

## Computing School Overview

In order to deliver the aims and expected standards of the syllabus effectively, the expectation is that there is a minimum allocation of

**RECEPTION:** skills and application of skills explored and ‘taught’ through environment, characteristics of effective learning and CIA; Digital Safety embedded intrinsically

**KS1:** 36 hours per year, e.g. an hour a week of discrete skills and application of other skills throughout the curriculum; Digital Safety embedded intrinsically

**KS2:** 45 hours per year, e.g. an hour a week of discrete skills and application of other skills throughout the curriculum; Digital Safety embedded intrinsically

	First unit	Second unit	Third unit	Fourth unit	Fifth unit
<b>EYFS</b>	<b>Online safety:</b> taught through stories – e.g. Troll Stinks by Jeanne Willis and Tony Ross (online safety), Chicken Clicking by Jeanne Willis (online safety), Penguin Pig by Stuart Spendlow and Amy Bradley (online safety) Goldilocks (A Hashtag cautionary tale) by Jeanne Willis and Tony Ross, Once upon a time online by David Bedford				
	<i>Communication and language/ Physical development / Understanding the world / Personal, social and emotional development - Voice recorders, or the microphone / Expressive arts and design - The use of painting and graphics applications/ Mathematics - Controlling devices, Internet safety day – 14 February</i> <b>Interactive whiteboard, Ipad</b>				
Cross-year links	<b>Preparing:</b>  Computational thinking Sorting, ordering and sequencing, grouping and naming, abstraction				
Vocabulary for YR	Computer, camera, interactive whiteboard, iPad, tablet, App, button, mouse, screen, screen time, keyboard, Google, information, control, instruction, internet, robot, save, sequence, instructions, search, safety, online, password, print, printer, photocopier,				
<b>Year 1</b>	<b>Online Safety:</b> What is personal information? True/False/ connecting to devices/ how to act if not sure. Who to talk to? <b>Linked PSHE/RHSE units:</b> Who helps us to keep safe? (T5)				
	<b>Computer systems and networks</b> <b>[Technology around us] **</b> <ul style="list-style-type: none"> <li>Technology in the classroom</li> <li>Developing mouse and keyboard skills</li> <li>Responsible computer use</li> </ul>	<b>Programming A</b> <b>[Moving a robot]</b> <ul style="list-style-type: none"> <li>Bee Bots</li> <li>Scratch Jnr (Ipads) – <b>How can you get the dragon to the castle?</b></li> <li>Beebot App (Ipads)</li> </ul>	<b>Creating media</b> <b>[Digital painting]</b> <ul style="list-style-type: none"> <li>Graphics 2CreateaStory</li> <li>Photography Camera (Ipads) – <b>Different materials around the classroom and photos of objects in different prepositions</b></li> </ul>	<b>Creating media</b> <b>[Digital writing] **</b> <ul style="list-style-type: none"> <li>Use a computer to create and format text</li> <li>Draw and label animals</li> <li>Write facts about animals</li> </ul>	<b>Programming B</b> <b>[Programming animations]</b> <ul style="list-style-type: none"> <li>on-screen programming through ScratchJr</li> <li>investigating sprites and backgrounds</li> <li>programming blocks to use, modify, and create programs</li> <li>introduction of algorithms.</li> </ul>
Cross-year links	EYFS – Interactive whiteboard, Ipad	EYFS- Beebots	Sorting, ordering and sequencing Grouping and naming abstraction Grouping		
	Year 2 – typing using 2Simple programme iPads – how to use, take clear photos	Year 2 – giving instructions (position and direction) Scratch Jnr, Beebot App	Year 3– Handling data	Year 3- Writing commands	Year 2- Using the software Scratch Jr and bee bots Introduction to algorithms
Vocabulary for Y1	Videos Camera stills Sounds Image bank Word bank Space bar	Instructions Buttons Robots Patterns Program	Data, grouping, bar chart, pie chart, similarities, differences, information	Information, research, shift key, enter, text, undo, backspace, cursor	Programme Command Instructions Sprites
	<b>Online Safety - Privacy/ identifying fake information / connecting to others/ consider feelings</b> <b>Key words:</b> Privacy, passwords, strangers, fake, real, internet				

<b>Year 2</b>	<b>Linked PSHE/RHSE units:</b> What helps us to stay safe? (T1); What can help us grow and stay healthy? (T5); What is bullying? (T6)				
	<b>Computing systems and networks</b> <b>[Information technology around us and Technology around us Y1]</b> **  <b>Hardware/Software:</b> Desktop PC / mouse / keyboard	<b>Creating media</b> <b>[Digital photography]</b>  <b>Hardware/Software:</b> iPads (cameras)	<b>Programming A</b> <b>[Robot algorithms]</b>  <b>Hardware/Software:</b> Floor robots	<b>Data and information</b> <b>[Pictograms]</b>  <b>Hardware/Software:</b> Mathematical-based software	<b>Programming B</b> <b>[Programming quizzes]</b>  <b>Hardware/Software:</b> Scratch Jr
Cross-year links	<b>Anchoring:</b>	Year 1 – using an ipad to capture photography	Year 1 – programming software such as Beebot app	Year 1 – Pictograms (maths)	Year 1 – ScratchJr & BeeBots
	<b>Preparing:</b> Year 3 – Powerpoint	Year 4 – digital editing	Year 3 – Scratch Jr	Year 3 – Pictograms (maths)	Year 3 – ScratchJr
Vocabulary for Y2	Keyboard, monitor, mouse, keys, space bar, enter, caps lock, internet	Capture, landscape, portrait, effects, bright, dark	Command, program, repeat, direction, sequence	Data, pictogram, key, scale, attribute	Quizzes, question, answer, multiple-choice, programming, design, evaluate
<b>Year 3</b>	<b>Online Safety</b> - secure password; protect information; report concerns; appropriate websites and games; make good choices; question validity				
	<b>Linked PSHE/RHSE units:</b> What keeps us safe? (T2)				
	<b>Programming A</b> <b>[Sequencing sounds]</b> Writing Commands <i>Scratch</i>	<b>Programming B</b> <b>[Events and actions in programs]</b> Writing Commands <i>Scratch</i>  <b>Online Internet research - Links to non-fiction Romans, pollution, rivers, artists</b>	<b>Data and Information</b> <b>[Branching Databases]</b> <ul style="list-style-type: none"> <li>Different ways data can be organised</li> </ul> Branching databases	<b>Creating media</b> <b>[Desktop publishing]</b>	<b>Creating media</b> <b>[Stop-frame animation]</b>  <ul style="list-style-type: none"> <li>Create a storybook using PowerPoint</li> </ul>
Cross-year links	<b>Anchoring:</b> Year 2 - Making music	Year 2 – Scratch Jnr	Year 2 - pictograms	Year 1 – digital writing	Year 2 – digital photography
	<b>Preparing:</b> Year 4 - further developing skills in Scratch	Year 4 – repetition in games	Year 4 – data logging	Year 4 – photo editing	Year 4 – photo editing
Vocabulary for Y3	Code, algorithm, sprite, command, debug, programming, sound, sequence	Debugging, sprite, code, command, algorithm, sequence, program, direction, predict, functions	Databases, information, sorting, groups, data, attributes	Text, images, page orientation, font, copy, paste, layout	Animation, stop-frame, sequence, media, flip-book, frames
<b>Year 4</b>	<b>Online Safety</b> - Recognise social networking sites/ Make judgements to support personal safety/ articulate dangers in scenarios				
	<b>Linked PSHE/RHSE units:</b> How do we treat each other with respect? (T2); How can we manage risk in different places? (T5)				
	<b>Computing systems and networks</b> <b>[The internet and Connecting computers Y3]</b> **  To recognising the internet as a network of networks including the	<b>Programming A</b> <b>[Repetition in shapes]</b> <b>Scratch</b> To explore the concept of repetition in programming using the Scratch environment.	<b>Data and information</b> <b>[Data logging]</b>  To recognise how and why data is collected over time, before using data loggers to carry out an investigation.	<b>Programming B</b> <b>[Repetition in games]</b>  Using a black based programme language to explore count controlled and infinite loops when creating a game.	<b>Creating media</b> <b>[Audio production]</b>  Capturing and editing audio to create a podcast, ensuring that copyright is considered

	www and why we should evaluate online content				
Cross-year links	<b>Anchoring:</b>	Floor robots and ScratchJr, and Scratch in KS1 & Y3	Years 1 and 2 – text based activities	Progresses knowledge and understanding of digital photography and using digital devices to create media.	
	<b>Preparing:</b>	Tools that enable more than one process to be run at the same time (concurrency).	Year 6 – text based activities	To develop image editing skills – Vector drawing.	Tools that enable more than one process to be run at the same time (concurrency).
Vocabulary for Y4	Browser, copyright, plagiarism, security, password, cyber, download	Loop, repetition, infinite, snippet, algorithm, step, program	Email, attachment, subject line, address, carbon copy, blind copy	cropping, effects, digital image, composition, edit	
Year 5	<b>Online Safety:</b> Safe searching, discerning results and trusted websites <b>Linked PSHE/RHSE units:</b> How can friends communicate safely? (T3)				
	<b>Creating media</b> [Video production] <ul style="list-style-type: none"> <li>Effective direction</li> <li>Capturing video</li> <li>Storyboarding</li> <li>Review, edit and improve</li> </ul> <b>ANCIENT GREEK DOCUMENTARY VIDEOS</b>	<b>Computing systems and networks</b> [Systems and searching and Communication and collaboration Y6] ** <ul style="list-style-type: none"> <li>Connected systems</li> <li>Search engines and selecting results</li> <li>Ranked and influenced results</li> <li>Working collaboratively</li> </ul>	<b>Programming A</b> [Selection in physical computing] <ul style="list-style-type: none"> <li>Microcontroller circuits</li> <li>Loops, conditional loops and repeated loops</li> </ul>	<b>Programming B</b> [Selection in quizzes] <ul style="list-style-type: none"> <li>Coding that includes sensing (if, then, else)</li> <li>Repeated loops</li> <li>Algorithms</li> </ul> Design programme that uses selection	<b>Data and Information</b> [Flat-file databases] <ul style="list-style-type: none"> <li>Recording information</li> <li>Sorting data</li> <li>Sort and group questions</li> <li>Selecting specific data</li> <li>Filtering</li> </ul> Compare visual data
Cross-year links	<b>Anchoring:</b> Y3: Stop-frame videos Y4: Audio production Y4: Photo editing	<b>Anchoring:</b> Y3 & 4: Computing systems and networks	<b>Anchoring:</b> Y4: infinite loops	<b>Anchoring:</b> Y2, 3 & 4: Programming –[Scratch]	<b>Anchoring:</b> Y3: Databases [J2E website]
	<b>Preparing:</b> Y6: Multimedia documentaries	<b>Preparing:</b> Y6: Computing systems and networks	<b>Preparing:</b> N/A	<b>Preparing:</b> Y6: Programming [Scratch]	<b>Preparing:</b> Y6: Databases - spreadsheets
Vocabulary for Y5	film, directing, lighting, angles, framing, transitions, focus, cutting, editing, clarity, transitions, formatting, special effects, snipping, reshooting	computer system, features inputs, processes, outputs, communicate, devices, search engines, information, web crawlers, indexing, rules, ranking, results, criteria, influenced, financial gain, impartial, biased, one-sided, limitations, double-checking, browser, copyright, plagiarism, security, password, cyber, download	simple circuit, connect, microcontroller, infinite loop, LED switch, output, component , design sequences , count-controlled loops, conditional loop, condition , true , false respond, input, condition, action, flow, program, test, debug, project, outcome, algorithm, model	coding, programming, scripting, sprite, conditions, modify, selection, outcomes 'if... then... else...' statement, loop, repetition, infinite loop, flow, branch, input, implement, test, debug, variable, sensing	database, cards, information, recorded, choose, field, sort, data, answer, question, navigate, flat-file database, to compare, grouping, sorting, values, criteria, chart, filter, visually compare, present, findings, real-world context
Year 6	<b>Online Safety</b> Judge privacy settings/good online citizen <b>Linked PSHE/RHSE units:</b> How can we keep healthy as we grow? (T3/4); How can the media influence people? (T5/6)				

	<b>Data and information</b> <b>Introduction to spreadsheets]</b> <b>Creating charts and graphs linked to Second World War stats</b> <ul style="list-style-type: none"> <li>Data Microsoft Excel (teach computing)</li> <li>Analysing WW2 statistics</li> </ul>	<b>Programming A</b> <b>[Variables in games]</b> <b>Debug, design and evaluate a game</b> <ul style="list-style-type: none"> <li>Scratch Design their own game (teach computing)</li> </ul>	<b>Creating media</b> <b>[Webpage creation]</b> <b>Design webpage for renewable energy company</b> <ul style="list-style-type: none"> <li>Google sites (teach computing)</li> </ul> <b>[Teach Computing: internet communication and research on renewable energy]</b>	<b>Programming B</b> <b>[Sensing]</b> <ul style="list-style-type: none"> <li>BBC micro:bit</li> </ul>	<b>Creating media</b> <b>[3D modelling]</b> <b>Creating a souvenir for theme park project</b>
Cross-year links	<b>Anchoring:</b> Y4: 2simple – 2question Y5: data	<b>Anchoring:</b> Y4: Viking diary Y5: Blogs	<b>Anchoring:</b> Y3: Debug and design simple game Y4: Conditions Y5: Variables	<b>Anchoring:</b> Y5: Programming	<b>Anchoring:</b> Y4: animation (ZU3D)
Vocabulary for Y6	Formula, sort, filter, cell, function	Cutting, editing, transitions, formatting, special effects	Debug, variable, sensing, coding, programming, scripting, sprite	HTML, hyperlink, tabs, layout, copyright	Font, indent, copy, paste, cut editing, Frames, editing, angles, lighting, manipulate

\*\* These units include online safety objectives from the DfE Education for a Connected World, created by the UK Council for Internet Safety