



St Mary's Catholic Junior School

Year 4

Computing Long Term Plan



Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Collaborative Learning	Further coding with Scratch	Website design	HTML	Computational Thinking	Investigating weather
Online Safety (6 lessons)					

Curriculum Document		
Digital Literacy	Information Technology	Computer Science
<ul style="list-style-type: none"> Recognising what appropriate behaviour is when collaborating with others online Recognising that information on the Internet might not be true or correct and that some sources are more trustworthy than others Learning about different forms of advertising on the internet. 	<p><u>Using software</u></p> <ul style="list-style-type: none"> Building a web page and creating content for it Designing and creating a webpage for a given purpose Use Google online software for documents, presentations, forms and spreadsheets. Work collaboratively with others <p><u>Using email and the internet</u></p> <ul style="list-style-type: none"> Understanding why some results come before others when searching Understanding that information on the internet is not all grounded in fact <p><u>Using data</u></p>	<p><u>Hardware</u></p> <ul style="list-style-type: none"> Learning about the purpose of routers <p><u>Networks and data representation</u></p> <ul style="list-style-type: none"> Consolidating understanding of the key components of a network Understanding that websites & videos are files that are shared from one computer to another Learning about the role of packets Understanding that computer networks provide multiple services, such as the World Wide Web, and opportunities for communication and collaboration <p><u>Computational thinking</u></p> <ul style="list-style-type: none"> Solving unplugged problems by decomposing them into smaller parts

	<ul style="list-style-type: none"> • Designing a weather station which gathers and records sensor data <p><u>Wider use of technology</u> Understanding that software can be used collaboratively online to work as a team</p>	<ul style="list-style-type: none"> • Using decomposition to understand the purpose of a script of code • Using decomposition to help solve problems • Identifying patterns through unplugged activities • Using past experiences to help solve new problems • Using abstraction to identify the important parts when completing both plugged and unplugged activities • Creating algorithms for a specific purpose <p><u>Programming</u></p> <ul style="list-style-type: none"> • Understanding that webstes can be altered by exploring the code beneath the site • Coding a simple game • Using abstraction and pattern recognition to modify code • Incorporating variables to make code more efficient • Remixing existing code <p>Using a more systematic approach to debugging code, justifying what is wrong and how it can be corrected</p>
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CURRICULUM ENTITLEMENT				
	Key Computing Knowledge	Vocabulary		Assessment Criteria – ‘Can I...? statements’
Online Safety	<ul style="list-style-type: none"> • To describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy 	Accuracy Ad Advantages Advertisements Belief Bot Chatbot Computer	Online behaviour Opinion Program Recommendations Reliability Reliable Respect Respectful	<ul style="list-style-type: none"> • Can I describe how to search over multiple platforms? Can I make judgements about the accuracy of the results presented? • Can I describe some of the methods used to persuade people to buy online? • Can I explain the difference between fact, opinion and belief and recognise these online?

	<ul style="list-style-type: none"> • To describe some of the methods used to encourage people to buy things online • To explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true • To explain that technology can be designed to act like or impersonate living things • To explain how technology can be a distraction and identify when I might need to limit the amount of time spent using technology • To understand how to be safe and respectful online 	Distractions Fact Gaming Hashtag Implications In-app purchases Influencer Live streaming	Risks Safe Screen time Search results Snippets Sponsored Trustworthy	<ul style="list-style-type: none"> • Can I explain what a bot is and give examples of different bots? • Can I explain some positive and negative distractions of using technology and small strategies on how to reduce the amount of time spent on technology? • Can I describe strategies for being safe online and give examples of how to be respectful? Can I show that I can respect the thoughts and beliefs of others?
Collaborative Learning	<ul style="list-style-type: none"> • To understand that software can be used to work online collaboratively • To understand how to contribute to someone else's work effectively • To understand how to create a digital survey • To create and share a Microsoft Form 	Average Collaboration Comment Conditional formatting Contribution Data Document Edited Email account Format Freeze Icon Link Multiple choice	Rating Replied to Resolved Reviewing comments Share Sharing Software Spreadsheets Suggestions Survey Survey form Teamwork Text Theme	<ul style="list-style-type: none"> • Can I show understanding the need to be thoughtful when working on a collaborative document? • Can I use comments to suggest changes to a document and understanding how to resolve comments on a document? • Can I plan a survey for Microsoft Form with a range of different questions types that will provide different types of answer, e.g. text, multiple choice or numerical values? • Can I create a Microsoft Form with a range of different question types that will provide different types of answer, e.g. text, multiple choice or numerical values?

	<ul style="list-style-type: none"> To analyse data 	Numerical data Online	Title Typing View	<ul style="list-style-type: none"> Can I exporting data to a spreadsheet, highlighting data, using conditional formatting and calculating averages and sums of numbers?
Further coding with Scratch	<ul style="list-style-type: none"> To recall the key features of Scratch To understand how a Scratch game works by using decomposition to identify key features To understand what a variable is and how to make one To understand how to make a variable in Scratch To use knowledge of how variables work to create a quiz 	Broadcast block Code Code block(s) Conditional statement Coordinates Decomposition Features Game Information Negative numbers Orientation	Parameters Position Program Project Quiz Scratch Script Sprite Stage Tinker Variable(s) Variables panel	<ul style="list-style-type: none"> Can I show an understanding of how to create a simple script in Scratch as well as an ability to change sprite and prevent the sprite from rotating? Can I show that I know some of the actions that make the quiz game work? Can I show an understanding of what a variable is and how to use the 'say' and 'ask' blocks? Can I use of a variable to record a score? Can I show an understanding of what a variable is and how it works within a program?
Website design	<ul style="list-style-type: none"> To explore the features of Microsoft Sway to learn how to create content for a web page To plan content for a web page as a collaborative online piece of work To create an engaging web page To plan and create a website 	Assessment Audience Collaboration Content Contribution Create Design Design view Embed Evaluate Features Hyperlink Images Information	Insert Microsoft Sway Online Plan Progress Review Stack Storyline view Style Transform Web browser Web page Website(s) World Wide Web	<ul style="list-style-type: none"> Can I create a Sway with a title, image and a completed first header section? Can I create a clear plan for my web page and begin to create it? Can I create a professional-looking web page with useful information and a clear style, which is easy for the user to read and find information from? Can I create a clear plan by referring back to the checklist to include a range of features?

	<ul style="list-style-type: none"> To create a website and evaluate its success 			<ul style="list-style-type: none"> Can I create a web page with clear sections and with a range of features in?
HTML	<ul style="list-style-type: none"> To understand that web pages are built using different programming languages, and one of them is HTML To understand and identify examples of HTML tags To change the HTML To change the HTML and CSS to alter the appearance of an object on the web To understand and explore more complex components of a web page To alter key elements on a webpage including text and images 	Code Component Content Copyright CSS End tag Fake news Hacking Heading Headline Hex code HTML Input	Internet browser Output Paragraph Permission Remixing Script Start tag Tags Text URL Webpage	<ul style="list-style-type: none"> Can I add text between the heading and paragraph tags and easily activate the goggles to investigate a web page? Can I explain how I altered the HTML to create my own posters? Can I change the colours of object elements? Can I change the sizes of some of the elements and explain how I created my story? Can I adapt the basic elements of a story within a web page using the 'Inspect Elements' tool? Can I change the elements of a website in regard to both the text and images?
Computational Thinking	<ul style="list-style-type: none"> To understand that computational thinking is made up of four key strands To understand what decomposition is and how to apply it to solve problems To understand what pattern recognition and abstraction mean 	Abstraction Algorithm Code Code Computational thinking Decomposition Input Logical reasoning	Output Pattern recognition Script Sequence Variable	<ul style="list-style-type: none"> Can I show an understanding that problems can be solved more easily using computational thinking? Can I show an understanding what the different code blocks do and creating a simple game using the code looked at in the start of the lesson plus a few further features? Can I show an understanding of the terms 'pattern recognition' and 'abstraction' and how they help to solve a problem as well as making some changes to the existing code by recognising the patterns that cause the current actions to happen?

	<ul style="list-style-type: none"> To understand how to create an algorithm and what it can be used for To combine computational thinking skills to solve a problem 			<ul style="list-style-type: none"> Can I create a Scratch program which draws a square and at least one other shape? Can I show understanding how computational thinking can help to solve problems and applying computational thinking to problems they face?
Investigating Weather	<ul style="list-style-type: none"> To log data taken from online sources within a spreadsheet To design a weather station To design an automated machine to respond to sensor data To understand how weather forecasts are made To use green screen technology in a video to present a weather forecast 	<p>Accurate Backdrop Chroma key Climate zone Cold Collaboration Condensation Cylinder Degrees Evaporation Extreme weather Forecast Green screen Heat sensor Lightning</p>	<p>Measurement Pinwheel Rain Satellite Sensitive Sensor data Solar panel Temperature Thermometer Tornado Warm Weather Weather forecast Wind Wind speed</p>	<ul style="list-style-type: none"> Can I search the web efficiently to find temperatures of different cities and recording this accurately? Can I design a weather station which gathers and records sensor data? Can I explain how it works and the units of measurement it would use? Can I design an automated machine which uses selection to respond to sensor data? Can I search for and recording weather forecast information in a spreadsheet and explaining how this data is collected? Can I create a video which uses chroma keying and includes weather forecast information?