

COMPUTING: PROGRESSION OVERVIEW KS2



National Curriculum Focus				
Knowledge Progression in Computing at Key Stage 2				
	Digital Citizenship	Digital Literacy	Computer Science	Information Technology
National Curriculum	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact Education for a Connected World Self-image and Identity Online relationships Online reputation Online bullying Health, wellbeing and lifestyle	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	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	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 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 Education for a Connected World Managing online information Privacy and security Copyright and ownership

	<u>Year 3 Digital Citizenship Online Safety / PSHE</u>	<u>Year 3 Digital Literacy</u>	<u>Year 3 Computer Science Key Vocabulary – Sequence</u>	<u>Year 3 Information Technology</u>
DC Education for a Connected World It focuses specifically on eight different aspects of online education: Self-image and Identity Online relationships Online reputation Online bullying Health, wellbeing and lifestyle IT Education for a Connected World Managing online information Privacy and security Copyright and ownership	KS2: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. DC3.1 I can use technology safely, respectfully, responsibly and be able to talk about my digital footprint DC3.2 I can explain what is meant by the term ‘identity’ DC3.3 I can explain how people can represent themselves in different ways online DC3.4 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 DC3.5 I can explain how someone’s feelings can be hurt by what is said or written online DC3.6 I can give examples of what anyone may or may not be willing to share about themselves online DC3.7 I can explain the need to be careful before sharing anything personal	KS2: 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 can use skills I have learnt across multiple application programs, including: DL3.1 how to type a number of sentences using the keyboard DL3.2 how to use tab to indent paragraphs DL3.3 how to use cut, copy and paste to re-order text DL3.4 how to use keyboard shortcuts e.g. Ctrl + V, X, C to re-order text. DL3.5 how to use bullet points, speech bubbles, auto shapes and text boxes DL3.6 how to format wrapping/layout of text boxes and images in word DL3.7 how to format images - move, rotate and re-size shapes DL3.8 how to use the format tab to alter word art to enhance my work. DL3.9 how to use a variety of table tools (merge cells, fill, columns etc.) DL3.10 how to explain the difference between save and save as. DL3.11 how to create a folder to save my work in.	KS2: 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 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 CS3.1 I know that a sequence is a list of instructions in a particular order CS3.2 I know that if I change the sequence I may change the outcome of the program CS3.3 I can sequence a simple program on Logo to produce a line drawing of a 2D shape CS3.4 I can solve problems by decomposing them into smaller parts CS3.5 I can detect and debug errors in my sequence	KS2: 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 Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content I can ... IT3.1 demonstrate how to use key phrases in search engines to gather accurate information online IT3.2 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 IT3.3 describe simple strategies for creating and keeping passwords private IT3.4 give reasons why someone should only share information with people they choose to and can trust IT3.5 explain that if they are not sure or feel pressured then they should tell a trusted adult. IT3.6 explain why copying someone else’s work from the internet without permission isn’t fair and can explain what problems this might cause I can explain what autocomplete is and how to choose the best suggestion

	DC3.8 I can describe ways that some people can be unkind online DC3.9 I can offer examples of how this can make others feel DC3.10 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 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 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 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 why someone may change their mind about trusting anyone with something if they feel nervous, uncomfortable or worried I can explain who I can ask if I am unsure about putting something online I can explain how to search for information about others online I can explain why some online activities have age restrictions, why it	DL3.12 how to give a file a name to identify it DL3.13 how to transfer these skills into PowerPoint I can search and use a branching database to identify objects and use data to populate graphs I can edit pictures using various tools in paint or photo-manipulation software I can create a simple musical composition combining electronic and live sounds I can capture still/moving images I can create a multimedia presentation/eBook, with a title page, incorporating images, sounds and text	CS3.6 I can use and edit a pre-written program to achieve a specific outcome CS3.7 I can use logical reasoning to explain what will happen next CS3.8 I can predict how a change in a sequence may impact on the outcome of a program	I can explain how the internet can be used to sell and buy things 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 I can describe how connected devices can collect and share anyone’s information with others I understand file extensions and which ones attribute to different ICT products - .doc .xls .ppt .pub .pdf .mp3 .mp4
--	---	--	---	---

	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) ; I can give some examples of both positive and negative activities where it is easy to spend a lot of time engaged			
	<u>Year 4 Digital Citizenship</u> <u>Online Safety / PSHE</u>	<u>Year 4 Digital Literacy</u>	<u>Year 4 Computer Science</u> Key Vocabulary – Repeat/Loop	<u>Year 4 Information Technology</u>
DC Education for a Connected World It focuses specifically on eight different aspects of online education: Self-image and Identity Online relationships Online reputation Online bullying	DC4.1 I can explain how my online identity can be different to my offline identity and be able to talk about my digital footprint DC4.2 I can explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this DC4.3 I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours DC4.4 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	DL4.1 how to transfer my word processing skills into other multimedia packages e.g. PowerPoint DL4.2 how to include importing images, hyperlinks and the use of sounds recorded DL4.3 how to enter a basic mathematical formula into Excel DL4.4 how to add basic mathematical formulas DL4.5 how to use SUM to calculate the total of a set of numbers in a range of cells DL4.6 how to change the look of a spreadsheet by using different formats e.g. text styles, colour, number format inc, currency and date, row and column heights	CS4.1 I know what a repeat is CS4.2 I know that a repeat is used to repeat a set of instructions CS4.3 I can use repeats in programs confidently CS4.4 I can independently select repeat and sequence code to make my own program CS4.5 I can detect and debug errors in algorithms and programs. CS4.6 I can transfer my coding skills between software CS4.7 I can explain why it is important to use the repeat function in a particular place in my sequence	IT4.1 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 IT4.2 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) IT4.3 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, wellbeing and lifestyle IT Education for a Connected World Managing online information Privacy and security Copyright and ownership	DC4.5 I can describe how to find out information about others by searching online DC4.6 I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat) DC4.7 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) DC4.8 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 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 describe strategies for safe and fun experiences in a range of online social environments (e.g. livestreaming, gaming platforms) I can explain ways that some of the information about anyone online could have been created, copied or shared by others I can recognise when someone is upset, hurt or angry online	DL4.7 how to insert and delete columns and rows in a spreadsheet DL4.8 to use spreadsheets to create a graph DL4.9 how to decide on the most appropriate form of graph for a data set and give reasons for my choice DL4.10 how to interpret graphs of data collected from sensors I can question data to answer “what if...?” questions I can select appropriate tools to add emphasis and effect to my work I can explain why I have chosen my layout and formatting I can review and edit my work and talk about the changes I made I can storyboard a short animation - what would happen and when I can take a series of pictures to form an animation I can save my animation at different stages and talk about the changes and improvements I have made I can add titles, credits, transitions and special effects I can edit video, animation or music footage by cropping clips I can choose appropriate scene transitions		IT4.4 I can describe strategies for keeping personal information private, depending on context IT4.5 I know what the digital age of consent is and the impact this has on online services asking for consent IT4.6 I can explain why work I create using technology belongs to me IT4.7 I can save my work under a suitable title / name so that others know it belongs to me (e.g. filename, name on content) IT4.8 I understand that work created by others does not belong to me even if I save a copy IT4.9 I can explain a range of internet standards (eg; HTTP, URL) 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 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 can say why it belongs to me (e.g. 'I designed it' or 'I filmed it') I can describe what an ISP is I can describe what a URL (web address) is
	<u>Year 5 Digital Citizenship Online Safety / PSHE</u>	<u>Year 5 Digital Literacy</u>	<u>Year 5 Computer Science</u> Key Vocabulary – Conditional/Selection	<u>Year 5 Information Technology</u>
DC Education for a Connected World It focuses specifically on eight different aspects of online education: Self-image and Identity Online relationships Online reputation Online bullying Health, wellbeing and lifestyle IT Education for a	DC5.1 I can talk about my digital footprint and demonstrate responsible choices about my online identity, depending on context DC5.2 I can explain how identity online can be copied, modified or altered DC5.3 I can explain how someone can get help if they are having problems and identify when to tell a trusted adult DC5.4 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 DC5.5 I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences DC5.6 I can describe the helpline services which can help people experiencing bullying, and how to access them (e.g. Childline / CEOP / The Mix) DC5.7 I can describe ways technology can affect health and well-being both	DL5.1 how to select appropriate tools to add emphasis and effect to my work DL5.2 why I have chosen my layout and formatting DL5.3 how to review and edit my work and talk about the changes I made DL5.4 whether my work is suitable for the audience DL5.5 how to create a database structure of my own and enter the data DL5.6 how to prepare a data collection form and collect quality information DL5.7 I can use databases to create a graph DL5.8 the most appropriate form of graph for a data set giving reasons for my choice DL5.9 how to interpret graphs of data collected from a variety of sources Creativity I can design a 3D model using ICT to meet a specific goal, e.g. 2Design & Make I can evaluate and improve my finished designs I can evaluate website and web content, recognising the features of	CS5. 1 I can tell you what a conditional / selection is CS5. 2 I can plan algorithm and the write a program using the following: commands, sequence, repetition and selection / condition ('if...then') CS5. 3 I can detect and debug errors in more complex algorithms and programs CS5. 4 I can use selection to create games in which the user must make a choice CS5. 5 I can use my skills and understanding of conditional / selection in more than 2 programs	IT5.1 I know what an operating system is and why it important IT5.2 I can identify the key internal parts of a computer – RAM, memory, processor and motherboard and describe what each part does IT5.3 I can explain what is meant by 'being sceptical'; I can give examples of when and why it is important to be 'sceptical' IT5.4 I can evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results IT5.5 I can explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence IT5.6 I can explain what a strong password is and demonstrate how to create one IT5.7 I can explain what app permissions are and can give some examples IT5.8 I can assess and justify when it is acceptable to use the work of others

Connected World Managing online information Privacy and security Copyright and ownership	positively (e.g. mindfulness apps) and negatively DC5.8 I can describe some strategies, tips or advice to promote health and well-being with regards to technology DC5.9 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 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 demonstrate how to support others (including those who are having difficulties) online I can search for information about an individual online and summarise the information found I can describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying	good page design and how it is suited to an audience		IT5.9 I can give examples of content that is permitted to be reused and know how this content can be found online I can discuss what it means to save work locally, to a network or to a 'Cloud' I can explain the benefits and limitations of using different types of search technologies e.g. voice-activation search engine. I can explain how some technology can limit the information I am presented with e.g. voice-activated searching giving one result I can identify ways the internet can draw us to information for different agendas, e.g. website notifications, pop-ups, targeted ads 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 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 explain how and why some apps and games may request or take payment for additional content (e.g. in-app purchases, lootboxes) and explain the importance of seeking permission from a trusted adult before purchasing.			
	<u>Year 6 Digital Citizenship</u> <u>Online Safety / PSHE</u>	<u>Year 6 Digital Literacy</u>	<u>Year 6 Computer Science</u> Key Vocabulary – Variable	<u>Year 6 Information Technology</u>
	DL6.1 I can talk about my digital footprint and the importance of asking until I get the help needed DL6.2 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 DL6.3 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 DL6.4 I can explain how sharing something online may have an impact either positively or negatively	I can use skills I have learnt across multiple application programs, including: I will know DL6.1 how to choose, select and use a combination of software to present my work DL6.2 how to select appropriate tools to add emphasis and effect to my work DL6.3 why I have chosen my layout and formatting DL6.4 how to review and edit my work and talk about the changes I made DL6.5 how to consider whether my work is suitable for the audience DL6.6 how to draft and redraft my work by deleting, inserting and replacing text	CS6.1 I can explain what a variable is CS6.2 I can confidently use events, repeats, selection and variables CS6.3 I can use a variable in a variety of programming software CS6.4 I can confidently decompose a problem and methodically create a program to solve it, testing and adapting as I go CS6.5 I can evaluate the effectiveness of my programming and suggest improvements CS6.6 I confidently use the Blockly programming language	IT6.1 I can explain how search engines work and how results are selected and ranked IT6.2 I can explain how to use search technologies effectively IT6.3 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 IT6.4 I can describe how some online information can be opinion and can offer examples IT6.5 I can define the terms ‘influence’, ‘manipulation’ and ‘persuasion’ and explain how someone might encounter these

DL6.5 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 DL6.6 I can explain strategies anyone can use to protect their ‘digital personality’ and online reputation, including degrees of anonymity DL6.7 I can describe how to capture bullying content as evidence (e.g. screen-grab, URL, profile) to share with others who can help me DL6.8 I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose DL6.9 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) 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 I can explain the ways in which anyone can develop a positive online reputation	DL6.7 how to interpret graphs of data collected from a variety of sources Creativity I can use a mobile device to film a short clip I can consider the effect of camera angles, light and shadow when filming I can add titles, credits, transitions and special effects I can review and add to, replace and edit clips to make messages clearer I can explain my choice of clips, effects and structure in resources I have created I can discuss and compare film for effect on audience. I can export / embed a video in different formats for different purposes		online (e.g. advertising and ‘ad targeting’ and targeting for fake news) IT6.6 I can describe how and why people should keep their software and apps up to date, e.g. auto updates IT6.7 I can describe simple ways to increase privacy on apps and services that provide privacy settings IT6.8 I can describe strategies to help me identify such content (e.g. scams, phishing) IT6.9 I can demonstrate how to make references to and acknowledge sources I have used from the internet IT6.10 I can suggest what technology might look like in twenty years’ time I understand the concept of persuasive design and how it can be used to influence peoples’ choices 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 ways in which some online content targets people to gain money or information illegally; I know that online services have terms and conditions that govern their use I can demonstrate the use of search tools to find and access online content which can be reused by others
--	--	--	--

	I can explain how someone would report online bullying in different contexts 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 independently save and retrieve work from different places
--	--	--	--	---