

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 <a href="mailto:stmonicas@stmonicas.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: 1.1

Online Safety and Exploring Purple

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

Alert

A system that lets you know if you have something to look at.

Device

A piece of electrical equipment made for a purpose.

Log in

Using a username and password to access a system.

My Work Area

The place on Purple Mash where your work is stored. Only you and your teachers can access this. Avatar A digital picture to represent someone.

File Name

The name given to an online piece of work.

Log out Leaving a computer system.

Notification A message telling you about something.

Private Keeping information restricted from other people.

Button

An area where you click to make something happen.

lcon

An image on a web page that you can click on to navigate to somewhere.

Menu

A button which gives the user different options.

Password

A series of letters, numbers and special characters that is entered after the username to access an online site.



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Unit: 1.1 **Online Safety and Exploring Purple** Mash

Purple Mash Tools A selection of programs which help you carry out different tasks.

Saving Store your work as you create something so it can

be accessed later.

Search

A way of finding specific resources you want to look at.







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 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.



Key Resources



Key Vocabulary

Criteria A way in which something is judged.

Groups

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

Sort Put things together by features they have in common.





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

Collect Data Gathering facts and information.

Compare

Looking at what is the same and what is different.

Data

A collection of information, used to help answer questions.

Pictogram

A diagram that uses pictures to represent data.

Record Results

Writing down what you have found out.

Title The name given to a piece of work.

Key Re	sources
	ple ash
2Connect	2Count
Key Iı	mages
Open, Close and Share	Add or delete columns
6 5 4 3 2	

Frequency

1

Add of 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

Algorithm

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

Code

Instructions that a programmer enters into a computer that cause the computer to perform a certain way.

Computer

An electronic device for storing and processing data.

Debugging

To find and remove errors from computer hardware or software.

Instructions

Detailed information about how something should be done or operated.

Program

An algorithm that has been coded into something that can be run by a machine, e.g., a computer or a robot.







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.







Algorithm

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

Direction

The path that something travels. For example, a robot moving forwards, backwards or diagonal.

Route

A path an object or thing takes to get somewhere. Challenge A task to be completed.

Key Vocabulary

Instruction

Detailed information about how something should be done or operated.

Undo

If we make a mistake, we can press the undo button.

Command An action such as left command.

Left and Right

A position which relates to something. For example, make the fish move left of the screen.

Unit

A unit such as make the turtle move 2 units (squares).





Unit: 1.5 Maze Explorers

Key Images



Open, close or share a file



Change the settings in 2Go



Change the speed in which the screen object moves

Rewind an instruction



Undo an instruction



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 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 Resources

2Create a Story

Key Vocabulary

Animation

An object that moves on screen.

E-book

A book that can be read on the computer or on a tablet.

Sound

Sounds can be uploaded into software from a file or created. Background An image inserted into a file that sits behind text, objects, or buttons.

Edit

Edit means to change something. For example, change some text to improve it.

Sound Effect

A sound other than speech or music made for use in a play, film or computer file.

Clip-art Gallery

A place in software such as 2Create a Story where a library of images can be found and inserted into a file.

Font

The style of text used in a piece of writing on a computer or tablet.

Text

Words, letters, numbers or symbols entered into a computer, such as writing text in 2Create a Story.





What is 2Create a Story?

With 2Create a Story, you can create e-books 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 instructions are and predict what might happen when they are followed.
- To use code to make a computer program.
- To understand what object and actions are.
- To understand what an event is.
- To use an event to control an object.
- To begin to understand how code executes when a program is run.
- To understand what backgrounds and objects are.
- To plan and make a computer program.



Action

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

Code

Instructions that a programmer enters into a computer that cause the computer to perform a certain way.

Debug/ Debugging

Fixing code that has errors so that the code will run the way it was designed. Algorithm A precise, step-by-step set of instructions used to solve a problem or achieve an objective.

Key Vocabulary

Coding

Writing instructions that the computer can process (understand) to make programs (software).

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 or clicking the screen.

Background

In 2Code the background is an image in the design that does not change.

Command

A single instruction in 2Code.

Execute

This is the proper word for when you run the code. We say, 'the program (or code) executes.'





Unit: 1.7 Coding

Key Vocabulary

Instruction

Detailed information about how something should be done or operated.

Plan

When coding, a plan means including the objects and actions into a written document that shows what the program should look like (the design) and what the objects should do (the actions).

Object

Items in a program that can be given instructions to move or change in some way (action).

Programmer

A person who writes computer programs. Sometimes called a coder.

Run

This is what you do when you click the Play button in 2Code: The program runs.

Output

Information that comes out of the computer e.g. sound that comes out of the speakers.

Properties

These determine the look and size of an object. Each object has properties such as the image, scale and position of the object.

What is coding?

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

Key Questions

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.

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.



Purple Ma Unit Codi	ash Computing Scheme of W :: 1.7 ng	ork: Knowledge Organis	sers
	Key Ima	ages	
		?	Hint
Open, close or share a file	Save your work	Watch the instruction video	Get a hint when you are stuck in 2Code
Design	Exit Design		when clicked
Open design mode in 2Code	Switch to code mode in 2Code	The background object	A 'when clicked' code block
right	sound		
An object property	Sound output block		





Unit: 1.8 Spreadsheets

Key Learning

- To know what a spreadsheet program looks like.
- To locate 2Calculate in Purple Mash.
- 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 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: 1.8 Spreadsheets

Key Vocabulary

Button

An object you click that performs an action. E.g. print.

Clip-art

A library of images that a user can choose from and insert in a file.

Data

A collection of information, used to help answer questions.

Lock cell

This feature lets a user lock a cell so its contents can't be deleted.

Speak tool

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

Calculations

Maths calculations can be entered into a cell. For example the total of two cells can be added together using a calculation that appears in a new cell.

Column

Horizontal reference points for the cells in a spreadsheet.

Delete

Removes contents such as the contents in a cell.

Move cell

The move tool lets a user move the contents of a cell to a new cell.

Spreadsheet

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

Cell

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

Count tool

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

Image

A drawing or photograph that users can import into a file.

Row

Vertical reference points for cells in a spreadsheet.

Value

Images can have values given to them. For example, an apple could be given a value of 1 and a pear a value of 2.



Purple Mash Computing Scheme of Work: Knowledge Organisers **Unit: 1.8 Spreadsheets Key Images** Open, close or share Save your work Open a previously Increase or decrease a file saved file spreadsheet size 🚹 A 🚥 🚮 🛐 🖹 The 2Calculate The 2Calculate **Clipart Picker** The 2Calculate control toolbox toolbox image toolbox

Lock cell tool

Speak tool

Move cell tool



Count tool



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

Computer

An electronic device for storing and processing data.

Technology

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

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?

2Publish Plus

Key Resources

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.



Year 1

Unit Overview

Unit 1.1 – Online Safety & Exploring Purple Mash

Lesson	Title	Aims (Objectives)	Success Criteria
1	Safe Logins	 To log in safely and understand why that is important. To create an avatar and to understand what this is and how it is used. To be able to create a picture and add their own name to it. To start to understand the idea of 'ownership' of creative work. To save work to the My Work area and understand that this is private space. 	 Children can log in to Purple Mash using their own login. Children have created their own avatar and understand why they are used. Children can add their name to a picture they created on the computer. Children are beginning to develop an understanding of ownership of work online. Children can save work into the My Work folder in Purple Mash and understand that this is a private saving space just for their work.
2	My Work Area	 To learn how to find saved work in the Online Work area. To learn about what the teacher has access to in Purple Mash. To learn how to see messages left by the teacher on their work. To learn how to search Purple Mash to find resources. 	 Children can find their saved work in the Online Work area of Purple Mash. Children can find messages that their teacher has left for them on Purple Mash. Children can search Purple Mash to find resources.
3	Purple Mash Topics	 To become familiar with the types of resources available in the Topics section. To become more familiar with the icons used in the resources in the Topics section. To start to add pictures and text to work. 	 Children will be able to use the different types of topic templates in the Topics section confidently. Children will be confident with the functionality of the icons in the topic templates. Children will know how to use the different icons and writing cues to add pictures and text to their work.
4	Purple Mash Tools	 To explore the Tools area of Purple Mash and to learn about the common icons used in Purple Mash for Save, Print, Open, New. To explore the Games area on Purple Mash. To understand the importance of logging out when they have finished. 	 Children have explored the Tools section on Purple Mash and become familiar with some of the key icons: Save, Print, Open and New. Children have explored the Games section and looked at Table Toons (2x tables). Children can log out of Purple Mash when they have finished using it and know why that is important.

Unit 1.2 - Grouping & Sorting

Lesson	Title	Aims (Objectives)	Success Criteria
1	Sorting Away from the Computer	• To sort items using a range of criteria.	 Children can sort various items offline using a variety of criteria.
2	Sorting on the Computer	 To sort items on the computer using the 'Grouping' activities in Purple Mash. 	• Children have used Purple Mash activities to sort various items online using a variety of criteria.

Unit 1.3 – Pictograms

Lesson	Title	Aims (Objectives)	Success Criteria
1	Data in Pictures	• To understand that data can be represented in picture format.	 Children can discuss and illustrate the transport used to travel to school. Children can contribute to the collection of class data. Children have used these illustrations to create a simple pictogram.
2	Class Pictogram	• To contribute to a class pictogram.	 Children can contribute to a class pictogram. Children can discuss what the pictogram shows.
3	Recording Results	• To use a pictogram to record the results of an experiment.	 Children can collect data from rolling a die 20 times and recording the results. Children can represent the results as a pictogram.

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Unit 1.4 – Lego Builders

Lesson	Title	Aims (Objectives)	Success Criteria
1	Following Instructions	To emphasise the importance of following instructions.	 Children know that to achieve the effect they want when building something, they need to follow accurate instructions. Children know that by following the instructions correctly, they will get the correct result. Children know that an algorithm is a precise, step-by-step set of instructions used to solve a problem or achieve an objective.
2	Following and Creating Simple Instructions on the Computer.	• To follow and create simple instructions on the computer.	 Children can follow instructions in a computer program. Children can explain the effect of carrying out a task with no instructions. Children know that computers need precise instructions to follow. Children know that an algorithm written for a computer to follow is called a program.
3	To consider how the order of instructions affects the result.	• To consider how the order of instructions affects the result.	 Children understand how the order in which the steps of a recipe are presented affects the outcome. Children can organise instructions for a simple recipe. Children know that correcting errors in an algorithm or program is called 'debugging'.

Unit 1.5 – Maze Explorers

Lesson	Title	Aims (Objectives)	Success Criteria
1	Challenges 1 and 2	 To understand the functionality of the basic direction keys in Challenges 1 and 2. To be able to use the direction keys to complete the challenges successfully. 	 Children know how to use the direction keys in 2Go to move forwards, backwards, left and right. Children know how to add a unit of measurement to the direction in 2Go Challenge 2. Children know how to undo their last move. Children know how to move their character back to the starting point.
2	Challenges 3 and 4	 To understand the functionality of the basic direction keys in Challenges 3 and 4. To understand how to create and debug a set of instructions (algorithm). 	 Children can use diagonal direction keys to move the characters in the right direction. Children know how to create a simple algorithm. Children know how to debug their algorithm.
3	Challenges 5 and 6	 To use the additional direction keys as part of their algorithm. To understand how to change and extend the algorithm list. 	 Children can use the additional direction keys to create a new algorithm. Children can challenge themselves by using the longer algorithm to complete challenges.

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		 To create a longer algorithm for an activity. 	
4	Setting More Challenges	 To provide an opportunity for the children to set challenges for each other. To provide an opportunity for the teacher to add these challenges to a display board for the class to try. 	 Children can change the background images in their chosen challenge and save their new challenge. Children have tried each other's challenges.

Unit 1.6 – Animated Story Books

Lesson	Title	Aims (Objectives)	Success Criteria
1	Drawing and Creating	 To understand the differences between traditional books and e- books. To explore the tools of 2Create a Story's My Simple Story level. To save the page they have created. 	 Children know the difference between a traditional book and an e-book. Children can use the different drawing tools to create a picture on the page. Children can add text to a page.
2	Animation	 To add animation to a picture. To play the pages created so far. To save the additional changes and overwrite the file. 	 Children can open previously saved work. Children can add an animation to a page. Children can play the pages created. Children can save changes and overwrite the file.
<u>3</u>	Sounds and More!	 To add a sound effect to a picture. To add a voice recording to the picture. To add created music to the picture. 	 Children can add a sound to the page. Children can add voice recording to the page. Children can create music for a page.
4	Making a Story	 To add a background to the story. To demonstrate a good understanding of all the tools they have used in 2Create a Story and use these successfully to create their own story. 	 Children can add a background to the page. Children can use the additional drawing tools on My Story mode. Children can change the font style and size.
<u>5</u>	Copy and Paste	 To use the copy and paste feature to create additional pages. To continue and complete an animated story. To create a class display board of the story books created by the class. 	 Children can use the copy and paste function to add more pages to their animated e-book. Children can share their e-books on a class story book display board.



Unit 1.7 - Coding

Lesson	Title		Success Criteria
1	Instructions	 To understand what instructions are. To predict what will happen when instructions are followed. To understand that computer programs work by following instructions called code. 	 Children can give and follow instructions. Children can draw symbols to represent instructions. Children can arrange code blocks to create a set of instructions.
2	Objects and Actions	 To use code to make a computer program. To understand what objects and actions are. 	 Children can create a program using code blocks. Children can use object and action code blocks.
3	Events	 To understand what an event is. To use an event to control an object. 	 Children can create a simple program using code blocks. Children can use event, object and action code blocks.
4	When Code Executes	 To understand what an event is. To begin to understand how code executes when a program is run. 	 Children can create a simple program using code blocks. Children can use event, object and action code blocks. Children can notice when their code executes when their program is run.
5	Setting the Scene	 To understand what backgrounds and objects are. To understand how to use the scale property. 	 Children can edit a scene by adding, deleting and moving objects. Children can change the size of objects using the properties table.
6	Using a Plan	 To plan a computer program. To make a computer program.	 Children can create a design plan for their Free Code Scene program. Children can use code to make the program they have designed work.



Unit 1.8 – Spreadsheets

Lesson	Title		Success Criteria
	Introduction to	• To understand what a spreadsheet looks like.	Children can navigate around a spreadsheet.
1	Spreadsheets	 To be able to navigate around a spread sheet and enter data. 	• Children can explain what rows and columns are.
		• To learn new vocabulary related to	• Children can save and open sheets.
		spreadsheets.	• Children can enter data into cells.
2 Adding Images Spreads and Usi the Ima	Adding Images to a	 To add clipart images to a spreadsheet. 	Children can open the Image toolbox and find and add clipart.
	Spreadsheet and Using the Image Toolbox	• To use the 'move cell' and 'lock' tools.	• Children can use the 'move cell' tool so that images can be dragged around the spreadsheet.
			• Children can use the 'lock' tool to prevent changes to cells.
	Using the 'Speak' and	• To use the 'speak' and 'count' tools in 2Calculate to count items.	• Children can give images a value that the spreadsheet can use to count them.
3	'Count' Tools in 2Calculate to Count		• Children can add the count tool to count items.
	Items		• Children can add the speak tool so that the items are counted out loud.
			 Children can use a spreadsheet to help work out a fair way to share items (Extension)

Unit 1.9 – Technology outside school

Lesson	Title	Aims (Objectives)	Success Criteria
1	What is Technology?	 To find and understand examples of where technology is used in the local community 	 Children understand what is meant by 'technology'. Children have considered types of technology used in school and out of school.
2	Technology outside school.	 To record examples of technology outside school. 	 Children have recorded 4 examples of where technology is used away from school.

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