



**ST CHARLES' CATHOLIC PRIMARY
SCHOOL**



**COMPUTING MEDIUM TERM
PLANNING**

	AUTUMN		SPRING		SUMMER	
Reception	<p align="center">I am a Super Surfer!</p> <p>Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. They recognize on and offline technology and how to use it safely with the help of trusted adults.</p>		<p align="center">Look at what I can do!</p> <p>To learn that information can be used and created using technology. Talk about different kinds of information such as pictures, videos, text and sound. Use a mouse and touch screen to move objects on a screen. Create shapes and text on a screen.</p>		<p align="center">I am a computer scientist!</p> <p>To learn cause and effect in computing. (I press this button – this is the result) Be able to give a floor robot instructions to make it move. Use simple software and explain what you are doing. Understand what happens when you click a button or touch an icon.</p>	
	<p align="center">Vocabulary</p> <p>Button, mouse, icon, keyboard, touch screen, tablet, pc, laptop, camera, radio, smartphone</p>		<p align="center">Vocabulary</p> <p>Button, mouse, icon, keyboard, touch screen, tablet, pc, laptop, image, text, video, sound, listen, draw, colour</p>		<p align="center">Vocabulary</p> <p>Button, mouse, icon, keyboard, touch screen, tablet, pc, laptop, direction, arrows, input and output.</p>	
YEAR 1	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	<p align="center">Basic Skills</p> <p>Children understand why we have passwords (DL) and understand that we must keep passwords private. Children will use the keyboard or a word bank on a device to enter text into a program. They will understand some of the basic functions on a keyboard</p>	<p align="center">Producing Digital Media</p> <p>Children use technology to collect information, including photos, videos and sound. Use software with support, to create, store and edit digital content. Use the keyboard or a word bank on a device to enter text into a program. Save information in a specific place and retrieve it again.</p>	<p align="center">Unplugged Algorithms</p> <p>Give instructions to a friend and follow their instructions to move around a space. Begin to predict what will happen for a short sequence of instructions. Understand what an algorithm is and be able to create a simple algorithm. Begin to use software or applications to</p>	<p align="center">Programming with Robots</p> <p>Give instructions to a friend and follow their instructions to move around a space. Describe what happens when buttons are pressed on a robot. Press buttons in the correct order to make a robot follow a sequence. Begin to predict what will happen for a short</p>	<p align="center">Data Handling Pictograms</p> <p>To use technology to collect information. Sort different kinds of information and present it to others. Add information into a pictogram and talk about their findings. To talk about the different ways in which data / information can be shown</p>	<p align="center">Presenting Information</p> <p>Use software to create digital content. Use the keyboard to input text. Understand some of the basic functions of a keyboard (backspace, space etc)</p>

	(Backspace, Capslock, Enter)		create movement and patterns on a screen.	sequence of instructions Understand what an algorithm is and be able to create a simple algorithm.		
	Vocabulary Keyboard, keys, letters, Capslock, Shift, Enter, Backspace. Log In, Shut Down, Password. Security	Vocabulary Keyboard, keys, letters, Capslock, Shift, Enter, Backspace. Log In, Shut Down	Vocabulary algorithm, program, instruction, code	Vocabulary Beebot, forward, backwards, right, left, turn, program, algorithm, clear	Vocabulary Pictogram, graph, chart, tally, collect, count, data	Vocabulary image, photograph, import, text, font, colour, delete
YEAR 2	What is a Computer? Children can explain why they use technology in the classroom, in their homes and in the community. They can identify the benefits of using technology, such as creating content and communicating efficiently. They can identify a computer by knowing that it has inputs, a processor and outputs and can identify parts of a computer including what an input and output is.	Unplugged Algorithms Use logical reasoning to predict and debug more complex programs. Can create and debug with improved confidence and efficiency. Begin to program using simple block code. Programme a robot or software to do a particular task. Be able to explain the order needed to do things to make something happen and to talk about it as an algorithm. Understand what an algorithm is and demonstrate	Programming using Scratch Jr Be able to explain the order needed to do things to make something happen and to talk about it as an algorithm. Programme a robot or software to do a particular task. Look at a basic program and explain what will happen. Use programming software and applications to make objects move. Use logical reasoning to predict and debug more complex programs.	Storing and Presenting Data Identify the benefits of using technology, such as creating content and communicating efficiently. Create a graph or chart using data collected on a specific topic area. Talk about the data that is shown in their chart or graph. Use a variety of software to manipulate and present digital content in different ways with increasing independence.	Modifying Text and Images Demonstrate the use of technology responsibly in terms of how we use it and the time we spend using it. Know how to report inappropriate content or contact online. Children can explain why they use technology in the classroom, in their homes and in the community. Use the keyboard on their device to add, delete, edit and format text.	Presenting Information Know how to report inappropriate content or contact online. Use a variety of software to manipulate and present digital content in different ways with increasing independence. Save and open files on the device they use from a specific file location.

		simple linear algorithms.	Can create and debug with improved confidence and efficiency. Begin to program using simple block code.		Save and open files on the device they use from a specific file location.	
	Vocabulary Computer, Input, Output, Invention,	Vocabulary Sequence, Code, Blocks, Sprites, Repeat, Bug, Debugging	Vocabulary Sequence, Code, Blocks, Sprites, Repeat, Bug, Debugging	Vocabulary Records, Fields, Value, Data, Database, Graphs, Charts, Sort,	Vocabulary Text, Bold, Italic, Keyboard,	Vocabulary Audience, Font, Online, Audience
YEAR 3	Composing Emails Understand the difference between data and information. Be able to effectively use a spell checker. Children consider their responsibilities and actions to others online. Understand how to use a search engine responsibly and safely. Save and retrieve work online, on the school network and their own device.	Programming a Game Understand how an algorithm is implemented using a sequence of precise instructions. Can predict the outcome of a sequence of precise instructions. Repeatedly test a program and recognise when they need to debug it. Detect a problem in an algorithm, which could result in a different outcome to the one intended. Understand what inputs and outputs are, how they can be used. Provide examples of how to use inputs and outputs effectively. Designs, writes, executes and debugs	Creating Code with Kodu Understand how an algorithm is implemented using a sequence of precise instructions. Can predict the outcome of a sequence of precise instructions. Repeatedly test a program and recognise when they need to debug it. Detect a problem in an algorithm, which could result in a different outcome to the one intended. Designs, writes, executes and debugs programs of increasing complexity that accomplish a specific goal.	Altering Digital Media Children consider that all of the media they see could have been altered. Save and retrieve work online, on the school network and their own device. Think about whether they can use images that they find online in their own work.	Inside a Computer To identify components within a PC/ Laptop and what each component does. To understand the basic fundamentals of how a computer works.	Publishing Online Content Combine a mixture of text, graphics and sound to share ideas and learning. Use appropriate keyboard commands to amend text. Be able to effectively use a spell checker. Evaluate their work and improve its effectiveness. Use an appropriate tool to share their work online.

		<p>programs of increasing complexity that accomplish a specific goal.</p> <p>Use logical reasoning to predict and debug more complex programs including inputs and outputs.</p>	<p>Use logical reasoning to predict and debug more complex programs.</p>			
	<p>Vocabulary Email, malicious, phishing, social media, networks, internet, world wide web, webcam, keyboard</p>	<p>Vocabulary Sequence, selection, repetition, input, output, algorithm, programming, debugging, computational thinking, costumes, tinker.</p>	<p>Vocabulary Kodu, computational, algorithm, programming, debugging, sequence, sprite, artificial intelligence, NPC (non-player character), pathway.</p>	<p>Vocabulary Camera, image, filter, crop, pixel, portfolio, theme, consent.</p>	<p>Vocabulary Laptop, desktops, hard drive, fan, heat sink, keyboard, motherboard, microprocessor, memory, disc drive, network, router, hub, switch, Wifi.</p>	<p>Vocabulary social media, graphic design, publishing, username, password, marketing, template, elements, text, effect, filter, adjust, crop.</p>
YEAR 4	<p>Branching databases</p> <p>Demonstrate the different ways data can be organised.</p> <p>Demonstrate the different ways data can be converted into information.</p> <p>Make a branching database.</p> <p>Collect data and identify where it could be inaccurate.</p> <p>Plan, create and search a database.</p> <p>Select the best way to present data to a specific audience.</p> <p>Log data using a device.</p>	<p>Repetition and Forever Loops</p> <p>Design simple algorithms using loops and repeats, whilst detecting and correcting errors is debugging.</p> <p>Write and execute an efficient program, using loops such as forever, repeat & repeat until commands.</p> <p>Decompose a problem into smaller parts with some verbal reasoning.</p>	<p>Coding with Scratch</p> <p>Has an understanding of how sequencing, using inputs and repetition in programs has specific effects on the output, works with 'loops' and understands their effect.</p> <p>Recognise that an algorithm will help to sequence more complex programs.</p> <p>Use logical reasoning to predict and debug more complex programs including loops and repeats.</p>	<p>Creating a Video</p> <p>Use photos, video and sound to create an atmosphere when presenting to different audiences.</p> <p>Be confident to explore new media to extend what they can achieve.</p> <p>Change the appearance of text to increase its effectiveness depending on the audience or mood.</p> <p>Create, modify and present documents for a particular purpose and audience.</p>	<p>Networks and Online Services</p> <p>Understand the difference between the Internet and online services such as the World Wide Web, instant messaging and email.</p> <p>Tell you whether a resource they are using is from the World Wide Web, the school network or their own work.</p> <p>Show an awareness of a range of Internet services such as the World Wide Web, email and instant messaging.</p>	<p>Spreadsheets</p> <p>Use a keyboard confidently and make use of a spellchecker to write and review their work.</p> <p>Use an appropriate tool to share their work and collaborate online.</p> <p>Be able to evaluate other people's work and give them constructive feedback to help them improve their work.</p> <p>Be confident to explore new media to extend what they can achieve.</p>

					Recognise what is acceptable and unacceptable behaviour when using technology and online services. Children understand how effective a strong password is and what a strong password looks like	
	Vocabulary Branching database, database, organise, transition, slides, log.	Vocabulary Repeat, forever, loop, code, debug, algorithm, sequence, selection.	Vocabulary Sequence, variable, algorithm, code, repeat, loop, input, output, device.	Vocabulary Video, Special effects, CGI, Green screen, Audio, Image, Text.	Vocabulary WAN, LAN, network, router, wifi, wireless, Local, cable, connection, binary, modem, switch, server.	Vocabulary Spreadsheet, rows, columns, algebra, formula, pixel, binary.
YEAR 5	Create and Search a Database Use a spreadsheet and database to collect, record and evaluate data	If and Else Statements Design, write and execute an efficient program, including selection (IF...THEN) command. Use logical reasoning to predict and debug more complex programs including selection. Decomposes more open-ended problems into smaller parts, provides some reasoning for their choices.	Creating Music Using Code Use logical reasoning to predict and debug more complex programs including selection.	Stop Motion Animation Select, use and combine the appropriate technology tools to create effects in media. Select an appropriate online or offline tool to create and share ideas Understand the dangers of building online relationships.	World Wide Web and Internet Be aware of their digital footprint. Know difference between Internet and the Worldwide Web. Know what a network is and be able to identify parts of a network within their school. To understand what an IP address is.	3D Modelling Use different online tools for different purposes. Be able to use a variety of familiar and unfamiliar software by using a pre-existing skill set Select, use and combine the appropriate technology tools to create effects in media.
	Vocabulary Database, information, record, field, retrieval,	Vocabulary Algorithm, sprite, loops, variables, events,	Vocabulary Samples, composition, rhythm	Vocabulary Animation, Frame, Pivot Stick Figure Animator, Image, Stop	Vocabulary Network, wireless access points, server, router, wired device,	Vocabulary CAD (Computer aided design), Template, Select, Draw, Push

	search, keywords, ascending, descending	control, sensing, forever		Frame Animator, editing	wireless device, Ethernet cable	/Pull, Orbit, Pan, Zoom, Zoom Extents, extrude, Paint bucket.
YEAR 6	<p>Creating Formula (Excel)</p> <p>Enter and organise data appropriately Use the 'Formula' method to make calculations. Interpret and present the data they collect. Use the skills developed to interrogate a spreadsheet.</p>	<p>Using Variables</p> <p>Use a variable to increase programming possibilities. Use a variable and relational operator (e.g. < = >) within a loop to stop a program. Evaluate the effectiveness and efficiency of an algorithm while continually testing the programming of that program. Use logical reasoning to predict and debug more complex programs including: selection, variables and operators.</p>	<p>Programing for an Audience</p> <p>Understand the importance of planning, testing and correcting algorithms. Demonstrate a range of different strategies to solve a problem including: abstraction, decomposition, logic & evaluation. Understand why sequence & patterns are important when creating simple algorithms that are part of a more complex program. Gives reasoning for each step within algorithms and applying them to a program. Use a variable to increase programming possibilities. Use a variable and relational operator (e.g. < = >) within a loop to stop a program. Evaluate the effectiveness and efficiency of an</p>	<p>Plan and Compose Music</p> <p>Talk about audience, atmosphere and structure when planning a particular media outcome. Combine a range of media, recognising the contribution of each to achieve a particular outcome.</p>	<p>How Data is Stored</p> <p>Understands how data is transmitted across a network. Understand what IP is and how it's used. Can explain how networks use on the Internet to send and receive data.</p>	<p>HTML</p> <p>Describe the different parts of a webpage. Understands how to construct a website using basic HTML tags. Evaluate the effectiveness and efficiency of an algorithm while continually testing the programming of that program.</p>

			<p>algorithm while continually testing the programming of that program.</p> <p>Use logical reasoning to predict and debug more complex programs including: selection, variables and operators.</p>			
	<p>Vocabulary Cell, Column, Row, Formulae, Graph, Chart Spreadsheet, Cell Reference, Grid, Tab, Workbook, Merge, Auto Sum</p>	<p>Vocabulary Algorithm, abstraction, decomposition, logic, sequence, variable, input, output, debug, operators, loops, conditionals</p>	<p>Vocabulary Algorithm, abstraction, decomposition, logic, sequence, variable, input, output, debug, operators, loops</p>	<p>Vocabulary Timeline, crop, split, layer</p>	<p>Vocabulary Server, Router, Data, Switch, Modem, Client Devices, Wireless Devices</p>	<p>Vocabulary HTML, Tags, Elements, Body, Head, Line breaks, Paragraph, Links, Images</p>