

Mount Pleasant CE VC Junior School

“Learning Through Faith, Family and Friendship.”



School Vision:

We are a happy, safe, inclusive school where excellence is celebrated. A Christian ethos encourages responsible behaviour and respect through Friendship, Trust and Forgiveness.

*We inspire a **love** of learning that encourages individuality, creativity and independence that extends from the school family into the wider world, enabling all to flourish.*

Jesus said, 'Love one another. As I have loved you, so you must love one another.' John 13:34

Computing Progression Document

	Year 3 (Cycle B)	Year 4 (Cycle A)	Year 5 (Cycle B)	Year 6 (Cycle A)
Computer Science	Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Their design shows that they are thinking of the desired task and how this translates into code. Children can identify an error within their program that prevents it following the desired algorithm and then fix it. Children demonstrate the ability to design and code a program that follows a simple sequence. They experiment with timers to achieve repetition effects in their programs. Children are	When turning a real-life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. Children make more intuitive attempts to debug their own programs. Children's use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs. They understand 'IF statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in	Children may attempt to turn more complex real life situations into algorithms for a program by deconstructing it into manageable parts. Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code. Children may attempt to turn more complex real life situations into algorithms for a program by deconstructing it into manageable parts. Children are able to test and debug their programs as they	Children are able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. Children test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem. Children translate algorithms that include sequence,

	beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, repetition and use of timers. They make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this. e.g. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately. Children can list a range of ways that the Internet can be used to provide different methods of communication. They can use some of these methods of communication, e.g. being able to open, respond to and attach files to emails using 2Email. They can describe appropriate email conventions when communicating in this way.	their programs. As well as understanding how variables can be used to store information while a program is executing, they are able to use and manipulate the value of variables. Children can make use of user inputs and outputs such as 'print to screen'. e.g. 2Code. Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'IF' statements, repetition and variables. They can trace code and use step-through methods to identify errors in code and make logical attempts to correct this. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately Children recognise the main component parts of hardware which allow computers to join and form a network. Their ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving.	go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code. When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital content, e.g. 2Blog, 2Email, Display Boards.	selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other. Coding displays an improving understanding of variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions. Children are able to interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole. Children understand and can explain in some depth the difference between the internet and the World Wide Web. Children know what a WAN and LAN are and can describe how they access the Internet in school.
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Information Technology	Children can carry out simple searches to retrieve digital content. They understand that to do this, they are connecting to the internet and using a search engine such as Purple Mash search or internet-wide search engines. Children can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. Children can consider what software is most appropriate for a given task. They can create purposeful content to attach to emails, e.g. 2Respond.	Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level. Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards.	Children search with greater complexity for digital content when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains. Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using 2Code. They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email.	Children readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. They compare a range of digital content sources and are able to rate them in terms of content quality and accuracy. Children use critical thinking skills in everyday use of online communication. Children make clear connections to the audience when designing and creating digital content. The children design and create their own blogs to become a content creator on the Internet, e.g. 2Blog. They are able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.
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Digital Literacy	Children demonstrate the importance of having a secure password and not sharing this with anyone else. Furthermore, children can explain the negative implications of failure to keep passwords safe and secure. They understand the importance of staying safe and the importance of their conduct when using familiar communication tools such as 2Email in Purple Mash. They know more than one way to report unacceptable content and contact.	Children can explore key concepts relating to online safety using concept mapping such as 2Connect. They can help others to understand the importance of online safety. Children know a range of ways of reporting inappropriate content and contact.	Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others	Children demonstrate the safe and respectful use of a range of different technologies and online services. They identify more discreet inappropriate behaviours through developing critical thinking, e.g. 2Respond activities. They recognise the value in preserving their privacy when online for their own and other people's safety.
Key Vocab	actions, alert, algorithm, background, bug, button, click events, code, collision detection event, command, debug/debugging, degrees, event, flowchart, implement, input, interval, nest, object, predict, properties, repeat, right-angle, run, scene, sequence, test, timer, Turtle object appropriate, blog, inappropriate, internet, password, personal information, permission, reliable source, reputable source, spoof, verify, vlogs, website advanced mode, bar graph, cell address, data, equals, less than, more than, more	Recep of vocabulary introduced in Year 3 alongside the introduction of: code blocks, co-ordinates, design, execute, 'If' statement, 'If/Else' statement, prompt, implement, repeat until, properties, selection, timer, variable, AdFly, attachment, citation, collaborate, collaborative database, cookies, copyright, data analysis, digital footprint, malware, phishing, plagiarism, ransomware, SMART rules, software, spam, virus, watermark average, budget, calculations, column, decimal place, format cell, formula, formula wizard,	Recep of vocabulary introduced in Years 3 and 4 alongside the introduction of: abstraction, actions, concatenation, decomposition, efficient, friction, object, physical system, print to screen, properties, simplify, string, tabs avatar, bibliography, creative commons licence, critical thinking, encrypt, identity theft, image manipulation, malware, ownership, PEGI ratings, reference, responsibility, screenshot advance mode, area, budget, computational model, formula bar, formula wizard, 'How	Recep of vocabulary introduced in Years 3, 4 and 5 alongside the introduction of: execute/run, launch command, x and y properties location sharing, secure websites count tool, dice tool, expense, move cell tool, probability archive, blog post, connections flow of control, link, sprite, step through DNS - Domain Name Server, ethernet, hosting, hub/switch, IP address, ISP - Internet Service Provider, LAN - Local

than/less than/equal tool, pie chart, quiz tool, spinner tool, table keys, posture, spacebar, typing, address book, attachment, 'BCC - Blind Carbon Copy', 'CC - Carbon Copy', communication, compose, email, inbox, link, mind mapping, node, save to draft, trusted contact binary tree, branching database, database advantage, analysis, decision, disadvantage, evaluation, modelling, point of view, realistic, simulation, solution, unrealistic axis, chart, column, graph, investigation, row, sorting, survey, tally chart, title animation, audio, border properties, duration, editing, fill colour, font formatting, layer, media, presentation, presentation design, preview, review, slide, slideshow, sound effect, textbox, theme, timing, transition, video, wordart accelerometer, gestures, hardware, image, infinite loop, input, LED, output, program, repeat, sequence, software, speaker	line graph, percentage, place value, random number tool, resize, row, set image, totals Campaign, format, genre, opinion, reporter, viewpoint grid, logo, logo commands (e.g. FD, BK, RT, LT), multi line mode, pen down, pen up, procedure, run speed, SETPC, SETPS FPS (frames per second), onion skinning, pause, stop motion, balanced view, easter eggs, key words, results page, search engine, components, CPU, graphics card, hard drive, hardware, motherboard, network card, peripherals, RAM, software BPM, dynamics, harmonious, melody, pitch, pulse, rhythm, tempo, texture, synths artificial intelligence conditionals, gestures, light sensor, logic, simulation, variable	Many?' tool, perimeter, profit, totalling tool arrange, field, group, record, statistics evaluation, feedback, instructions, promotion, quest, texture, theme 2D, 3D, 3D printing, CAD - Computer Aided Design, design brief, net, pattern fill, points, template concept, concept map, connection, heading, sub-heading, node, presentation mode, story mode attributing, bulleted lists, breaks, caps lock, captions, columns (table), columns (newspaper), copy and paste, cropping, cursor, distributing columns, document, drop capitals, editor options, grammar check, hyperlink, image editing, image transparency, merge cells, numbered lists, page orientation, readability, selecting/highlighting, sharing, spell check, styles, text box, text formatting, text wrapping, zoom chip show text, code view, emulator/simulator, external device, function, host, if/else, QR code, sensor, URL	Area Network, router, WAN - wide area network, web page, web server, WLAN - Wireless Local Area Network, Wi-Fi, World Wide Web audience, audio, case-sensitive, clipart, clone, cloze, selfie, undo/redo binary, bit, denary, digit, game states, integer, microprocessor, nanotechnology, nibble, byte, kilobyte, megabyte, gigabyte, terabyte, transistor auto fit, categories ribbon, conditional formatting, currency, delimiter, filter, formatting, horizontal view, maximum, minimum, vertical axis, workbook,
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