Computing Curriculum 2023-24

At St Matthias, we want to give children the skills to safely use the internet and to be able to adapt to technology that is constantly evolving. We want to prepare children for life beyond our school, ensuring they know the exciting opportunities, as well as the challenges and risks, of using the internet. Through following online safety strands set out in the Education for a Connected World framework and underpinning our computing curriculum using the National Centre for Computing Education's Teach Computing, we are ensuring our children are confident in the three main strands of computing: information technology*, digital literacy** and computer science***. For guidance, see KS1 and KS2 Programmes of Study.

It is vital that pupils are taught about the online safety strands outlined in the <u>Education for a Connected World framework</u>; some of which are also taught in our PSHE lessons. These strands have been mapped into our yearly curriculum map - resources can be found in this document.

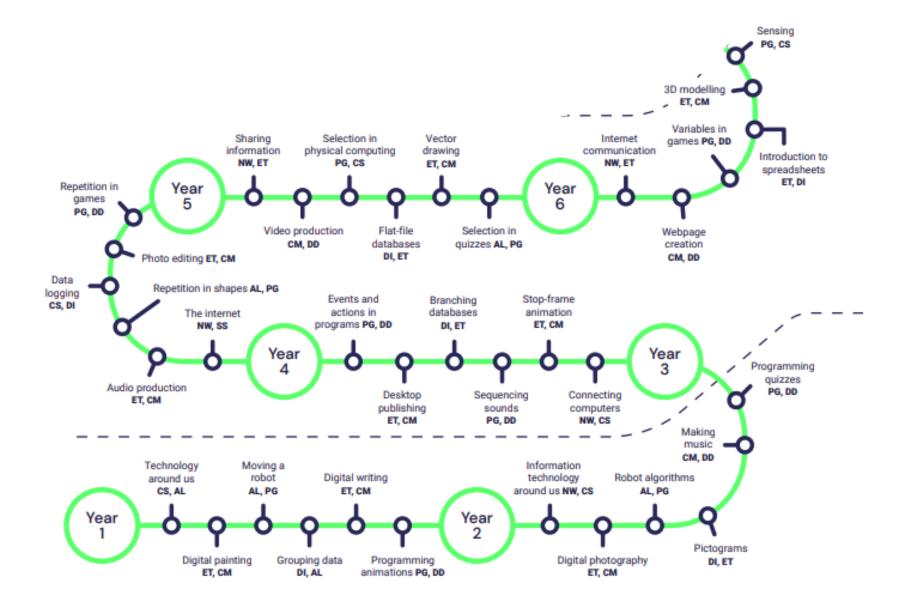


Computing days take place half-termly; at the end of which, pupils are assessed on their understanding of the unit and this is logged here.

^{*}Information technology = Children can evaluate and apply information technology, including new or unfamiliar technologies. This includes using things such as office applications and other software, as well as using the internet.

^{**}Digital literacy = Children are responsible, competent, confident and creative users of information and communication technology. They do this safely and responsibly.

^{***}Computer science = Children can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation; and can analyse problems in computational terms by writing computer programs.



		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Computing	Explore diff	Take a photograph with different devices (a camera; an iPad) Search for information on the Internet Play games on the interactive whiteboard Explore different devices (a desktop computer; a laptop), focusing on hardware skills (keyboard; mouse) Use a Beebot Watch a video clip Listen to music				
	Online Safety (can be done through circle times)	Self-Image and Identity	Online Bullying Part of Anti-Bullying week w.c.13.11.23 Online Reputation	Managing Information Online	Privacy and Security Health, Well-being and Lifestyle	Copyright and Ownership	Online Relationships
Y1	Computing Unit Progression from previous units/ previous in-class learning in other subjects	Computing systems and networks — Technology around us EYFS - using a keyboard and mouse/ trackpad	Creating media — Digital painting Y1 in class - switching on a device; usernames; passwords Y1 A1 - using a keyboard and mouse/ trackpad	Programming A – Moving a robot EYFS in class - giving and following instructions	Data and information — Grouping data Y1 in class - labelling and grouping information	Creating media — Digital writing Y1 A1 - using a keyboard and mouse/ trackpad	Programming B - Programming animations Y1 A2 - programming a floor robot
	Resources	Desktop computers/ laptops paintz.app	Desktop computers/ laptops paintz.app	Bee-Bots	Desktop computers/ laptops	Desktop computers/ laptops	Laptops ScratchJr
	Online Safety	Self-Image and Identity	Online Bullying Part of Anti-Bullying week w.c.13.11.23	Managing Information Online	Privacy and Security	Copyright and Ownership	Online Relationships

			Online Reputation		Health, Well-being and Lifestyle		
Y2	Computing Unit Progression from previous units/ previous in-class learning in other subjects	Computing systems and networks - IT around us Y1 - using technology safely and responsibly	Creating media - Digital photography EYFS - using a device to take photos	Programming A - Robot algorithms Y1 A2 - programming a floor robot	Data and information - Pictograms Y1 Sp2 - labelling and grouping information	Creating media - Digital music EYFS and Y1 in class - making choices on a tablet/ computer	Programming B - Programming quizzes Y1 Su2 - programming animations Y2 Sp1 - programming a floor robot
	Resources	Desktop computers/ laptops/ iPads Input/ output devices - scanners/ printers/ speakers	Digital cameras/ iPads Pixlr app	Bee-Bots	Laptops/ iPads j2e pictogram tool	Percussion instruments Laptops Chrome Music Lab	Laptops ScratchJr
	Online Safety	Self-Image and Identity	Online Bullying Part of Anti-Bullying week w.c.13.11.23 Online Reputation	Managing Information Online	Privacy and Security Health, Well-being and Lifestyle	Copyright and Ownership	Online Relationships
Y3	Computing Unit Progression from previous units/ previous in-class learning in other subjects	Computing systems and networks - Connecting computers Y2 A1 - input/ output devices	Creating media - Stop-frame animation Y2 A2 - creating media with a digital device	Programming A - Sequencing Sounds Y1 Su2 - ScratchJr programming Y2 Su2 - ScratchJr programming	Data and information - Branching databases Y2 Sp2 - categorising data	Creating media - Desktop publishing Y1 A2 - digital photography Y1 Su1 - digital writing Y2 A2 - digital	Programming B - Events and actions in programs Y3 Sp1 - Scratch programming

						photography	
	Resources	Input/ output devices - scanners/ printers/ speakers Laptops/ iPads paintz.app Tour of the school server, switch and wireless access points	Sticky notes iPads iMotion	Laptops Scratch	Laptops/ iPads j2e pictogram, branch and database tools	Laptops/ iPads Canva	Laptops Scratch
	Online Safety	Self-Image and Identity	Online Bullying Part of Anti-Bullying week w.c.13.11.23 Online Reputation	Managing Information Online	Privacy and Security Health, Well-being and Lifestyle	Copyright and Ownership	Online Relationships
Y4	Computing Unit	Computing systems and networks - The Internet Y3 A1 - understanding of networks	Creating media - Audio production Y2 Su1 - creating digital music Y3 A1 - input and output devices	Programming A - Repetition in shapes Y2 Su2 - programming Y3 Sp2 - programming Y3 Su2 - programming	Data and information - Data logging Y1 Sp2 - collecting data Y2 Sp2 - collecting data Y3 Sp2 - branching databases	Creating media - Photo editing Y1 A2 - digital photography Y2 A2 - digital photography	Programming B - Repetition in games Y3 Sp1 - Scratch programming Y3 Su2 - Scratch programming Y4 Sp1 - programming algorithms
	Resources	Laptops/ iPads Chrome Music Lab	Laptops Audacity	Laptops Turtle Academy	iPads Arduino Science Journal	Laptops/ iPads Pixlr app	Laptops Scratch
	Online Safety	Self-Image and Identity	Online Bullying Part of Anti-Bullying	Managing Information	Privacy and Security	Copyright and Ownership	Online Relationships

			week w.c.13.11.23 Online Reputation	Online	Health, Well-being and Lifestyle		
Y5	Computing Unit	Computing systems and networks - Systems and searching Y4 A1 - understanding of networks	Creating media - Video production Y4 Su1 - manipulating media	Programming A - Selection in physical computing Y3 Sp1 - Scratch programming Y3 Su2 - Scratch programming Y4 Sp1 - programming algorithms Y4 Su2 - programming algorithms	Data and information - Flat-file databases Y1 Sp2 - collecting data Y2 Sp2 - collecting data Y3 Sp2 - branching databases Y4 Sp2 - logging data	Creating media - Introduction to vector graphics Y1 A2 - digital photography Y2 A2 - digital photography Y4 Su1 - photo editing	Programming B - Selection in quizzes Y3 Sp1 - Scratch programming Y3 Su2 - Scratch programming Y4 Sp1 - programming algorithms Y4 Su2 - programming algorithms
	Resources	Laptops/ iPads Search engines	iPads iMovie	Laptops/ iPads Crumble Software	Laptops J2E database	Laptops Vectr	Laptops Scratch
	Online Safety	Self-Image and Identity	Online Bullying Part of Anti-Bullying week w.c.13.11.23 Online Reputation	Managing Information Online	Privacy and Security Health, Well-being and Lifestyle	Copyright and Ownership	Online Relationships
Y6	Computing Unit	Computing systems and networks - Communication	Creating media - Web page creation Y1 A2 - digital	Programming A - Variables in games Y3 Sp1 - Scratch	Data and information - Introduction to spreadsheets	Creating media - 3D modelling Y1 A2 - digital photography	Programming B - Sensing movement Y3 Sp1 - Scratch

		and collaboration Y5 A1 - computer systems and networks	photography Y2 A2 - digital photography Y4 Su1 - photo editing Y5 Su1 - vector graphics	programming Y3 Su2 - Scratch programming Y4 Sp1 - programming algorithms Y4 Su2 - programming algorithms Y5 Su2 - programming algorithms	Y4 Sp2 - data logging Y5 Sp2 - databases	Y2 A2 - digital photography Y4 Su1 - photo editing Y5 Su1 - vector graphics	programming Y3 Su2 - Scratch programming Y4 Sp1 - programming algorithms Y4 Su2 - programming algorithms Y5 Su2 - programming algorithms Y6 Sp1 - programming algorithms
•	Resources	Laptops Scratch	Laptops Google Sites	Laptops Scratch	Laptops Google Sheets	Laptops <u>Tinkercad</u>	Laptops Microbit Microsoft MakeCode
	Online Safety	Self-Image and Identity	Online Bullying Part of Anti-Bullying week w.c.13.11.23	Managing Information Online	Privacy and Security Health,	Copyright and Ownership	Online Relationships
			Online Reputation		Well-being and Lifestyle		

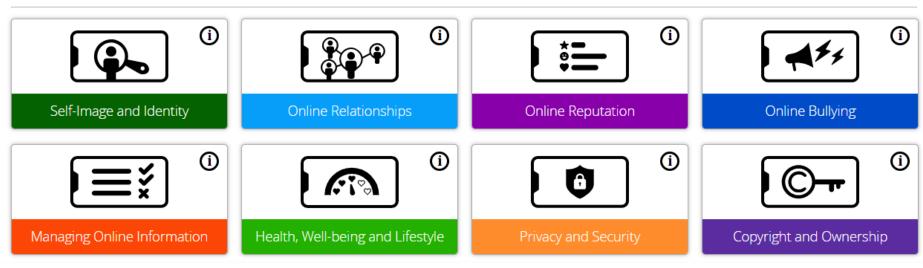
Education for a Connected World framework Learning Intentions

Click <u>here</u> to find resources for each strand.
Select against the appropriate learning intentions (see subsequent pages).

Toolkit ► Resources ► Strand

Select Strand





EYFS

	Learning Intentions
Self-Image and Identity	I can recognise, online or offline, that anyone can say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset.
Online Relationships	I can recognise some ways in which the internet can be used to communicate. I can give examples of how I (might) use technology to communicate with people I know.
Online Reputation	I can identify ways that I can put information on the internet.
Online Bullying	I can describe ways that some people can be unkind online. I can offer examples of how this can make others feel.
Managing Online Information	I can talk about how to use the internet as a way of finding information online. I can identify devices I could use to access information on the internet
Health, Well-being and Lifestyle	I can identify rules that help keep us safe and healthy in and beyond the home when using technology. I can give some simple examples of these rules.
Privacy and Security	I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location). I can describe who would be trustworthy to share this information with; I can explain why they are trusted
Copyright and Ownership	I know that the work I create belongs to me. I can name my work so that others know it belongs to me.

	Learning Intentions
Self-Image and Identity	I can recognise that there may be people online who could make someone feel sad, embarrassed or upset.
Online Relationships	I can give examples of when I should ask permission to do something online and explain why this is important. I can use the internet with adult support to communicate with people I know (e.g. video call apps or services). I can explain why it is important to be considerate and kind to people online and to respect their choices. I can explain why things one person finds funny or sad online may not always be seen in the same way by others.
Online Reputation	I can recognise that information can stay online and could be copied. I can describe what information I should not put online without asking a trusted adult first.
Online Bullying	I can describe how to behave online in ways that do not upset others and can give examples.
Managing Online Information	I can give simple examples of how to find information using digital technologies, e.g. search engines, voice activated searching). I know / understand that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke. I know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened.
Health, Well-being and Lifestyle	I can explain rules to keep myself safe when using technology both in and beyond the home.
Privacy and Security	I can explain that passwords are used to protect information, accounts and devices. I can recognise more detailed examples of information that is personal to someone (e.g where someone lives and goes to school, family names). I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others.
Copyright and Ownership	I can explain why the work I create using technology belongs to me. I can say why it belongs to me (e.g. 'I designed it' or 'I filmed it''). I can save my work under a suitable title / name so that others know it belongs to me (e.g. filename, name on content). I understand that work created by others does not belong to me even if I save a copy.

	Learning Intentions
Self-Image and Identity	If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust and how they can help.
Online Relationships	I can give examples of how someone might use technology to communicate with others they don't also know offline and explain why this might be risky. (e.g. email, online gaming, a pen-pal in another school / country). I can explain who I should ask before sharing things about myself or others online. I can describe different ways to ask for, give, or deny my permission online and can identify who can help me if I am not sure. I can explain why I have a right to say 'no' or 'I will have to ask someone'. I can explain who can help me if I feel under pressure to agree to something I am unsure about or don't want to do. I can identify who can help me if something happens online without my consent. I can explain how it may make others feel if I do not ask their permission or ignore their answers before sharing something about them online. I can explain why I should always ask a trusted adult before clicking 'yes', 'agree' or 'accept' online.
Online Reputation	I can explain how information put online about someone can last for a long time. I can describe how anyone's online information could be seen by others. I know who to talk to if something has been put online without consent or if it is incorrect.
Online Bullying	I can explain what bullying is, how people may bully others and how bullying can make someone feel. I can explain why anyone who experiences bullying is not to blame. I can talk about how anyone experiencing bullying can get help
Managing Online Information	I can use simple keywords in search engines. I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections). I can explain what voice activated searching is and how it might be used, and know it is not a real person (e.g. Alexa, Google Now, Siri). I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'. I can explain why some information I find online may not be real or true.
Health, Well-being and Lifestyle	I can explain simple guidance for using technology in different environments and settings e.g. accessing online technologies in public places and the home environment.

	I can say how those rules / guides can help anyone accessing online technologies.
Privacy and Security	I can explain how passwords can be used to protect information, accounts and devices. I can explain and give examples of what is meant by 'private' and 'keeping things private'. I can describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords). I can explain how some people may have devices in their homes connected to the internet and give examples (e.g. lights, fridges, toys, televisions).
Copyright and Ownership	I can recognise that content on the internet may belong to other people. I can describe why other people's work belongs to them.

	Learning Intentions
Self-Image and Identity	I can explain what is meant by the term 'identity'. I can explain how people can represent themselves in different ways online. I can explain ways in which someone might change their identity depending on what they are doing online (e.g. gaming; using an avatar; social media) and why
Online Relationships	I can describe ways people who have similar likes and interests can get together online. I can explain what it means to 'know someone' online and why this might be different from knowing someone offline I can explain what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online including what information and content they are trusted with. I can explain why someone may change their mind about trusting anyone with something if they feel nervous, uncomfortable or worried. I can explain how someone's feelings can be hurt by what is said or written online. I can explain the importance of giving and gaining permission before sharing things online; how the principles of sharing online is the same as sharing offline e.g. sharing images and videos.
Online Reputation	I can explain how to search for information about others online. I can give examples of what anyone may or may not be willing to share about themselves online. I can explain the need to be careful before sharing anything personal. I can explain who someone can ask if they are unsure about putting something online.
Online Bullying	I can describe appropriate ways to behave towards other people online and why this is important. I can give examples of how bullying behaviour could appear online and how someone can get support.
Managing Online Information	I can demonstrate how to use key phrases in search engines to gather accurate information online. I can explain what autocomplete is and how to choose the best suggestion. I can explain how the internet can be used to sell and buy things. I can explain the difference between a 'belief', an 'opinion' and a 'fact. and can give examples of how and where they might be shared online, e.g. in videos, memes, posts, news stories etc. I can explain that not all opinions shared may be accepted as true or fair by others (e.g. monsters under the bed). I can describe and demonstrate how we can get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened.

Health, Well-being and Lifestyle	I can explain why spending too much time using technology can sometimes have a negative impact on anyone, e.g. mood, sleep, body, relationships; I can give some examples of both positive and negative activities where it is easy to spend a lot of time engaged (e.g. doing homework, games, films, videos). I can explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable (e.g. age restricted gaming or web sites).
Privacy and Security	I can describe simple strategies for creating and keeping passwords private. I can give reasons why someone should only share information with people they choose to and can trust. I can explain that if they are not sure or feel pressured then they should tell a trusted adult. I can describe how connected devices can collect and share anyone's information with others.
Copyright and Ownership	I can explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause.

	Learning Intentions
Self-Image and Identity	I can explain how my online identity can be different to my offline identity I can describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them. I can explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this.
Online Relationships	I can describe strategies for safe and fun experiences in a range of online social environments (e.g. live streaming, gaming platforms). I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours. I can explain how content shared online may feel unimportant to one person but may be important to other people's thoughts, feelings and beliefs.
Online Reputation	I can describe how to find out information about others by searching online. I can explain ways that some of the information about anyone online could have been created, copied or shared by others.
Online Bullying	I can recognise when someone is upset, hurt or angry online. I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat). I can explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation).
Managing Online Information	I can analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others. I can describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy (e.g. social media, image sites, video sites). I can describe some of the methods used to encourage people to buy things online (e.g. advertising offers; in-app purchases, pop-ups) and can recognise some of these when they appear online. I can explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true. I can explain that technology can be designed to act like or impersonate living things (e.g. bots) and describe what the benefits and the risks might be. I can explain what is meant by fake news e.g. why some people will create stories or alter photographs and put them online to pretend something is true when it isn't.

Health, Well-being and Lifestyle	I can explain how using technology can be a distraction from other things, in both a positive and negative way. I can identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to help with limiting this time.
Privacy and Security	I can describe strategies for keeping personal information private, depending on context. I can explain that internet use is never fully private and is monitored, e.g. adult supervision. I can describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure. I know what the digital age of consent is and the impact this has on online services asking for consent.
Copyright and Ownership	When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it. I can give some simple examples of content which I must not use without permission from the owner, e.g. videos, music, images.

	Learning Intentions
Self-Image and Identity	I can explain how identity online can be copied, modified or altered. I can demonstrate how to make responsible choices about having an online identity, depending on context.
Online Relationships	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. I can demonstrate how to support others (including those who are having difficulties) online
Online Reputation	I can search for information about an individual online and summarise the information found. 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 incorrect.
Online Bullying	I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences. I can describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying. I can explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult. I can identify a range of ways to report concerns and access support both in school and at home about online bullying. I can explain how to block abusive users. I can describe the helpline services which can help people experiencing bullying, and how to access them (e.g. Childline or The Mix).
Managing Online Information	I can explain the benefits and limitations of using different types of search technologies e.g. voice-activation search engines. I can explain how some technology can limit the information I aim to present with e.g. voice-activated searching giving one result. I can explain what is meant by 'being sceptical'; I can give examples of when and why it is important to be 'sceptical'. I can evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results. I can explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence. I can identify ways the internet can draw us to information for different agendas, e.g. website notifications, pop-ups, targeted ads.

Health, Well-being and Lifestyle	I can describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively. I can describe some strategies, tips or advice to promote health and Well-being with regards to technology. 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. I can explain how and why some apps and games may request or take payment for additional content (e.g. in-app purchases, loot boxes) and explain the importance of seeking permission from a trusted adult before purchasing.
Privacy and Security	I can explain what a strong password is and demonstrate how to create one. 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. I can explain what app permissions are and can give some examples.
Copyright and Ownership	I can assess and justify when it is acceptable to use the work of others. I can give examples of content that is permitted to be reused and know how this content can be found online.

	Learning Intentions
Self-Image and Identity	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. 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.
Online Relationships	I can explain how sharing something online may have an impact either positively or negatively. 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. I can describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs. I can explain that taking or sharing inappropriate images of someone (e.g. embarrassing images), even if they say it is okay, may have an impact for the sharer and others; and who can help if someone is worried about this.
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 influence peoples' choices.
Health, Well-being 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 act on 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.