding

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 a 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.

Key Resources
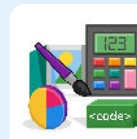
Tools

2Dos

2Chart

Free code gorilla

Key Vocabulary

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

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

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

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

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

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.

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

Flowchart
A diagram that uses specifically shaped, labelled boxes and arrows to represent an algorithm as a diagram.

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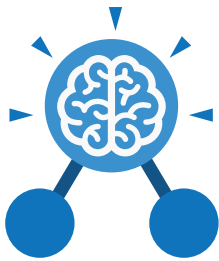
Unit: 5.1
Coding

Key Vocabulary

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.

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 type**s 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.

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**.
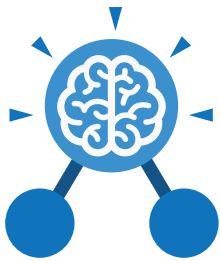
Repeat
This command can be used to make a block of commands run a set number of times, until a condition is met or forever.

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.

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Unit: 5.1
Coding

Key Vocabulary

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

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.
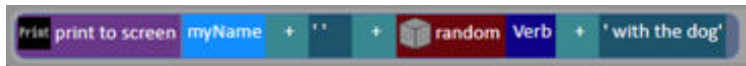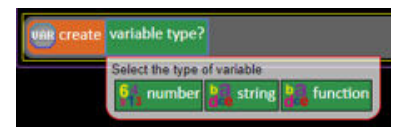
Key Images

Design
Open design mode in 2Code.

Exit Design
Switch to code mode in 2Code.

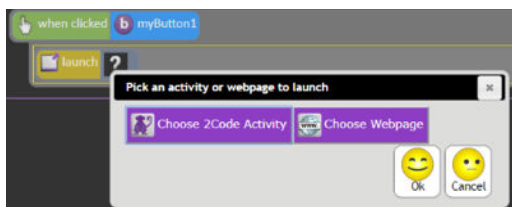My Code
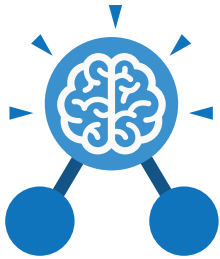Add a new Tab to your code

change variable
A change variable block.

Example of combining variables and strings to print to the screen

Creating a variable in 2Code

Creating a variable in 2Code

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Key Questions

What does simulating a physical system mean?

Creating a program where the objects behave as they would in the real world. For example, a football program that uses angles, speed and friction to simulate kicking a football. When simulating a physical system, you first must break the system down into parts that can be coded (decomposition). The different parts will come together to make the full simulation.

Describe how you would use variables to make a timer countdown and a scorepad for a game.

Timer countdown:
Create a timer variable and set it to the starting number of seconds. Add a Timer command that repeats and subtracts 1 every second. Add a text object in design view to display this number.

Score:
Create a variable to store the score, each time the user gains a point, change and display the value of the variable.
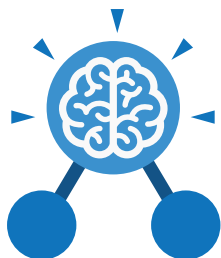
Give examples of how you could use the Launch command in 2Code.

Clicking on a button or other object in the program to opens another 2Code program or a webpage.

What do the terms decomposition and abstraction mean? Use examples to explain them.

Decomposition is breaking a task into its component parts so that each part can be coded separately.
If you were coding a game of chess, you could decompose into the moves of the different pieces and the setup of the playing space.
Abstraction is removing unnecessary details to get the program functioning. In the example, the colour and size of the squares is not important to game play.

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Unit: 5.2
Online Safety

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.

Key Resources

Display Boards   2Paint a Picture   2Connect   2Publish Plus

Key Questions

Who do I tell if I see anything online that makes me upset or scared?
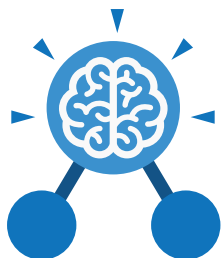
When you are at school, you should tell the teacher or another adult. At home, you should tell your parent or guardian or another adult that you trust.

Why are passwords so important?

Passwords protect your information and stop other people accessing it. Passwords are like a toothbrush; they should not be shared with anyone else.

Why is it important to reference sources in my work?

If you use a book or article written by someone else, then you must reference it, so people know where you got the information from. If you don't do this then it is known as plagiarism.

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Unit: 5.2
Online Safety

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.
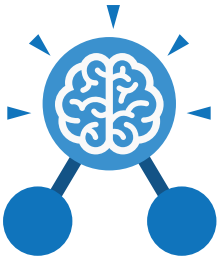
Phishing
The practice of sending email pretending to be from reputable companies in order to persuade individuals to reveal personal information, such as passwords and credit cards numbers.

Spoof
An imitation of something that appears to look genuine.

Validity
The quality of something being logically or factually sound.

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IS FOR SAFE
Never give out personal information to strangers on the internet. Personal information includes things like your home address and your birthday.

SMART rules- S

IS FOR NEVER MEET
Never ever meet up with a stranger you have met online unless a parent or guardian has said it is ok and is present. Never, never, never, never, never.

SMART rules- M

IS FOR ACCEPTING
Don't believe everything you read online, check your facts! Did you read it on a reliable website like the BBC? Are other websites saying the same thing? Does it tell you where they got the information from?

SMART rules- A

IS FOR RELIABLE
Don't believe everything you read online, check your facts! Did you read it on a reliable website like the BBC? Are other websites saying the same thing? Does it tell you where they got the information from?

SMART rules- R

IS FOR TELL
If you have an online safety problem, make sure you tell someone. Tell a parent, guardian, or teacher as soon you can.

SMART rules- T

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Unit: 5.3
Spreadsheets

Key Learning

- To use formulae within a spreadsheet to convert measurements of length and distance.
- To use the count tool to answer hypotheses about common letters in use.
- To use a spreadsheet to model a real-life problem.
- To use formulae to calculate area and perimeter of shapes.
- To create formulae that use text variables.
- To use a spreadsheet to help plan a school cake sale.

Key Resources

purple mash

2Calculate

Key Questions

How would you add a formula so that the cell shows the product of two other cells?

Click on the cell where you want the product to be displayed then click the formula wizard button. Click on the cell that contains the first number. Choose the x operation then click on the second number. Click OK.

What would you use in 2Calculate to have a cell that automatically calculates the number of days since a certain date?

You could use formulae and the totalling tools. To make the spreadsheet easier to understand, you could use named variables.

Explain what a spreadsheet model of a real-life situation is and what it can be used for?

It represents the data of a situation for example: Budgeting for a party; working out how big a field needs to be for a certain number of animals; working out how to spend your pocket money over time. Using the existing data to predict what time your shadow will be a certain length etc.

2 simple
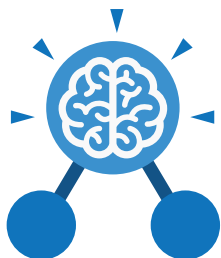
Unit: 5.3
Spreadsheets

Key Vocabulary

Rows
Boxes running horizontally 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.

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

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.

Spreadsheet
A computer program that represents data in **cells** 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.

Format
The way that text looks. Formatting cells is helpful for interpreting a cell's contents for example you might want to format a cell to show a fraction e.g. 4 ½ or include units such as £ or $.

'How Many?' Tool
Counts how many of a variable there are in a spreadsheet.

Variable
Used in computing to keep track of things that can change while a program is running.

Columns
Boxes running vertically in a spreadsheet.

Formula
A group of letters, numbers, or other symbols which represents a scientific or mathematical rule. The plural of formula is formulae.

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

Totalling tool
Adds up the value of every cell above it, next to it or diagonal to it according to which total tool is selected.

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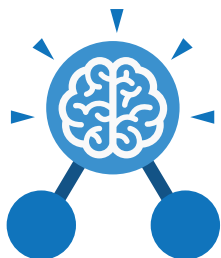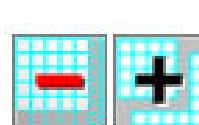
Key Images

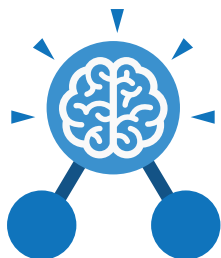|			
Open, close or share a file	Save your work	Open a previously saved file	Increase or decrease spreadsheet size
Advanced mode	Formula Wizard	Format Cell Toolbox	Charts
Totals toolbox	Image Tools	Controls Toolbox	Random Number
Spin	Equals	Timer	
To Copy	To Cut	To Paste	

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Unit: 5.4
Databases

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.

Key Resources

purple mash

2Investigate

Avatar builder

Key Questions

What is a database?

A collection of data organised in such a way that it can be searched, and information found easily. Database usually refers to data stored on computers.
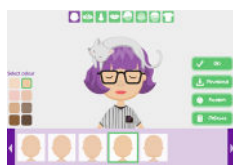
Why is the collaborative feature important?

Making a database collaborative allows lots of people to enter information into the database at the same time. This is a lot quicker than one person entering the data by themselves.

In what ways can I sort information in a database?

A database can hold lots of information so it is essential that information can be effectively investigated. In 2Investigate, data can be searched and sorted in a variety of ways. It can also be presented pictorially.

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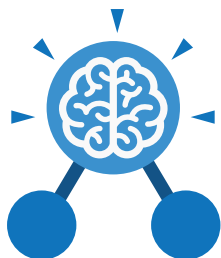
Unit: 5.4
Databases

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.

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

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

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.

2simple

Unit: 5.4
Databases

Key Images

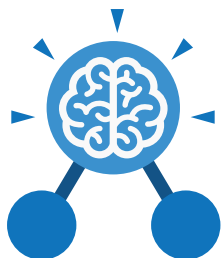|	
Open, close or share a file	Design a new database
Add a record to the database	Find information in the database

Sort, group and arrange information

Statistics and reports

Represent the information as a chart

Avatar creator

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Unit: 5.5
Game Creator

Key Learning

- To plan a game.
- To design and create the game environment.
- To design and create the game quest.
- To finish and share the game.
- To self and peer evaluate.

Key Resources

purple mash

2DIY3D

Key Vocabulary

Evaluation
To critically examine a program. It involves collecting and analysing information about a program's activities, characteristics, and outcomes.

Instructions
Detailed information about how something should be done or operated.

Scene
The place where an incident in real life or fiction occurs or occurred.

Feedback
In this case, share information with the creator about how the game could be improved.

Promotion
The publicising of a product, in this case a game, so as to increase sales or public awareness.

Screenshot
An image of the data displayed on the screen of a computer or mobile device.

Image
In this case, a picture displayed on the computer screen.

Quest
To find or do something.

Texture
High frequency detail or colour information on a computer-generated graphic.

Theme
In this case, the subject of the game.

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Unit: 5.5
Game Creator

Key Images

Open, close and share work
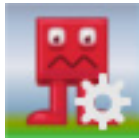
Change the settings of your game
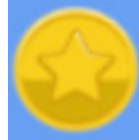
Insert treasure into your game

Insert enemies into your game

Drag to set the start position of your game

Play your game

Add images to your game
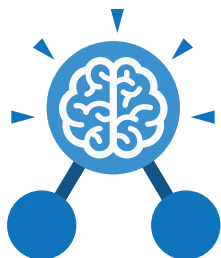
Draw objects/draw

Key Questions

What is the 2DIY3D tool on Purple Mash?

2DIY 3D allows users to create a playing area, such as a maze, in 2D and then turn it into a 3D computer game. The aim is to avoid the 'baddies' and collect 'treasure'.

What makes a good computer game?

A good game designer gives the player continuous challenges in a visually stimulating environment, each of which leads to another challenge, to keep the game challenging and fun.

Why is it important to continually evaluate your game?

Evaluating your game as you make it allows you to think about ways in which it can be improved. Evaluation may also involve the views of other people who play your game.

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Unit: 5.6
3D Modelling

Key Learning

- To be introduced to 2Design and Make and the skills of computer aided design.
- To explore the effect of moving points when designing.
- To design a 3D Model to fit certain criteria.
- To refine and print a model.

Key Resources

purple mash

2D&M

Key Vocabulary

2D
Something that has only two dimensions; height and width.

3D
Something that has three dimensions; height, width and depth.

3D Printing
The action or process of making a physical object from a three-dimensional digital model, typically by laying down many thin layers of a material in succession.

CAD – Computer aided Design
A CAD computer program or app allows you to design a 3D object or environment in 2D and visualise it in 3D on the screen from many angles.

Design Brief
A document for a design project, defining the core details, including the goal and strategy.

Points
The points on a 3D net which create the corners of the 3D shape.

Net
What a 3D shape would look like if it was unfolded and opened out flat.

Pattern Fill
A tool where you can add a customised repeating pattern to the surface of the net.

Template
Something that serves as a model for others to copy and edit.

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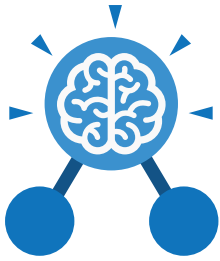
Unit: 5.6
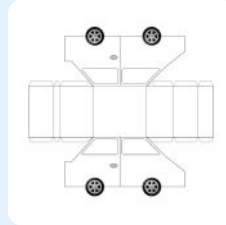## 3D Modelling

Key Images

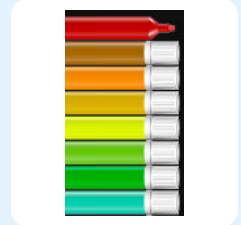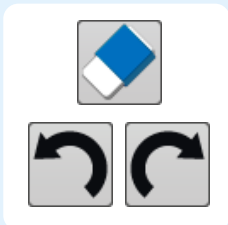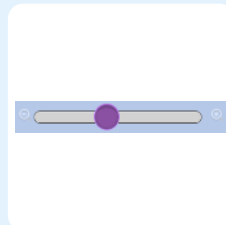|			
2D Image	3D Image	Net View	Colour Palette
Clear, Undo and Redo	Fill Options	Magnify	

Key Questions

What are the different view of an object available in 2Design and Make?

Net, Points and 3D.

How can the objects designed in 2Design and Make be turned into 3D objects?

You can print the net and then cut and fold this into shape or you can convert the file into a format recognised by 3D printers.

How is CAD software used in industry? Give some examples.

It is used to design 3D objects in a 2D environment.
Some examples are; Architectural plans for buildings; designing layouts for interiors; designing objects such as packaging and designing mechanical components; designing shoes and clothing.

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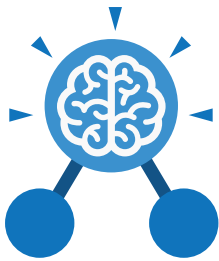
Unit: 5.7
Concept Maps

Key Learning

- To understand the need for visual representation when generating and discussing complex ideas.
- To understand the uses of a 'concept map'.
- To understand and use the correct vocabulary when creating a concept map.
- To create a concept map.
- To understand how a concept map can be used to retell stories and information.
- To create a collaborative concept map and present this to an audience.

Key Resources

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Key Vocabulary

Concept
An idea in the form of a question.

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

Connection
Represent a relationship or link between two nodes or ideas.

Collaborate
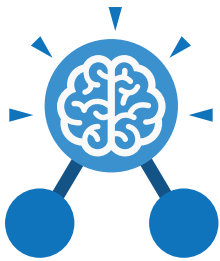Participating in an activity with more than one person working together.

Node
A way to represent concepts or ideas. Can contain text and\or an image.

Presentation Mode
A mode on 2Connect where nodes and connections are revealed gradually to be accompanied by a verbal presentation.
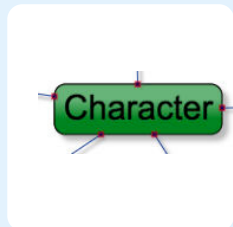
Story Mode
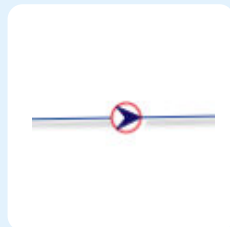A way to use a 2Connect concept map to create a piece of text.

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Unit: 5.7
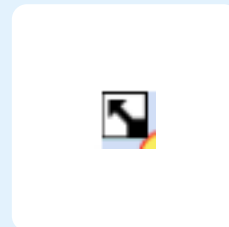## Concept Maps

Key Images

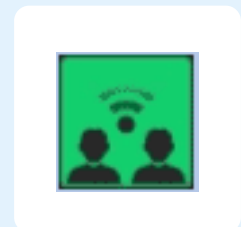|			
Node	Connection	Resize node	Edit node
Show story	Begin Presentation	Collaboration Off	Collaboration On

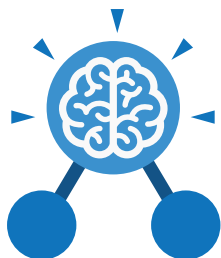## Key Questions

What is a concept map?

A concept map is a pictorial way of showing relationships between concepts and ideas. A concept map allows you to show information, pictures and links to support an idea or concept.

How is information arranged on a concept map?

On a concept map ideas or concepts are organised into nodes which are linked together with lines to show how the concepts and ideas link together.

How does a concept map help share ideas?

A concept map in 2Connect allows many users to contribute to the map which means that ideas or concepts can be quickly amended or additional information provided.

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Unit: 5.8
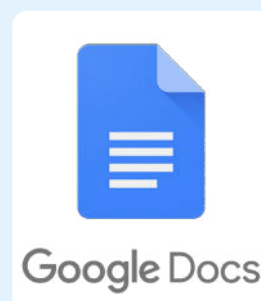# Word Processing with Google Docs

Key Learning

- To know what a word processing tool is for.
- To add and edit images to a word document.
- To know how to use word wrap with images and text.
- To change the look of text within a document.
- To add features to a document to enhance its look and usability.
- To use the sharing capabilities in Google Docs.
- To use tables within to present information.
- To introduce children to templates.

Key Resources

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2Connect

Google Docs

Key Questions
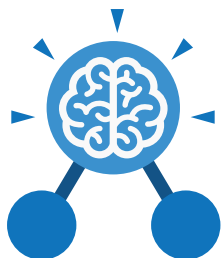
What is a word processing tool used for?
A word processing tool is used to create, edit and print off a document. This can contain text, images, tables or charts. Documents are a type of file that portray information.

What features can you use to make a document more readable?
You can change the font format to give the document a theme and make it more readable. By changing the paragraph formatting, you can ensure the words are spaced evenly. You can add images and use text wrapping to ensure they are positioned well on the page.

How do you successfully add an image to a document?
If you have an image saved onto your computer, you click on insert – pictures – insert image from this device. You can resize and move the image and ensure it fits well on the page by changing the text wrap setting.

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Unit: 5.8
Word Processing with Google Docs

Key Vocabulary

Bulleted lists
A list with bullet points, used when the items do not have an order.

Copy and Paste
A way of transferring words or images from one location to another.

Cursor
The flashing vertical line that shows your place in a Word document.

Hyperlink
A clickable link from a document to another location, often a webpage.

Formatting
Changing the look of a document by selecting fonts, colours and how the text is spaced or aligned.

Word Processing tool
A program which allows you to write, edit and print different documents.

Caps Lock
A button on the computer keyboard which changes the letters to upper case (capital letters).

Copyright
When an image, logo or idea has a legal right to not be copied or used without the owner's permission.

Document
A type of file which shows written information and/or images and sometimes charts and tables.

Merge cells
A tool you can use when making a table to join cells which are next to each other in columns or rows.

Text wrapping
A feature which helps you place and position an image neatly on a page or within a paragraph of text.

Captions
Text under an image to provide more information about what is shown.

Creative Commons
Images where the copyright holder, often the creator, has given permission for the image to be used as long as the creator is attributed.

Font
A set of type which shows words and numbers in a particular style and size.
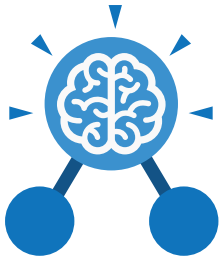
Page Orientation
The direction that the rectangular page is viewed. Portrait means longer side going upwards, Landscape means the longer side going sideways.

Readability
How easy and pleasant it is to read and understand a document.

Word Art
A way to treat text as a graphic so that you can add special effects to text.

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Unit: 5.8
Word processing with Google Docs

Key Images

Open a new document	Access sharing options
Return to docs home	Undo key

Text formatting

Text Alignment

Insert image

Crop image

Text wrapping

Clear formatting

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Unit: 5.8
Word Processing with Microsoft Word

Key Learning

- To know what a word processing tool is for.
- To add and edit images to a word document.
- To know how to use word wrap with images and text.
- To change the look of text within a document.
- To add features to a document to enhance its look and usability.
- To use tables within MS Word to present information.
- To introduce children to templates.
- To consider page layout including heading and columns.

Key Resources

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2Connect

Microsoft Word

Key Questions

What is a word processing tool used for?
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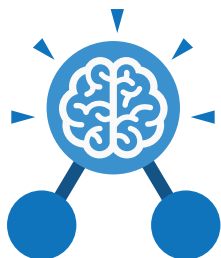
What features can you use to make a document more readable?
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Unit: 5.8
Word Processing with Microsoft Word

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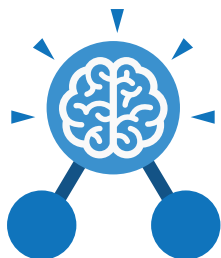
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Readability
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Word Art
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Unit: 5.8
Word Processing with Microsoft Word

Key Images

New

Open a new document

Open

Open an existing document

Save your work

Undo key

Table

Insert a table

Wrap Text

Text wrapping

Calibri (Body) 11

Font Category

Design

Design tab where you can change the style of the document

Insert

Insert tab where you can add an object such as a picture or table

Home

Home tab where many editing tools are found

Pictures

Insert a picture

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Year 5 Unit Overview

Unit 5.1 – Coding

Lesson	Title	Aims (Objectives)	Success Criteria
1	Coding Efficiently	• To review existing coding knowledge. • To begin to be able to **simplify** code. • To create a playable game.	• Children can use simplified code to make their programming more efficient. • Children can use variables in their code. • Children can create a simple playable game.
2	Simulating a Physical System	• To understand what a simulation is. • To program a simulation using 2Code.	• Children can plan an algorithm modelling the sequence of traffic lights. • Children can select the right images to reflect the simulation they are making. • Children can use their plan to program the simulation to work in 2Code.
3	Decomposition and Abstraction	• 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 use decomposition to make a plan of a real-life situation.	• Children can make good attempts to break down their task into smaller achievable steps. • Children recognise the need to start coding at a basic level of abstraction to remove superfluous details from their program that do not contribute to the aim of the task.
4	Friction and Functions	• To understand how to use friction in code. • To begin to understand what a function is and how functions work in code.	• Children can create a program which represents a physical system. • Children can create and use functions in their code to make their programming more efficient.
5	Introducing Strings	• To understand what the different variable types are and how they are used differently. • To understand how to create a string.	• Children can create and use strings in programming. • Children can set/change variable values appropriately. • Children know some ways that text variables can be used in coding.

6	Text Variables and Concatenation	• To begin to explore text variables when coding. • To understand what concatenation is and how it works.	• Children can create a string and use it in their program. • Children can use strings to produce a range of outputs in their program.

Unit 5.2 – Online Safety

Lesson	Title	Aims (Objectives)	Success Criteria
1	Responsibilities and Support when Online	• To gain a greater understanding of the impact that sharing digital content can have. • To review sources of support when using technology. • To review children' responsibility to one another in their online behaviour.	• Children critically about the information that they share online both about themself and others. • Children know who to tell if they are upset by something that happens online. • Children can use the SMART rules as a source of guidance when online.
2	Protecting Privacy	• 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.	• Children think critically about what they share online, even when asked by a usually reliable person to share something. • Children have clear ideas about good passwords. • Children can see how they can use images and digital technology to create effects not possible without technology. • Children have experienced how image manipulation could be used to upset them or others even using simple, freely available tools and little specialist knowledge.
3	Citing Sources	• 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.	• Children can cite all sources when researching and explain the importance of this. • Children select keywords and search techniques to find relevant information and increase reliability.
4	Reliability	• Ensuring reliability through using different methods of communication.	• Children show an understanding of the advantages and disadvantages of different forms

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			of communication and when it is appropriate to use each.

Unit 5.3 – Spreadsheets

Lesson	Title	Aims (Objectives)	Success Criteria
1	Conversions of Measurements	• To use formulae within a spreadsheet to convert measurements of length and distance.	• Children can create a formula in a spreadsheet to convert m to cm. • Children can apply this to creating a spreadsheet that converts miles to km and vice versa.
2	The Count Tool	• To use the count tool to answer hypotheses about common letters in use.	• Children can use a spreadsheet to work out which letters appear most often. • Children can use the 'how many' tool.
3	Formulae Including the Advanced Mode	• To use a spreadsheet to model a real-life problem. • To use formulae to calculate area and perimeter of shapes.	• Children can use a spreadsheet to work out the area and perimeter of rectangles. • Children can use these calculations to solve a real-life problem.
4	Using Text Variables to Perform Calculations	• To create formulae that use text variables.	• Children can create simple formulae that use different variables. • Children can create a formula that will work out how many days there are in x number of weeks or years.
5	Event Planning with a Spreadsheet	• To use a spreadsheet to help plan a school cake sale.	• Children can use a spreadsheet to model a real-life situation and come up with solutions that can be practically applied.

Unit 5.4 – Databases

Lesson	Title	Aims (Objectives)	Success Criteria
1	Searching a Database	• To learn how to search for information in a database.	• Children understand the different ways to search a database. • Children can search a database to answer questions correctly.
2	Creating a Class Database	• To contribute to a class database.	• Children can design an avatar for a class database. • Children can successfully enter information into a class database.
3 & 4	Creating a Topic Database	• To create a database around a chosen topic.	• Children can create their own database on a chosen topic. • Children can add records to their database. • Children know what a database field is and can correctly add field information. • Children understand how to word questions so that they can be effectively answered using a search of their database.

Unit 5.5 – Game Creator

Lesson	Title	Aims (Objectives)	Success Criteria
1	Setting the scene.	• To Introduce the 2DIY 3D tool. • To begin planning a game.	• Children can review and analyse a computer game. • Children can describe some of the elements that make a successful game. • Children can begin the process of designing their own game.
2	Creating the Game Environment	• To design the game environment.	• Children can design the setting for their game so that it fits with the selected theme. • Children can upload images or use the drawing tools to create the walls, floor, and roof.
3	The Game Quest	• To design the game quest to make it a playable game.	• Children can design characters for their game. • Children can decide upon, and change, the animations and

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			sounds that the characters make.
4	Finishing and Sharing	• To finish and share the game.	• Children can make their game more unique by selecting the appropriate options to maximise the playability. • Children can write informative instructions for their game so that other people can play it.
5	Evaluation	• To self- and peer-evaluate. •	• Children can evaluate my their own and peers' games to help improve their design for the future.

Unit 5.6 – 3D Modelling

Lesson	Title	Aims (Objectives)	Success Criteria
1	Introducing 2Design and Make	• To be introduced to the 2Design and Make tool.	• Children know what the 2Design and Make tool is for. • Children can explore the different viewpoints in 2Design and Make whilst designing a building.
2	Moving Points	• To explore the effect of moving points when designing.	• Children can adapt one of the vehicle models by moving the points to alter the shape of the vehicle while still maintaining its form.
3	Designing for a Purpose	• To design a 3D model to fit certain criteria.	• Children can explore how to edit the polygon 3D models to design a 3D model for a purpose.
4	Printing and Making	• To refine and print a model.	• Children can refine one of their designs to prepare it for printing. • Children can print their design as a 2D net and then created a 3D model. • Children can explore the possibilities of 3D printing.

Unit 5.7 – Concept Maps

Lesson	Title	Aims (Objectives)	Success Criteria
1	Introduction to Concept Mapping	• To understand the need for visual representation when generating and discussing complex ideas. • To understand the uses of a 'concept map'.	• Children can make connections between thoughts and ideas. • Children can see the importance of recording concept maps visually.
2	Using 2Connect	• To understand and use the correct vocabulary when creating a concept map. • To create a concept map.	• Children understand what is meant by 'concept maps', 'stage', 'nodes' and 'connections.' • Children can create a basic concept map.
3	2Connect Story Mode	• To understand how a concept map can be used to retell stories and information.	• Children have used 2Connect Story Mode to create an informative text.
4	Collaborative Concept Maps	• To create a collaborative concept map and present this to an audience.	• Children have used 2Connect collaboratively to create a concept map. • Children have used Presentation Mode to present their concept maps to an audience.

Unit 5.8 – Word Processing (with Microsoft Word)

Lesson	Title	Aims (Objectives)	Success Criteria
1	Making a Document from a Blank Page	• To know what a word processing tool is for.	• Children know what a word processing tool is for. • Children will be able to create a word processing document altering the look of the text and navigating around the document.
2	Inserting Images: Considering Copyright	• To add and edit images to a word document.	• Children know how to add images to a word document. • Children can edit images to reduce their file size. • Children know the correct way to search for images that they are permitted to reuse. • Children know how to attribute the original artist of an image.
3	Editing Images in Word	• To know how to use word wrap with images and text.	• Children can edit their images within Word to best present them alongside text. • Children understand wrapping of images and text.
4	Adding the Text	• To change the look of text within a document.	• Children can add appropriate text to their document, formatting in a suitable way. • Children can use a style set in Word. • Children can use bullet points and numbering.
5	Finishing Touches	• To add features to a document to enhance its look and usability.	• Children can add text boxes and shapes. • Children can consider paragraph formatting such as line spacing, drop capitals. • Children can add hyperlinks to an external website. • Children can add an automated contents page.
6	Presenting Information Using Tables	• To use tables within MS Word to present information.	• Children can add tables to present information. • Children can edit properties of tables including borders, colours, merging cells, adding and removing rows and columns. • Children can add word art for a heading.
7	Writing a Letter Using a Template	• To introduce children to templates.	• Children can use a Word template and edit it appropriately.

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| | | • To consider page layout including heading and columns. | • Children can format a page using a combination of images, headers and columns. |
| 8 | Presenting Information - Newspaper | | |

Unit 5.8 – Word Processing (with Google Docs)

Lesson	Title	Aims (Objectives)	Success Criteria
1	Making a Document from a Blank Page	• To know what a word processing tool is for.	• Children know what a word processing tool is for. • Children will be able to create a word processing document, altering the look of the text and navigating around the document.
2	Inserting Images: Considering Copyright	• To add and edit images to a document.	• Children know how to add images to a document. • Children know the correct way to search for images that they are permitted to reuse. • Children know how to attribute the original artist of an image.
3	Editing Images	• To know how to use word wrap with images and text.	• Children can edit their images within Docs to best present them alongside text. • Children understand wrapping of images and text.
4	Adding the Text	• To change the look of text within a document.	• Children can add appropriate text to their document, formatting in a suitable way. • Children can use styles to format a document. • Children can use bullet points and numbering.
5	Finishing Touches	• To add features to a document to enhance its look and usability.	• Children can add text boxes and shapes. • Children can use page breaks, headers and footers. • Children can add hyperlinks to places in the document and to an external website. • Children can add an automated contents page.
6	Sharing Files	• To use the sharing capabilities in Google docs	• Children can share their documents with selected users. • Children understand the different permissions when sharing in Google docs. • Children can share using a share link.

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7	Presenting Information Using Tables	• To use tables within Google Docs to present information.	• Children can create a vector drawing in their document. • Children can add tables to present information. • Children can edit properties of tables including borders, colours, merging cells, adding and removing rows and columns.
8	Writing a Letter Using a Template	• To introduce children to templates.	• Children can use a template and edit it appropriately. • Children can use the spelling and grammar tools built into Google docs. • (Optional) Children know how to save a document as a pdf and the reasons for doing this. • (Optional) Children know how to print their documents and can print ranges of pages.