Computing Long Term Plan – St Mary's CE Primary School

Year Group	Autumn Term	Spring Term	Summer Term	
Reception	**Mouse and Trackpad Skills** ● To be able to use click and drag to move objects purposefully **Keyboard Skills** ● To find the letters on a keyboard ● To use the spacebar ● To use the backspace key ● To type numbers ● To use the ENTER key ● To use arrow keys ● To be able to use the keyboard with all the above skills **Drawing Skills** ● To be able to select colours ● To be able to mark make purposefully on the screen ● To be able to choose tools to experiment with ● To be able to use the undo button ● To be able to erase parts of pictures ● To be able to draw using mouse control **Programmable Device** ● To plan routes for toy vehicles ● To follow a plan for a toy vehicle ● To use the buttons on a floor robot to make it move ● To purposefully use the buttons on a floor robot to make it move one step at a time ● To be able to input a program of 2 or 3 steps into a floor robot and then run the program to make it move ● To be able to plan and input instructions for a floor robot one step at a time ● To be able to plan and input instructions for a floor robot more than one step at a time **Technology Around Us** ● To know the technology used in the home ● To be able to identify how technology is used outdoors ● To be able to identify technology used in the wider world			
	Mini Mash	Mini Mash	Mini Mash	Mini Mash	Mini Mash	Mini Mash

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	All About Me Autumn Pirates People Who Help Us	Diwali Mehndi Patterns Poppy Christmas Seasons Space	Fairytales Chinese New Year Winter	Growing Seasons Easter Spring Garden	Minibeasts Farm Baby animals	Seasons Summer Under the sea	
Year 1	**Introduction to Purple Mash (3 lessons)** Exploring Purple Mash Login to Purple Mash. Start, save and complete 2Dos. Open a program from the Tools area. Save work. Find work in the Work area. **Creative Computing (4 lessons)** Use paint tools to draw a picture. Create a jigsaw using a digital device and share it so that others can play. Create a placing game in 2DIY. Create images and use these to make a game.	**Data Explorers (6 lessons)** Think carefully about the steps of grouping items. Group items using a computer. Sort different items. Understand that data is information that can be collected and used. Understand that data can be shown using pictures Collect data and create a pictogram.	**Creating and Following Instructions (3 lessons)** To understand that an algorithm is a set of instructions. To follow and create simple instructions on a device. To sequence algorithms that require a correct order. **Animated Stories (3 lessons)** To understand some differences between traditional books and digital books. To draw a character for a	**Animated Stories (3 lessons)** To add animation to objects in 2Create a Story. To add text to a 2Create a Story file. To add sounds to a 2Create a Story file. **Coding (3 lessons)** To understand that computer programs work by following instructions called code. To use object and action code blocks to make a computer program. To understand	**Coding (3 lessons)** To understand the purpose of an output and to be able to 'read' code to find out what it does. To change aspects of the design view. To plan and make a computer program. **Technology around us (3 lessons)** To know what the word technology means. To know what technology is used in school. To consider the purposes of technology used in the wider world.	**Technology around us (1 lessons)** To understand the safe use of technology devices. **Making Beats (4 lessons)** To compare music made using computers and music played by real instruments. To explore mixing the sounds of different instruments using the 2Beat tool. To compose a tune to match a picture of a scene. To compose a beat to match a picture of a scene.

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			2Create a Story digital book. To understand the difference between backgrounds and other objects on the screen in 2Create a Story.	what an event is in coding.		
	ESafety Online Relationships - Lesson 1 & 3	**ESafety** Online Relationships - Lesson 4		**ESafety** Privacy and Security - Lesson 1 & 2		**ESafety** Privacy and Security - Lesson 3 Managing Online - Lesson 1
	Use technology safely and respectfully					
Year 2	**Route Explorers (4 lessons)** Use the direction keys in 2Go to move the turtle along a route. Use units of distance along with the direction keys in 2Go to move along a route. Write instructions to complete more than one step of a route at once. Build up instructions for a longer route. **The Internet (3 lessons)**	**The Internet (1 lesson)** Understand the difference between a browser and a search engine, and to practise searching for information safely. **Creating Pictures (5 lessons)**	**Spreadsheets (6 lessons)** To understand what a spreadsheet is and how to navigate one using 2Calculate. To edit and improve a spreadsheet so that information is organised clearly and displayed correctly. To explore how spreadsheets can complete calculations automatically. To explore the range of tools available in 2Calculate and understand how they can change the way data is used. To create and interpret block diagrams from data.	**Questioning (4 lessons)** To understand how data can be used to help answer a question. To ask an appropriate question, gather data using a tally chart and present it using digital tools. To begin to explore how yes or no questions can be used to sort data. To understand how branching databases	**Coding (4 lessons)** To design a program that follows a timed sequence. To understand that different objects have different attributes (properties). To understand the function of button objects in a program. To understand the importance of	**Presenting Ideas (4 lessons)** To understand that ideas can be organised and presented using a concept map. To add information to a concept map. To organise ideas clearly in a concept map. To use a concept map to present ideas to others.

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	Understand how the internet, the World Wide Web and a browser work together. Understand the different types of hardware used to access the internet and their functions. Understand the difference between a website and a webpage and use a school website to find information.	Create a digital art piece in an Impressionist style. Create a digital art piece in a Pointillism style. Create a digital art piece that is in the style of Piet Mondrian's work. Create digital art patterns in the style of the Arts and Crafts movement. Create a portfolio of digital art.	To use our learning about spreadsheets to help us complete a project		work and practise navigating them to find answers. **Coding (2 lessons)** To create a computer program using an algorithm. To understand ways that the collision detection event can be used in a program.	testing and debugging. **Lego WeDo (2 lessons)** Create an algorithm to control the roaring lion and the hungry alligator. Lego WeDo: Roaring Lion & Hungry Alligator	**Making Music (3 lessons)** To explore, edit and combine sounds using 2Sequence. To improve a tune and make music based around a feeling. To compose background music for a video.
	ESafety Self Image & Identity - Lesson 2 Online Relationships - Lesson 3, 4 & 6	**ESafety** Online Reputation - Lesson 1 Online Bullying - Lesson 1, 2 & 3				**ESafety** Health, Wellbeing & Lifestyle - Lesson 1 Privacy & Security - Lesson 1 & 2	**ESafety** Privacy & Security - Lesson 3 & 4 Copyright & Ownership - Lesson 1 & 2
	Use technology safely and respectfully						
Year 3	**Email (6 lessons)** Understand how people communicate with each other.	**Route Planners (5 lessons)** Create simple commands in	**Branching Databases (2 lessons)**	**Spreadsheets (2 lessons)** To apply spreadsheet	**Coding (2 lessons)** To design a program. To use design	**Lego WeDo (2 lessons)** Create an algorithm to control the goal keeper and goal kicker. Goal Keeper & Goal Kicker	

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	Understand and respond to an email. Compose and send an email. Send an email attachment. Learn how to use email safely. Explore simulated email scenarios.	2Go to move the turtle along a route. Create commands in 2Go in which the turtle turns using rotation. Plan algorithms and write 2Go code that uses angles of turn. Use 90° and 45° angles in 2Go. Use the repeat algorithm and coding in 2Go. **Branching Databases (2 lessons)** Understand the concept of using 'Yes' or 'No' questions to sort objects. Understand and use a branching database effectively.	Plan and create a branching database. Test and debug branching databases to correct errors. **Spreadsheets (4 lessons)** To understand the layout and features of 2Calculate in Advanced Mode. To use the arrows toolbar to be able to automatically total rows and columns. To use simple formulae in a spreadsheet by using the formula wizard. To use advanced formulae in a spreadsheet to calculate totals, averages and to find the highest and lowest values.	skills to solve real-world problems. To design and use a spreadsheet to answer a series of questions**.** **Coding (4 lessons)** To understand what a flowchart is and how flowcharts are used in computer programming.To understand that there are different types of timers. To understand how to use the repeat command. To understand the importance of nesting when coding, testing and debugging.	documentation to code a program. **Microbit (4 lessons)** To use a micro:bit to create an electronic name badge. To code a micro:bit to show animations on its LED display. To code a micro:bit to show different images on the LED display when specific buttons are pressed. To code a micro:bit to make sounds when movements are detected.	**Presentations (5 lessons)** To learn how to open PowerPoint, add text and change how it looks. To learn how to add slides, change slide designs and insert pictures into a presentation. To add animations to pictures and text, and transitions between slides. To create an effective presentation. To complete and present a slideshow to an audience.

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	ESafety Self Image & Identity - Lesson 3 Online Relationships - Lesson 1 & 2	**ESafety** Online Relationships - Lesson 6 Online Reputation - Lesson 1 & 3			**ESafety** Privacy & Security - Lesson 6 Managing Online - Lesson 1 & 4	**ESafety** Managing Online - Lesson 5 & 6	
	Use technology safely, respectfully and responsibly						
Year 4	**Unpacking Hardware & Software (4 Lessons)** Understand what technology is, where we see it in everyday life, and how it helps us at school, home and beyond. Identify and describe different pieces of computer hardware and understand their functions. Understand what software is and how we use it to complete tasks. Explore how hardware and software interact to complete everyday tasks.	**Animation (3 lessons)** Plan an animation. Create a narrative through animation. Evaluate animations. **Logo (4 lessons)** Know key commands and input simple instructions. Use a variety of commands to create shapes using multi-line	**Effective Searching (4 lessons)** To understand what a search engine is, how it works and how to use simple keywords to find information online. To understand how search engines collect, sort and rank results, and why some results appear first. To learn advanced ways to improve searches so we can find the most accurate and useful results quickly. To develop strategies to judge whether information online is true and if sources can be trusted. **Coding (2 lessons)** To create a simple computer program using coding structures previously encountered.	**Coding (4 lessons)** To know how to use co-ordinates in computer programming. To explore methods that introduce loops in coding. To understand what a variable is in programming. To create a game that keeps score. **Lego WeDo (2 lessons)** Create and debug an algorithm to control the dancing birds and drumming monkey.	**Microbits (4 lessons)** To code a micro:bit to make it work as a step counter. To code a micro:bit to make a light switch that switches on or off when the light level changes. To code a micro:bit to make a rock, paper and scissors game. To code micro:bits to make simulated dice.	**Composing Beats (2 lessons)** To create a melodic phrase using varied notes and pitch. To compose a piece of electronic music. **Introduction to AI (4 lessons)** To understand what Artificial Intelligence is and some of the tasks it can carry out. To learn to communicate effectively with AI tools by writing clear and precise prompts.

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	Animation (3 lessons) Understand what animation is. Understand the term onion skinning and be able to use this technique for 2D computer animations. Know how to enhance simple animations using animation software.	mode. Use the Repeat command. Change the line thickness and colour. Use procedures to write instructions.	To know what selection means in computer programming.	Dancing Birds & Drumming Monkey	**Composing Beats (2 lessons)** To identify and discuss the main elements of music. To understand and experiment with rhythm and tempo	To learn how to be a good digital citizen when using AI. To think about how AI might develop in the future.
	ESafety Online Reputation - Lesson 1 & 2 Online Bullying - Lesson 1	**ESafety** Online Bullying - Lesson 2 & 3 Privacy & Security - Lesson1			**ESafety** Privacy & Security - Lesson 2, 3 & 4	**ESafety** Copyright & Ownership - Lesson 1 & 2
	Use technology safely, respectfully and responsibly					
Year 5	**Quizzing (5 lessons)** Explore different types of quizzes and identify their features, strengths and weaknesses. Explore the features of 2Quiz and experiment with creating quiz questions.	**Game Creator (5 lessons)** Evaluate the features of a successful video game. Plan a game in 2DIY3D. Design and use	**Spreadsheets (6 lessons)** To refresh and extend understanding of formulae and functions from previous learning.	**Coding (6 lessons)** To understand some ways that code can be simplified so that it is easier to read and runs more	**Microbits (4 lessons)** To create a micro:bit story telling game. To code a micro:bit to measure temperature and produce different outputs based on this. To code a micro:bit to	**Word Processing (6 lessons)** To format text in a new Word document and then save it. To learn how to edit text and apply more advanced formatting. To learn how to adjust the layout of a Word document. To learn how to insert and format images in Word. To use tables in Word to organise

	Explore additional features of quizzes, such as feedback, title screens and content pages. Apply knowledge of 2Quiz to design an educational quiz based on a chosen topic. Refine, test and share completed quizzes. **Databases (2 lessons)** Understand what a database is. Design and create a database.	game sprites. Add features to a game world and check playability. Evaluate games created by others.	To use formulae in 2Calculate to convert measurements between different units. To use 2Calculate to create and interpret line graphs that show how data changes over time. To analyse weather data by using spreadsheets to identify patterns. To use spreadsheets to plan and budget for an event. To use a spreadsheet to plan a holiday.	efficiently. To program a computer simulation using 2Code. To know what decomposition and abstraction are in Computer Science. To understand what a function is and how functions work in code. To understand what datatypes are and how they are used when coding with variables. To read code, predict outcomes and identify and fix bugs.	simulate a magic 8 ball. To create an automatic scoreboard display using a micro:bit. **Lego WeDo (2 lessons)** Plan & design a game	information. To combine Word skills to create and review a factsheet.
	ESafety Self Image & Identity - Lesson 1 & 2 Online Reputation -Lesson 1 & 2 Online Bullying - Lesson 1	**ESafety** Online Bullying - Lesson 2, 3, 4, 5 & 6			**ESafety** Health, Wellbeing & Lifestyle - Lesson 4 Privacy & Security - Lesson 1, 2 & 3	**ESafety** Managing Online - Lesson 2, 3, 4, 5, 6 & 7

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					Managing Online - Lesson 1		
	Use technology safely, respectfully and responsibly						
Year 6	**Networks (4 lessons)** Understand what a computer network is and identify examples of networks at home, school and in the wider world. Understand the difference between the internet and the World Wide Web and explore the services they provide. Explore how the internet can be used for communication and collaboration, and how to do this safely and respectfully. Explore who is in charge of the internet and how rules and website blocking can affect people, society and online platforms. **Graphing (2 lessons)** Create comparative bar charts using graphing software.	**Graphing (2 lessons)** Create line graphs using graphing software. Present data in graphs to support an argument. **Blogging (4 lessons)** Understand blogs and their features. Plan the theme, content and structure for a blog post. Write and style a blog post. Review and comment on blog posts with an understanding of online safety.	**Data Detectives (4 lessons)** To find information in databases by filtering and sorting. To create graphs from data within a database. To be able to find information in linked table databases. To be able to find requested information using databases. **Coding (2 Lessons)** To understand ways to use cloning in 2Code. To explore the use of hotspots in 2Code.		**Coding (4 lessons)** To understand the different options for generating and using user input in 2Code. To use flowcharts to test and debug a simulation. To use program design documentation to produce a program. To understand how 2Code can be used to make a text-based adventure game. **Microbits (2 lessons)** To code a micro:bit to identify materials that are conductors. To use a micro:bit to collect step count data and use this data in graphing software.	**Microbits (2 lessons)** To use a micro:bit to collect temperature data and use this data in graphing software. To use a micro:bit to collect light level data and use this data in graphing software. **Spreadsheets (4 lessons)** To understand and use basic formatting in Excel. To develop skills in using basic functions in Excel. To create and format charts in Excel. To sort and filter data within a spreadsheet.	**Spreadsheets (2 lessons)** To understand and use advanced functions in Excel. To combine Excel skills to create an effective spreadsheet for a given purpose. **3D Modelling (4 lessons)** To explore and develop simple 3D models using CAD software. To explore the effect of moving points when designing. To plan, design and begin creating packaging to meet a design brief. To refine, assemble and evaluate the finished packaging prototype.

	Create pie charts using graphing software.					
	ESafety Self Image & Identity - Lesson 2 & 3 Online Relationships -Lesson 2 & 4 Online Reputation -Lesson 1 & 2 Health, Wellbeing & Lifestyle - Lesson 1	**ESafety** Health, Wellbeing & Lifestyle - Lesson 2, 3 & 4 Privacy & Security - Lesson 1, 2 & 3			**ESafety** Privacy & Security - Lesson 4, 5 & 6 Managing Online - Lesson 1, 2 & 5	**ESafety** Managing Online - Lesson 6, 8, 9 & 11 Copyright & Ownership - Lesson 1 & 2
	Use technology safely, respectfully and responsibly					