

# Computing Overview

		Autumn Term	Spring Term	Summer Term
L e s s o n s	<b>Cycle A</b>	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 <b>Coding</b> 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	<b>Online Safety</b> Secure websites Cyberbullying People online  <b>Computer Software</b> Using spreadsheets Improving presentations Word processing
	<b>Cycle B</b>	<b>Online Safety</b> Spam Powerful passwords False photography  <b>Coding</b> Scratch games	<b>Coding (Flowol)</b> Controlling devices  <b>Film-Making</b> Scripts Research and sources Filming Interviewing Editing	<b>Digital Literacy and ICT</b> Search engines Refining searches Trusted pages How search engines work Page ranking Search engine optimisation <b>Computer Software</b> Using spreadsheets Improving presentations Word processing
<b>Apps</b>	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			
<b>Computing Strand</b>	<b>Information Technology</b>			
		<b>NC Objectives</b>	<b>Skills/Knowledge</b>	<b>Key Vocabulary</b>
	<b>Word Processing/Typing</b>	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 apply other useful effects to my documents such as hyperlinks.  I know how to import sounds to accompany and enhance the text in my document.  I know how to organise and reorganise text on screen to suit a purpose	Import, export, hyperlinks, animate, build in, build out, italics, bold, arrange, bullets
	<b>Data Handling</b>		I know how to create and publish my own online questionnaire and analyse the results.  I know how to use simple formulae to solve calculations including =sum and other statistical functions I know how to edit and format difference cells in a spreadsheet.	
	<b>Presentations, web design and eBooks</b>		I know how to collaborate with peers using online tools, e.g. blogs, Google Drive, Office 365  I know how to create and export an interactive presentation including a variety of media, animations, transitions and other effects.  I know how to create an interactive guide to a image by embedding digital content and publishing it online.	Blog, collaboration, share, slide layout, slide show, transitions, embed, publish, instant alpha

			I know how to create a webpage and embed video.	
	<b>Animation</b>		I know how to record animations of different characters and edit them together to create an interview.  I know how to add green screen effects to a stop motion animation. I know how to create flip book animation using digital drawings and export as a Gif or video	Chroma Key, Flipbook, export, GIF, publish
	<b>Video Creation</b>		I know how to use cutaway and split screen tools in iMovie.  I know how to evaluate and improve the best video tools to best explain my understanding.  I know how to further improve green screen clips using crop and resize and explore more creative ways to use the tool - wearing green clothes and the masking tool.	Split screen, cutaway, montage, fade

<b>Computer Science</b>				
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		NC Objectives	Skills/Knowledge	Key Vocabulary
	<b>Computational Thinking</b>	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 solve problems by decomposing them into smaller parts I know how to use selection in algorithms I know how to use logical reasoning to explain how a variety of algorithms work I know how to evaluate the effectiveness of algorithms	Evaluation, effectiveness, complexity, data, prediction, condition
	<b>Coding and Programming</b>	Co2/1.2 - use sequence, selection, and repetition in programs; work with variables and various forms of input and output  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 create programs by decomposing them into smaller parts I know how to use a variety of selection commands in programs I know how to use conditions in repetition commands I know how to work with variables I know how to create programs that control or simulate physical systems I know how to evaluate my work and identify errors	Data, memory, variables, value, initialisation, control, simulate, physical system
	<b>Computer Networks</b>	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  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 use search technologies effectively  I understand that web spiders index the web for search engines  I appreciate how pages are ranked in a search engine	Search engine, spiders, index, ranked, ranking algorithm, keyword

<b>Digital Literacy</b>				
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		NC Objectives	Skills/Knowledge	Key Vocabulary
	<b>Self-Image and Identity</b>	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 explain how identity online can be copied, modified or altered.  I can demonstrate responsible choices about my online identity	Copied, modified, altered, choices, responsible, emojis, memes, social media, perceive, childlike, block, abusive, sceptical, trustworthy, adverts, validity, reliability, scams, disinformation, echo chamber
	<b>Online Relationships</b>	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  Co2/1.5 - use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	I can give examples of technology specific forms of communication (e.g. emojis, memes and GIFs).  I can explain that there are some people I communicate with online who may want to do me or my friends harm. I can recognise that this is not my / our fault.  I can describe some of the ways people may be involved in online communities and describe how they might collaborate constructively with others and make positive contributions. (e.g. gaming communities or social media groups).  I can explain how someone can get help if they are having problems and identify when to tell a trusted adult	

	<p><b>Online Reputation</b></p>		<p>I can search for information about an individual online and summarise the information found.</p> <p>I can describe ways that information about anyone online can be used by others to make judgments about an individual and why these may be</p>	
	<p><b>Online Bullying</b></p>		<p>I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences.</p> <p>I can describe how what one person perceives as playful joking and teasing (including ‘banter’) might be experienced by others as bullying.</p> <p>I can explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult</p> <p>I can identify a range of ways to report concerns and access support both in school and at home about online bullying</p> <p>I can explain how to block abusive users.</p> <p>I can describe the helpline services which can help people experiencing bullying, and how to access them (e.g. Childline or The Mix).</p>	
	<p><b>Managing Online Information</b></p>		<p>I can explain the benefits and limitations of using different types of search technologies e.g. voice- activation search engine.</p> <p>I can explain how some technology can limit the information I am presented with e.g. voice-activated searching giving one result.</p> <p>I can explain what is meant by ‘being sceptical’; I can give examples of when and why it is important to be ‘sceptical’</p> <p>I can evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results.</p> <p>I can explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence</p> <p>I can identify ways the internet can draw us to information for different agendas, e.g. website notifications, pop-ups, targeted ads.</p> <p>I can describe ways of identifying when online content has been commercially sponsored or boosted, (e.g. by commercial companies or by vloggers, content creators, influencers).</p> <p>I can explain what is meant by the term ‘stereotype’, how ‘stereotypes’ are amplified and reinforced online, and why accepting ‘stereotypes’ may influence how people think about others.</p> <p>I can describe how fake news may affect someone’s emotions and behaviour, and explain why this may be harmful.</p> <p>I can explain what is meant by a ‘hoax’. I can explain why someone would need to think carefully</p>	
	<p><b>Health, Wellbeing and lifestyle</b></p>		<p>I can describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively.</p> <p>I can describe some strategies, tips or advice to promote health and wellbeing with regards to technology.</p>	

			<p>I recognise the benefits and risks of accessing information about health and well-being online and how we should balance this with talking to trusted adults and professionals.</p> <p>I can explain how and why some apps and games may request or take payment for additional content</p>	
	<b>Privacy and Security</b>		<p>I can explain what a strong password is and demonstrate how to create one.</p> <p>I can explain how many free apps or services may read and share private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others.</p> <p>I can explain what app permissions are and can give some examples.</p>	
	<b>Copyright and Ownership</b>		<p>I can assess and justify when it is acceptable to use the work of others.</p> <p>I can give examples of content that is permitted to be reused and know how this content can be found online.</p>	