SKILLS PROGRESSION MAP FOR: Computing

JACKSDALE PRIMARY SCHOOL

AIM FOR THE STARS

MAP OUT THE DEVELOPMENT OF SPECIFIC SKILLS AS THEY OCCUR ACROSS THE SCHOOL

SKILL	Y1	Y2	Y3	Y4	Y5	Y6
Computer Science (Coding & programming)	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs.	Understand and explain what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Create and debug simple programs to achieve a specific purpose. Use logical reasoning to identify parts of a program and predict the behaviour of simple programs.	To start design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. To begin to use sequence, selection and repetition in programs; work with variables and various forms of input and output. To begin to use logical reasoning to begin to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. To begin to understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for	To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. To continue to use sequence, selection and repetition in programs; work with variables and various forms of input and output. In more detail use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. To understand and begin to explain computer networks, including the internet; how they can provide multiple services, such	To attempt to turn more complex real-life situations to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. To use, understand and explain sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to clearly explain how some simple algorithms work and to detect and correct errors in algorithms and programs. To confidently understand computer networks, including the internet; how they can	Design, write and debug more complex programs by themselves that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. To translate algorithms that include sequence, selection and repetition in programs; work with variables and various forms of input and output. Work confidently to use logical reasoning to explain and interpret how some simple algorithms work and to detect and correct errors in algorithms and programs. Understand and explain in some depth computer networks, including the internet;

				communication and collaboration.	as the World Wide Web, and the opportunities they offer for communication and collaboration.	provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.
Vocabulary	**Grouping and sorting** Sort, criteria **Lego Builders** Instruction, algorithm, computer, program, debug **Maze Explorers** Direction, challenge, arrow, undo, rewind, forward, backwards, right turn, left turn, debug, instruction, algorithm **Coding** Action, background, button, character, code block, code design, coder, coding, collision detection, command, design mode, input, scale, program, properties, when clicked, stop command, sound, when key	**Coding** Action, algorithm, bug, character, code block, code design, command, debug, design mode, input, object, properties, repeat, scale, timer, when clicked, when key	**Coding** Action, algorithm, bug, code block, code design, command, debug, design mode, event, if, input, output, object, repeat, timer, properties, computer simulation, selection, variable	**Coding** Action, alert, algorithm, code design, control, command, debug, debugging, design mode, event, flowchart bug, input, object, repeat, selection, computer simulation, timer, variable **Logo** Logo, BK, FD, RT, LT, repeat, SETPC, SETPS, PU, PD **Hardware investigators** Motherboard, CPU, RAM, Graphics card, network card, monitor, speakers, keyboard and mouse	**Coding** Action, alert, algorithm, bug, code design, command, control, debug, design mode, event, input, object, output, repeat, selection, simulation, sequence, timer, variable **Game creator** **Animation** Animation, computer game, customise, evaluation, image, instructions, interactive, screenshot, texture, perspective, playability	**Coding** Action, alert, algorithm, code design, command, control, debug, event, flowchart bug, function, input, object, output, repeat, selection, simulation, tabs, sequence, timer, variables **Text adventures** Text-based adventure, concept map, debug, sprite, function **Networks** Internet, world wide web, network, router, local area network, wide area network, network cables, wireless Binary Base 10, base 2, binary, bit, byte, decimal, gigabyte, denary, digit, machine code, integer, kilobyte, switch, megabyte, nibble, switch, transistor, variable

Digital Literacy (Using technology safely)	To begin to recognise common uses of information technology beyond school. To start to use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	To effectively recognise common uses of information technology beyond school. To develop their understanding and use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	To demonstrate the importance of using technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	To explore and use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	To have a secure knowledge and use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	To demonstrate and use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact through developing critical thinking.
Vocabulary	**Online Safety and Exploring Purple Mash** Log in, username, password, log out, my work, avatar, notification, topics, tools, save Technology Outside of School Technology	**Online Safety** Search, display board, internet, sharing, email, attachment, digital footprint Effective Searching Internet, search, search engine	**Online Safety** Password, internet, blog, concept map, username, website, webpage, spoof website, PEGI rating	**Online Safety** Computer virus, cookies, copyright, digital footprint, email, identity theft, malware, phishing, plagiarism, spam	**Online safety** Online safety, smart rules, password, reputable, encryption, identity theft, shared image, plagiarism, citations, reference, bibliography	**Online safety** Digital footprint, password, PEGI rating, phishing, screen time, spoof website
IT (Software to collect analyse & present data)	To begin to use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Demonstrate an ability to use technology purposefully to create, organise, store, manipulate and retrieve digital content.	To begin to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. To start to select, use and combine a variety of software (including internet services) on a	To understand and use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Select, use and combine a variety of software (including	To confidently use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Confidently select, use and combine a variety of software (including	To explain in detail and use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Independently select, use and combine a

			range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	internet services) on a range of digital devices to design, create and explain a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	internet services) on a range of digital devices to design, create and improve a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	variety of software (including internet services) on a range of digital devices to design and create a range of programs for a specific audience, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
Vocabulary	**Pictograms** Pictogram, data, collate **Animated Story Books** Animation, e-book, font, file, sound effect, display board **Spreadsheets** Arrow keys, backspace, cursor, columns, cells, clipart, count tool, delete key, image toolbox, lock tool, move cell tool, rows, speak tool, spreadsheet	**Spreadsheets** Backspace key, copy and paste, columns, cells, count tool, delete key, equals tool, image toolbox, lock tool, move cell tool, rows, speak tool, spreadsheet **Questioning** Pictogram, question, data, collate, binary tree, avatar, database **Creating pictures** Impressionism, palette, pointillism, surrealism, share, template **Making music** Bpm, composition, digitally, instrument, music, sound effects, soundtrack, tempo, volume	**Spreadsheets** Advance mode, copy and paste, columns, cells, delete key, equals tool, spin tool, move cell tool, rows, spreadsheet **Touch-typing** Communication, email, compose, send, attachment, formatting, report to the teacher, password, address book, save to draft **Branching databases** Branching database, data, database, question Simulations Simulation **Graphing** Graph, field, data, bar chart, block graph, line graph **Microsoft PowerPoint** Animation, audio,	**Spreadsheets** Average, advance mode, columns, cells, charts, equals tool, formula, formula wizard, move cell tool, random tool, rows, spin tool, spreadsheet, timer **Writing for different audiences** Font, bold, italic, underline **Animation,** Animation, background, frame, flipbook, onion skinning, stop motion, play, sound, video clip **Effective searching** Easter egg, internet, internet browser, search, search engine, spoof website, website	**Spreadsheet** Average, advance mode, copy and paste, columns, cells, charts, equals tool, formula, formula wizard, move cell tool, random tool, rows, spin tool, spreadsheet, timer **Databases** Avatar, binary tree, charts, collaborative, data, database, find, record, sort, group and arrange, statistics and reports, table **Modelling** CAD, modelling, 3D, 2D, viewpoint, polygon, net, points, template, 3D template **Effective searching** Audience, collaboratively,	**Spreadsheets** Average, advance mode, copy and paste, columns, cells, charts, dice, formula, formula wizard, random tool, rows, move cell tool, spreadsheet, timer, spin tool **Database** Audience, blog, blog page, blog post, collaborative, icon **Quizzing** Audience, collaboration, concept map, database, quiz **Microsoft Excel** Alignment, calculate, cell, cell reference, chart, column, formula, function, range, row, spreadsheet, style,

| | | **Presenting Ideas**
Concept map, quiz, presentation, node, animated, non-fiction, narrative, audience | design template, entrance animation, font, media, presentation, presentation program, slide, slideshow, stock image, text box, text formatting, transition | | concept, concept map, connection, idea, node, thought, visual
Microsoft Word
Copyright, cursor, document, font, inbuilt styles, merge cells, paragraph formatting, readability, template, text formatting, text wrapping, word art, word processing tool | sum, text wrapping, value, workbook |