Summerfields Primary School

Rationale:

What will our computing students be able to do when they leave us?

At Summerfields Primary School we aim to equip pupils to use computational thinking and creativity to understand and change the world.

By the time pupils leave, they will be equipped to use information technology to create programs, systems and a range of content. They will be digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

All pupils will understand and apply the fundamental principles and concepts of computer science, analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems. They will evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems and be responsible, competent, confident and creative users of information and communication technology.

We aim to ensure that pupils can apply their computational thinking beyond the Computing curriculum. They will become digitally literate, active participants in a digital world.

Crucially, they will know how to stay safe online and whilst using technology - minimising risk to themselves and others. Pupils will be respectful, responsible and competent digital citizens; they will have the knowledge to support themselves and others online.

Curriculum Coverage (NC)
What are the most basic requirements from the National Curriculum?

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Connected to relevant early learning goals – where appropriate	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

content or contact on the internet or other online technologies

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 programmes

Use technology purposefully to create, organise, store, manipulate and retrieve digital content

Recognise common uses of information technology beyond school

Use logical reasoning to predict the behaviours of simple programs | content or contact on the internet or other online technologies

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 programmes

Use technology purposefully to create, organise, store, manipulate and retrieve digital content

Recognise common uses of information technology beyond school

Use logical reasoning to predict the behaviours of simple programs | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

Use sequence, selection, and repetition in programs; work with variables and various forms of input and output

Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

Use sequence, selection, and repetition in programs; work with variables and various forms of input and output

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Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration

Use search technologies | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

Use sequence, selection, and repetition in programs; work with variables and various forms of input and output

Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication |

				the opportunities they offer for communication and collaboration 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 internet services) on 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	the opportunities they offer for communication and collaboration 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 internet services) on 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	effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Select, use and combine a variety of software (including internet services) on 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	and collaboration 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 internet services) on 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

A note about the pedagogy (if required):

Our computing curriculum is split into ten different strands. Together they make the entire computing curriculum but refer to different parts of computational understanding. These are:

- Algorithms — Be able to comprehend, design, create, and evaluate algorithms
- Computer networks — Understand how networks can be used to retrieve and share information, and how they come with associated risks
- Computer systems — Understand what a computer is, and how its constituent parts function together as a whole
- Creating media — Select and create a range of media including text, images, sounds, and video
- Data and information — Understand how data is stored, organised, and used to represent real-world artefacts and scenarios
- Design and development — Understand the activities involved in planning, creating, and evaluating computing artefacts
- Effective use of tools — Use software tools to support computing work
- Impact of technology — Understand how individuals, systems, and society as a whole interact with computer systems
- Programming — Create software to allow computers to solve problems
- Safety and security — Understand risks when using technology, and how to protect individuals and systems

The physical computing units in our curriculum are:

- Year 5 – Selection in physical computing, which uses a Crumble controller
- Year 6 – Sensing movement, which uses a micro: bit

Computing is taught using 12 key principles: lead with concepts, work together, get hands on, unplug, unpack, repack, model everything, foster program comprehension, create projects, add variety, challenge misconceptions, make concrete, structure lessons and read and explore code first.

Procedural Knowledge – What **skills** do we want our pupils to have to support Computing?						
How will these skills build on what went before and help prepare our children for what is coming next?						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Technology around us *Overview: Recognising technology in school and using it responsibly and safely.* To identify a computer and its	**Information technology around us** *Overview: Identifying IT and how its responsible use improves our world in school and beyond.* To describe some uses of computers To identify IT in school	**Connecting computers** *Overview: Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.* To explain how digital devices function	**The internet** *Overview: Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.* *This unit is propositional* **Audio production** *Overview: Capturing and*	**Systems and searching** *Overview: Recognising IT systems in the world and how some can enable searching on the internet.* To describe the input and output of a search engine To experiment with search engines To demonstrate that	**Communication and collaboration** *Overview: To evaluate different methods of online communication and collaboration* To decide what you should and should not share online To choose methods of

main parts To log in to a device To use a mouse in different ways To use a keyboard to type on a computer To use the keyboard to edit text To create rules for using technology responsibly **Digital painting** *Overview: Choosing appropriate tools in a program to create art* To use the shape tool and the line tools Use a range of paint colours Use fill tool Use undo button Combine a range of tools **Moving a robot** *Overview: Writing short algorithms and programs for floor robots, and predicting program outcomes.* To act out a given	and beyond To show how to use IT safely **Digital photography** *Overview: Capturing and changing digital photographs for different purposes.* To capture a digital image To use zoom and consider lighting To improve a photograph by retaking it **Robot algorithms** *Overview: Creating and debugging programs, and using logical reasoning to make predictions.* To choose a series of words that can be enacted as a sequence To choose a series of instructions that can be run as a program To design an algorithm To create and debug a program that I have written **Pictograms**	To identify input and output devices To explain how a computer network can be used to share information **Stop-frame animation** *Overview: Capturing and editing digital still images to produce a stop-frame animation that tells a story.* To plan an animation To review and improve an animation To evaluate the impact of adding other media to an animation **Sequencing sounds** *Overview: Creating sequences in a block-based programming language to make music.* To build a sequence of commands To combine and order commands in a program To create a sequence of commands to produce a given outcome To change the appearance of my	*editing audio to produce a podcast, ensuring that copyright is considered* To record sound using a computer To play recorded audio To import audio into a project To delete a section of audio To change the volume of tracks in a project To apply audio editing skills independently To combine audio to enhance my podcast project **Repetition in shapes** *Overview: Using a text-based programming language to explore count-controlled loops when drawing shapes.* To use an indefinite loop to produce an outcome To use a count-controlled loop To plan a program that includes loops To create 2 or more sequences that run at the same time **Data logging**	different search terms produce different results To evaluate the results of search terms **Video production** *Overview: Planning, capturing, and editing video to produce a short film.* To capture video using a range of techniques: camera angles, pan, tilt, zoom To create a storyboard To choose to reshoot or edit a scene **Selection in physical computing** *Overview: Exploring conditions and selection using a programmable microcontroller.* To create a condition-controlled loop To control a simple circuit connected to a computer To write a program that includes count-controlled loops To design a physical project that includes selection To create a program that	internet communication and collaboration for given purposes To outline methods of communicating and collaborating using the internet To explore how data is transferred by working collaboratively online To decide what you should and shouldn't share online **Webpage creation** *Overview: To review an existing website and consider its structure* To plan the features of a web page To design and create webpages, giving consideration to copyright, aesthetics, and navigation.* **Variables in games** *Overview: Identify a variable in an existing program and experiment* To choose how to improve a game by using variables To design a project that builds on a given example

word To combine forwards and backwards commands to make a sequence To combine four direction commands to make sequences To plan a simple program To find more than one solution to a problem **Grouping data** *Overview: Exploring object labels, then using them to sort and group objects by properties.* To label objects To describe objects in different ways To count objects with the same properties To compare groups of objects To answer questions about groups of objects **Digital writing** *Overview: Using a computer to create*	*Overview: Collecting data in tally charts and using attributes to organise and present data on a computer.* To show I can enter data on a computer To create a pictogram To select objects by attribute and make comparisons **Making music** *Overview: Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.* To experiment with sound using a computer To use a computer to create a musical pattern To create music for a purpose To review and refine our computer work **Programming quizzes** *Overview: Designing algorithms and programs that use events to trigger*	project To create a project from a task description **Branching databases** *Overview: Building and using branching databases to group objects using yes/no questions.* To create questions with yes/no answers To identify an object using a branching database To retrieve information from different levels of a branching database To create a branching database To plan the structure of a branching database To independently create an identification tool **Desktop publishing** *Overview: Creating documents by modifying text, images, and page layouts for a specified purpose* To choose appropriate page settings To add content to a desktop publishing	*Overview: Recognising how and why data is collected over time, before using data loggers to carry out an investigation.* To use a digital device to collect data automatically To use a set of logged data to find information To use a computer program to sort data by 1 attribute To export information in different formats To identify the data needed to answer questions To use data from sensors to answer questions **Photo editing** *Overview: Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled* To use an application to change whole/part or add to a digital image To change the composition of an image by: rotating, flipping,	controls a physical computing project **Flat-file databases** *Overview: Using a database to order data and create charts to answer questions.* To choose different ways to view data To use a form to record information To compare paper and computer-based databases To choose which attribute to sort data by to answer a given question To use a real-world database to answer questions **Introduction to vector graphics** *Overview: Creating images in a drawing program by using layers and groups of objects.* To add an object to a vector drawing To select and delete object/s To move, duplicate, modify, reposition group and ungroup objects	To use own design to create a project To evaluate the project Exploring variables when designing and coding a game. **Introduction to spreadsheets** *Overview: Answering questions by using spreadsheets to organise and calculate data.* To create a data set in a spreadsheet To apply formulas to data To create a spreadsheet to plan an event To choose suitable ways to present data **3D modelling** *Overview: Planning, developing, and evaluating 3D computer models of physical objects.* To position 3D shapes relative to one another To use digital tools to modify 3D objects To combine objects to create a 3D digital artefact To use digital tools to

and format text To use a computer to write To select, add and remove text on a computer To use undo To make careful choices when changing text **Programming animations** *Overview: Designing and programming the movement of a character on screen to tell stories.* To choose a series of words that can be enacted as a program To choose a series of commands that can be run as a program To run a program on a device	*sequences of code to make an interactive quiz.* To explain that a sequence of commands has a start To explain that a sequence of commands has an outcome To create a program using a given design To change a given design To create a program using my own design To decide how my project can be improved	publication To review a document **Events and actions in programs** *Overview: Writing algorithms and programs that use a range of events to trigger sequences of actions.* To create a program to move a sprite in four directions To adapt a program to a new context To develop my program by adding features To identify and fix bugs in a program To design and create a maze-based challenge	cropping, adjusting colours, applying filters/effects To use clone/copy To add text To combine images for a purpose **Repetition in games** *Overview: Using a block-based programming language to explore count-controlled and infinite loops when creating a game.* To develop the use of count-controlled loops in a different programming environment To develop a design that includes two or more loops which run at the same time To modify an infinite loop in a given program To design and create a project that includes repetition	To combine options to achieve a desired effect To create a vector drawing for a given purpose **Selection in quizzes** *Overview: Exploring selection in programming to design and code an interactive quiz.* To choose a condition to use in a program To create a condition-controlled loop To design a program which uses selection To create a program which uses selection To evaluate my program	accurately size 3D objects To construct a 3D model which reflects a real-world object To create a 3D model for a given purpose To plan my own 3D model To create my own digital 3D model **Sensing movement** *Overview: Designing and coding a project that captures inputs from a physical device.* To create a program to run on a controllable device. To update a variable with a user input To use a conditional statement to compare a variable to a value To design a project that uses inputs and outputs on a controllable device To develop a program to use inputs and outputs on a controllable device

Propositional Knowledge – What key concepts or knowledge will we need?
What knowledge do we want to emphasise? How will knowledge be built on what went before and prepare our children for what is coming next?

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Online safety linked to PSED.	**Technology around us** To identify technology and explain that it can help us To create rules for using technology responsibly **Digital painting** To describe what different freehand tools do To make careful choices when painting a digital picture To explain why I chose the tools I used To use a computer on my own to paint a picture To compare painting a picture on a computer and on paper, make comparisons with working non-digitally. **Moving a robot** To recall words that can be enacted To explain what a given command will do To match a command to an outcome To understand that a program is a set of commands that a computer can run **Grouping data**	**IT around us** To recognise the uses and features of information technology/in the school To identify information technology beyond school To explain how information technology helps us To explain how to use information technology safely To recognise that choices are made when using information technology **Digital photography** To describe what makes a good photograph To decide how photographs can be improved To recognise that photos can be changed **Robot algorithms**	**Connecting computers** To recognise how digital devices can change the way we work To explain how a computer network can be used to share information To explore how digital devices can be connected To recognise the physical components of a network **Stop-frame animation** To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To identify the need to work consistently and carefully To explain that a project must be exported so that it can be shared **Sequencing sounds**	**The internet** To describe how networks physically connect to other networks To recognise how networked devices make up the internet To outline how websites can be shared via the World Wide Web (WWW) To describe how content can be added and accessed on the World Wide Web (WWW) To recognise how the content of the WWW is created by people To evaluate the consequences of unreliable content **Audio production** To identify that sound can be recorded To explain that audio recordings can be edited To recognise the different parts of creating a podcast	**Systems and searching** To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To describe how search engines select results To explain how search results are ranked To recognise why the order of results is important, and to whom **Video production** To explain what makes a video effective To identify digital devices that can record video To identify that video can be improved through reshooting and editing To consider the impact of the choices made when making and sharing a video **Selection in physical computing**	**Communication and collaboration** To recognise that data is transferred across networks using agreed protocols (methods) To recognise that connections between computers allow access to shared stored files To explain that data is transferred in packets To recognise computers connected to the internet allow people in different places to work together To discuss the opportunities that technology offers for communication and collaboration To explain which types of media can be shared through the internet To explain that communicating and collaboration using the internet can be public or private **Web-page creation** To consider the

To identify that objects can be counted To recognise that information can be presented, in different ways **Digital writing** To identify that the look of text can be changed on a computer To explain why I used the tools that I chose To compare typing on a computer to writing on paper **Programming animations** To choose a command for a given purpose To show that a series of commands can be joined together To identify the effect of changing a value To explain that each sprite has its own instructions To design the parts of a project To use my algorithm to create a program	To describe a series of instructions as a sequence To explain what happens when we change the order of instructions To use logical reasoning to predict the outcome of a program To explain that programming projects can have code and artwork **Pictograms** To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures To recognise that people can be described by attributes To explain that we can present information using a computer **Making music** To identify that	To explore a new programming environment To identify that commands have an outcome To explain that a program has a start To recognise that a sequence of commands can have an order **Branching databases** To identify the attributes needed to collect data about an object To explain why it is helpful for a database to be well structured **Desktop publishing** To recognise how text and images convey information To recognise that text and layout can be edited To consider how different layouts can suit different purposes To consider the benefits of desktop publishing	project To evaluate the effective use of audio **Repetition in shapes** To relate what repeats means To explain the loop command and identify one within a program To identify that accuracy in programming is important **Data logging** To explain that data gathered over time can be used to answer questions To explain that a data logger collects 'data points' from sensors over time To recognise how a computer can help us analyse data **Photo editing** To explain that the composition of digital images can be changed To explain that colours can be changed in digital images To explain how cloning	To explain that a loop can stop when a condition is met To explain that a loop can be used to repeatedly check whether a condition has been met **Flat-file databases** To compare paper and computer-based databases To outline how you can answer questions by grouping and then sorting data To explain that tools can be used to select specific data To explain that computer programs can be used to compare data visually **Introduction to vector graphics** To identify that vector drawing comprises separate objects To recognise that each object in a drawing is in its own layer To recognise that vector drawings can be scaled	ownership and use of images (copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people **Variables in games** To define a 'variable' as something that is changeable To explain why a variable is used in a program **Spreadsheets** To explain that formulas can be used to produce calculated data To explain why data should be organised in a spreadsheet To recognise cells can be linked To recognise a cell's value automatically updates To evaluate results in comparison to question **3-D modelling** To recognise that you

		computers can play sounds of different instruments To compare playing music on instruments with making music on a computer To identify that there are patterns in music **Programming quizzes** To describe that a series of instructions is a sequence To use logical reasoning to predict the outcome of a program	**Events and actions in programs** To explain input and sequence To identify that a program has a sequence of commands Identify that this sequence is a process To explain that the order of commands can change a program's output To explain how a sprite moves in an existing project	can be used in photo editing To explain that images can be combined To evaluate how changes can improve an image **Repetition in games** To explain that we can use a loop command in a program to repeat instructions To explain that in programming there are indefinite loops and count controlled loops	To identify that drawing tools can be used to produce different outcomes **Selection in quizzes** To explain how selection is used in computer programs To relate that a conditional statement connects a condition to an outcome To explain how selection directs the flow of a program	can work in three dimensions on a computer To identify that digital 3D objects can be modified To recognise that objects can be combined in a 3D model **Sensing movement** To define variable as something that is changeable and identify examples To explain that a variable can be used in a program and has a name and a value To explain that selection can control the flow of a program

What key vocabulary will our need? *Vocabulary is important because it embodies and communicates concepts.*						
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	Computing systems and networks - Technology around us technology, computer, mouse, trackpad,	**Computing systems and networks - Information technology around us** Information	**Computing systems and networks - Connecting computers** digital device, input,	**Computing systems and networks - Connecting computers - The internet** internet, network,	**Computing systems and networks - systems and searching** system, connection, digital, input, process,	**Computing systems and networks - Communication and collaboration** communication,

keyboard, screen, double-click, typing. **Creating media - Digital painting** paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers **Creating media - Digital writing** word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing. **Data and information – Grouping** object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most, fewest, least, the	technology (IT), computer, barcode, scanner/scan **Creating media - Digital music** music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, rhythm, notes, create, emotion, beat, instrument, open, edit. **Creating media - Digital photography** device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, light sources, flash, focus, background, editing, filter, format, framing, lighting, **Data and information – Pictograms** more than, less than, most, least, common, popular, organise, data, object, tally chart, votes, total, pictogram, enter,	process, output, program, digital, non-digital, connection, network, switch, server, wireless access point, cables, sockets **Creating Media - Desktop publishing** text, images, advantages, disadvantages, communicate, font, style, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, purpose, benefits. **Creating Media - Stop-frame animation** animation, flip book, stop-frame, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluation, delete, media, import, transition. **Data and Information - Branching databases**	router, security, switch, server, wireless access point (WAP), website, web page, web address, routing, web browser, World Wide Web, content, links, files, use, download, sharing, ownership, permission, information, accurate, honest, content, adverts **Creating Media - Audio production** audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback. **Creating Media - Photo editing** image, edit, digital, crop, rotate, undo, save, adjustments, effects, colours, hue, saturation, sepia, vignette, image, retouch, clone, select, combine, made up, real, composite, cut, copy, paste, alter,	storage, output, search, search engine, refine, index, bot, ordering, links, algorithm, search engine optimisation (SEO), web crawler, content creator, selection, ranking. **Creating Media - Introduction to vector graphics** vector, drawing tools, object, toolbar, vector drawing, move, resize, colour, rotate, duplicate/copy, zoom, select, align, modify, layers, order, copy, paste, group, ungroup, reuse, reflection **Creating Media – Video production** video, audio, camera, talking head, panning, close up, video camera, microphone, lens, mid-range, long shot, moving subject, side by side, angle (high, low, normal), static, zoom, pan, tilt, storyboard, filming, review, import, split, trim, clip, edit,	protocol, data, address, Internet Protocol (IP), Domain Name Server (DNS), packet, header, data payload, chat, explore, slide deck, reuse, remix, collaboration, internet, public, private, one-way, two-way, one-to-one, one-to-many. **Creating media - Webpage creation** website, web page, browser, media, Hypertext Markup Language (HTML), logo, layout, header, media, purpose, copyright, fair use, home page, preview, evaluate, device, Google Sites, breadcrumb trail, navigation, hyperlink, subpage, evaluate, implication, external link, embed. **Creating Media 3D Modelling** TinkerCAD, 2D, 3D, shapes, select, move, perspective, view, handles, resize, lift,

same **Programming A - Moving a robot** Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program. **Programming B – Programming animations** ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design.	data, compare, objects, count, explain, attribute, group, same, different, conclusion, block diagram, sharing **Programming A - Robot algorithms** instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition **Programming B - Programming quizzes** sequence, command, program, run, start, outcome, predict, blocks, design, actions, sprite, project, modify, change, algorithm, build, match, compare, debug, features, evaluate, decomposition, code.	attribute, value, questions, table, objects, branching, database, objects, equal, even, separate, structure, compare, order, organise, selecting, information, decision tree. **Programming A - Sequencing sounds** Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, point in direction, go to, glide, sequence, event, task, design, run the code, order, note, chord, algorithm, bug, debug, code. **Programming B - Events and actions in programs** motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, action, debugging, errors, setup, code, test, debug, actions.	background, foreground, zoom, undo, font. **Data and Information - Data logging** data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion. **Programming A - Repetition in shapes** Logo (programming environment), program, turtle, commands, code snippet, algorithm, design, debug, pattern, repeat, repetition, count-controlled loop, value, trace, decompose, procedure. **Programming B - Repetition in games** Scratch, programming, sprite, blocks, code, loop, repeat, value, infinite loop, count-controlled loop, costume, repetition, forever, animate, event block, duplicate,	reshoot, delete, reorder, export, evaluate, share. **Data and Information - Flat-file databases** database, data, information, record, field, sort, order, group, search, value, criteria, graph, chart, axis, compare, filter, presentation. **Programming A - Selection in physical computing** microcontroller, USB, components, connection, infinite loop, output component, motor, repetition, count-controlled loop, Crumble controller, switch, LED, Sparkle, crocodile clips, connect, battery box, program, condition, Input, output, selection, action, debug, circuit, power, cell, buzzer **Programming B - Making Quizzes** Selection, condition,	lower, recolour, rotate, duplicate, group, cylinder, cube, cuboid, sphere, cone, prism, pyramid, placeholder, hollow, choose, combine, construct, evaluate, modify. **Data and Information - Introduction to spreadsheets** data, collecting, table, structure, spreadsheet, cell, cell reference, data item, format, formula, calculation, spreadsheet, input, output, operation, range, duplicate, sigma, propose, question, data set, organised, chart, evaluate, results, sum, comparison, software, tools. **Programming - Variables in games** variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project, code, test, debug, improve, evaluate, share, assign,

				modify, design, algorithm, debug, refine, evaluate.	true, false, count-controlled loop, outcomes, conditional statement, algorithm, program, debug, question, answer, task, design, input, implement, test, run, setup, operator	declare **Programming - Sensing movement** Micro:bit, MakeCode, input, process, output, flashing, USB, trace, selection, condition, if then else, variable, random, sensing, accelerometer, value, compass, direction, navigation, design, task, algorithm, step counter, plan, create, code, test, debug.

What experience do we want our computing students to have had?						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Whole school Safer Internet Day 6th February 2024 'Join together for a better internet!'	**Whole school Safer Internet Day** 6th February 2024 'Join together for a better internet!' **Programming animations** – share finished stories with Reception children	**Whole school Safer Internet Day** 6th February 2024 'Join together for a better internet!' **Digital music** – share musical composition with	**Whole school Safer Internet Day** 6th February 2024 'Join together for a better internet!' **Connecting Computers** Exploring technology in our school community	**Whole school Safer Internet Day** 6th February 2024 'Join together for a better internet!' **Photo editing** project to be shared on school Facebook page	**Whole school Safer Internet Day** 6th February 2024 'Join together for a better internet!' **Video production unit** – to make a short film reviewing books to promote the school library and reading for pleasure	**Whole school Safer Internet Day** 6th February 2024 'Join together for a better internet!' **Link to DT/Science: Sensing Movement, Electrical systems project** – Monitoring and Control or More Complex Switches and

					Circuits

Link to the Teach Computing glossary:

[Primary computing glossary - Teach Computing](#)

Links to the Teach Computing vocabulary lists:

[Key Stage 1 (teachcomputing.org)](#)

[Key Stage 2 (teachcomputing.org)](#)

Links to useful resources for Online Safety:

https://beinternetlegends.withgoogle.com/en_uk/toolkit

https://www.childnet.com/resources/smartie-the-penguin

https://www.saferinternet.org.uk/advice-centre/young-people/resources-3-11s

https://www.internetmatters.org/schools-esafety/primary/