Computing Overview

		Autumn Term	Spring Term	Summer Term
Lessons	**Cycle A**	Computer networks and how they work. Types of computer networks. Computer network connections. Internet and the WWW Broadband and communicating. Malware and cyber security Search engines Refining searches Trusted pages How search engines work Page ranking Search engine optimisation	Audacity Jingles Planning a podcast Recording a podcast Advertising Playback and performance **Coding** 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	**Online Safety** Secure websites Cyberbullying People online **Computer Software** Using spreadsheets Improving presentations Word processing
	Cycle B	**Online Safety** Spam Powerful passwords False photography **Coding** Scratch games	**Coding (Flowol)** Controlling devices **Filmmaking** Scripts Research and sources Filming Interviewing Editing	**Digital Literacy and ICT** Search engines Refining searches Trusted pages How search engines work Page ranking Search engine optimisation **Computer Software** Using spreadsheets Improving presentations Word processing
Apps		Seesaw, Word, Pages, Google Docs, Keynote, Book Creator, Popplet, Google Sheets, Google Forms, Excel, Numbers, Mentimeter, Doink Greenscreen, iMovie, Shadow Puppets Edu, Videorama, Apple Clips Explain Everything, Beebot, Scratch Jnr, Kodable, Tynker, Scratch 3, Hopscotch, Swift Playgrounds		
Computing Strand		Information Technology		

		NC Objectives	Skills/Knowledge	Key Vocabulary
	Word Processing/Typing	Co2/1.6 - 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	I know how to confidently choose the best application to demonstrate my learning. I know how to format text to suit a purpose. I know how to publish my documents online regularly and discuss the audience and purpose of my content.	Alignnment, application, tabs, toolbar, build order, layout, shift key, PDF, columns, graphics
	Data Handling		I know how to write spreadsheet formula to solve more challenging maths problems. I know how to create and publish my own online quiz with a range of media (images and video)	Data Handling Range, =, fill, conditional formatting
	Presentations, web design and eBooks		I know how to create a web site which includes a variety of media. I know how to design an app prototype that links multimedia pages together with hyperlinks. I know how to choose applications to communicate to a specific audience. I know how to evaluate my own content and consider ways to improvements.	Placeholder, dropdown, navigation, homepage, footer, sidebar, HTML, URL, design, application

			NC Objectives	Skills/Knowledge	Key Vocabulary
	Animation			I know how to mix animations and videos recordings of myself to create video interviews.	Staging, aspect ratio, computer generated imagery (CGI) angles, overlay, claymation, cut scene
				I know how to plan, script and create a 3D animation to explain a concept or tell a story.	
				I know how to choose and create different types of animations to best explain my learning.	
				I can make an animated talking GIF of a cartoon character.	
	Video Creation			I know how to use the green screen masking tool with more than one character.	Picture in Picture
				I know how to use picture in picture tools in iMovie.	
				I know how to add animated subtitles to my film to further enhance my creation.	
				I know how to create videos using a range of media - green screen, animations, film and image.	

Computer Science

			NC Objectives	Skills/Knowledge	Key Vocabulary
	Computational Thinking		Co2/1.1 - design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	I know how to decompose a design or code to focus on specific parts	Generalisation, pattern, reuse, modify, remix, critical
				I know how to use abstraction to hide complexity in my design or code	
			Co2/1.2 - use sequence, selection, and repetition in programs; work with variables and various forms of input and output	I know how to recognise and make use of patterns in my design and code	
				I know how to critically evaluate my work and suggest improvements	
	Coding and Programming			I know how to use a range of sequence, selection and repetition commands to implement my design	Procedure, abstraction, conditional loop, logic, operator, implement
			Co2/1.3 - use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	I know how to identify the need for, and work with, variables	
				I know how to create procedures to hide complexity in programs	
			Co2/1.4 - 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	I know how to critically evaluate my work and suggest improvements	
	Computer Networks			I understand what HTML is and recognize HTML tags	HTML (HyperText Markup Language), opening tag, closing tag, code
				I know a range of HTML tags and can remix a web page	
			Co2/1.5 - use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	I know how to create a webpage using HTML	

Digital Literacy

			NC Objectives	Skills/Knowledge	Key Vocabulary
	Self-Image and Identity		Co2/1.7 - use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concerns about content and contact	I can identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online.	Inappropriate, stereotypes, gender, screen grabs, boundaries, unintended consequences, inappropriate images, anonymity, digital personality, URL, profile, ad targeting, persuasive design, phishing, terms and conditions, encryption
				I can describe issues online that could make anyone feel sad, worried, uncomfortable or frightened. I know and can give examples of how to get help, both on and offline. I can explain the importance of asking until I get the help needed.	
			Co2/1.4 -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	I can explain how sharing something online may have an impact either positively or negatively.	
	Online Relationships		Co2/1.5 - use search technologies effectively, appreciate how results are selected	I can describe how to be kind and show respect for others online including the importance of respecting boundaries regarding what is shared about them online and how to support them if others do not.	

		and ranked, and be discerning in evaluating digital content	I can describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs.	
	Online Reputation		I can explain the ways in which anyone can develop a positive online reputation. I can explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity.	
	Online Bullying		I can describe how to capture bullying content as evidence (e.g screen- grab, URL, profile) to share with others who can help me. I can explain how someone would report online bullying in different contexts.	
	Managing Online Information		I can explain how search engines work and how results are selected and ranked. I can explain how to use search technologies effectively. I can describe how some online information can be opinion and can offer examples. I can explain how and why some people may present 'opinions' as 'facts'; why the popularity of an opinion or the personalities of those promoting it does not necessarily make it true, fair or perhaps even legal. I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how someone might encounter these online (e.g. advertising and 'ad targeting' and targeting for fake news). I understand the concept of persuasive design and how it can be used to influences peoples' choices. I can demonstrate how to analyse and evaluate the validity of 'facts' and information and I can explain why using these strategies are important. I can explain how companies and news providers target people with online news stories they are more likely to engage with and how to recognise this. I can describe the difference between online misinformation and dis-information. I can explain why information that is on a large number of sites may still be inaccurate or untrue. I can assess how this might happen (e.g. the sharing of misinformation or disinformation). I can identify, flag and report inappropriate content.	
	Health, Wellbeing and lifestyle		I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose. I recognise and can discuss the pressures that technology can place on someone and how/when they could manage this. I can recognise features of persuasive design and how they are used to keep users engaged (current and future use). I can assess and action different strategies to limit the impact of technology on health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise).	
	Privacy and Security		I can describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser). I can explain what to do if a password is shared, lost or stolen. I can describe how and why people should keep their software and apps up to date, e.g. auto updates. I can describe simple ways to increase privacy on apps and services that provide privacy settings. I can describe ways in which some online content targets people to gain money or information illegally; I can describe strategies to help me identify such content (e.g. scams, phishing). I know that online services have terms and conditions that govern their use.	
	Copyright and Ownership		I can demonstrate the use of search tools to find and access online content which can be reused by others. I can demonstrate how to make references to and acknowledge sources I have used from the internet.	