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
EYFS	**Online safety**: taught though 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				
	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 **Interactive whiteboard, Ipad**				
Cross-year links	**Preparing:** 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,				
Year 1	**Online Safety:** What is personal information? True/False/ connecting to devices/ how to act if not sure. Who to talk to? **Linked PSHE/RHSE units:** Who helps us to keep safe? (T5)				
	Programming A **[Moving a robot]** • Bee Bots • Scratch Jnr (Ipads) – **Can I get the toys to the toy box?** • Beebot App (Ipads)	**Creating media** **[Digital painting]** • Graphics 2CreateaStory • Photography Camera (Ipads) – **Different materials around the classroom and photos of objects in different prepositions**	**Programming B** **[Programming animations]** • on-screen programming through ScratchJr • investigating sprites and backgrounds • programming blocks to use, modify, and create programs • introduction of algorithms.	**Creating media** **[Digital writing]** ** • Use a computer to create and format text • Draw and label animals • Write facts about animals	**Computer systems and networks** **[Technology around us]** ** • Technology in the classroom • Developing mouse and keyboard skills • Responsible computer use
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
	Online Safety - Privacy/ identifying fake information / connecting to others/ consider feelings **Key words:** Privacy, passwords, strangers, fake, real, internet				

Year 2	**Linked PSHE/RHSE units:** What helps us to stay safe? (T1); What can help us grow and stay healthy? (T5); What is bullying? (T6)				
	Computing systems and networks **[Information technology around us and Technology around us Y1]** ** **Hardware/Software:** Desktop PC / mouse / keyboard	**Creating media** **[Digital photography]** **Hardware/Software:** iPads (cameras)	**Programming A** **[Robot algorithms]** **Hardware/Software:** Floor robots	**Data and information** **[Pictograms]** **Hardware/Software:** Mathematical-based software	**Programming B** **[Programming quizzes]** **Hardware/Software:** Scratch Jr
Cross-year links	**Anchoring:**	Year 1 – using an ipad to capture photography	Year 1 – programming software such as Beebot app	Year 1 – Pictograms (maths)	Year 1 – ScratchJr & BeeBots
	Preparing: 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
Year 3	**Online Safety -** secure password; protect information; report concerns; appropriate websites and games; make good choices; question validity **Linked PSHE/RHSE units:** What keeps us safe? (T2)				
	Programming A **[Sequencing sounds]** Writing Commands Scratch	**Creating media** **[Stop-frame animation]** • Create a storybook using PowerPoint	**Data and Information** **[Branching Databases]** • Different ways data can be organised Branching databases	**Programming B** **[Events and actions in programs]** Writing Commands Scratch **Online** Internet research - **Links to non-fiction Romans, pollution, rivers, artists**	**Creating media [Desktop publishing]**
Cross-year links	**Anchoring:** Year 2 - Making music	Year 2 – digital photography	Year 2 - pictograms	Year 2 – Scratch Jnr	Year 1 – digital writing
	Preparing: Year 4 - further developing skills in Scratch	Year 4 – photo editing	Year 4 – data logging	Year 4 – repetition in games	Year 4 – photo editing
Vocabulary for Y3	Code, algorithm, sprite, command, debug, programming, sound, sequence	Animation, stop-frame, sequence, media, flip-book, frames	Databases, information, sorting, groups, data, attributes	Debugging, sprite, code, command, algorithm, sequence, program, direction, predict, functions	Text, images, page orientation, font, copy, paste, layout
Year 4	**Online Safety -** Recognise social networking sites/ Make judgements to support personal safety/ articulate dangers in scenarios **Linked PSHE/RHSE units:** How do we treat each other with respect? (T2); How can we manage risk in different places? (T5)				
	Computing systems and networks **[The internet and Connecting computers Y3]** **	**Programming A** **[Repetition in shapes]** **Scratch**	**Data and information** **[Data logging]** To recognise how and why data is collected over time, before using	**Programming B** **[Repetition in games]** Using a black based programme language to explore count	**Creating media** **[Audio production]**

	To recognising the internet as a network of networks including the www and why we should evaluate online content	To explore the concept of repetition in programming using the Scratch environment.	data loggers to carry out an investigation.	controlled and infinite loops when creating a game.	Capturing and editing audio to create a podcast, ensuring that copyright is considered
Cross-year links	**Anchoring:**	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.	
	Preparing:	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	**Online Safety:** Safe searching, discerning results and trusted websites **Linked PSHE/RHSE units:** How can friends communicate safely? (T3)				
	Creating media **[Video production]** • Effective direction • Capturing video • Storyboarding • Review, edit and improve **ANCIENT GREEK DOCUMENTARY VIDEOS**	**Computing systems and networks** **[Systems and searching and Communication and collaboration Y6]** ** • Connected systems • Search engines and selecting results • Ranked and influenced results • Working collaboratively	**Programming A** **[Selection in physical computing]** • Microcontroller circuits • Loops, conditional loops and repeated loops	**Programming B** **[Selection in quizzes]** • Coding that includes sensing (if, then, else) • Repeated loops • Algorithms Design programme that uses selection	**Data and Information** **[Flat-file databases]** • Recording information • Sorting data • Sort and group questions • Selecting specific data • Filtering Compare visual data
Cross-year links	**Anchoring:** Y3: Stop-frame videos Y4: Audio production Y4: Photo editing	**Anchoring:** Y3 & 4: Computing systems and networks	**Anchoring:** Y4: infinite loops	**Anchoring:** Y2, 3 & 4: Programming –[Scratch]	**Anchoring:** Y3: Databases [J2E website]
	Preparing: Y6: Multimedia documentaries	**Preparing:** Y6: Computing systems and networks	**Preparing:** N/A	**Preparing:** Y6: Programming [Scratch]	**Preparing:** 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	**Online Safety** Judge privacy settings/good online citizen **Online** Extend all above skills, include checking sources in more advance way **Linked PSHE/RHSE units:** How can we keep healthy as we grow? (T3/4); How can the media influence people? (T5/6)				
	Data and information **Introduction to spreadsheets]** **Creating charts and graphs linked to Second World War stats** • Data Microsoft Excel (teach computing) • Analysing WW2 statistics	**Creating media** **[Webpage creation]** **Design webpage for renewable energy company** • Google sites (teach computing) **[Teach Computing: internet communication and research on renewable energy]**	**Programming A** **[Variables in games]** **Debug, design and evaluate a game** • Scratch Design their own game (teach computing)	**Programming B** **[Sensing]** • BBC micro:bit	**Creating media** **[3D modelling]** **Creating a souvenir for theme park project**
Cross-year links	**Anchoring:** Y4: 2simple – 2question Y5: data	**Anchoring:** Y3: Debug and design simple game Y4: Conditions Y5: Variables	**Anchoring:** Y4: Viking diary Y5: Blogs	**Anchoring:** Y5: Programming	**Anchoring:** Y4: animation (ZU3D)
Vocabulary for Y6	Formula, sort, filter, cell, function	Debug, variable, sensing, coding, programming, scripting, sprite	Cutting, editing, transitions, formatting, special effects	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