Computing Knowledge and Skills Progression Document

Key Area	EYFS	Year 1 and 2	Year 3 and 4	Year 5 and 6
Computer Science	Begin using devices to take photographs and videos.	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. Can understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. Can explain that an algorithm is a set of instructions to complete a task. Can work out what is wrong with a simple algorithm when the steps are out of order. Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code Can identify the parts of a program that respond to specific events and initiate specific actions. For example, they can write a cause	When turning a real-life situation into an algorithm, their design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. Start to make more intuitive attempts to debug their own programs. Can use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs. Can trace code and use step-through methods to identify errors in code and make logical attempts to correct this Know the main component parts of hardware which allow computers to join and form a network. Understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving.	Able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. Can test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem. Know how to translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task. Can interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole. Understand and can explain in some depth the difference between the internet and the World Wide Web.

		and effect sentence of what will happen in a program.		Know what a WAN and LAN are and can describe how they access the Internet in school.
Information Technology	Know that information can be found using devices and the internet.	Can sort, collate, edit and store simple digital content Can demonstrate an ability to organise data using, for example, a database such as 2Investigate and can retrieve specific data for conducting simple searches. Can edit more complex digital data such as music compositions within 2Sequence. Show confidence in creating, naming, saving and retrieving content. Can use a range of media in their digital content including photos, text and sound.	Understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level. Able to make improvements to digital solutions based on feedback. Can make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+.	Can readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. Can compare a range of digital content sources and are able to rate them in terms of content quality and accuracy. Make clear connections to the audience when designing and creating digital content through designing and creating their own blogs to become a content creator on the Internet, e.g. 2Blog. Able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.
Digital Literacy	Press different buttons to change an output.	Can effectively retrieve relevant, purposeful digital content using a search engine and can apply their learning of effective searching beyond the classroom. Make links between technology they see around them, coding and multimedia work they do in school e.g. animations, interactive code and programs.	Children can explore key concepts relating to online safety using concept mapping such as 2Connect. T Understand the importance of online safety and can demonstrate this awareness to others. Know a range of ways of reporting inappropriate content and contact.	Can demonstrate the safe and respectful use of a range of different technologies and online services. Identify more discreet inappropriate behaviours through developing critical thinking, e.g. 2Respond activities. Recognise the value in preserving their privacy when online for their own and other people's safety.

Online Safety	Know that personal information is important and who they can share it with. Know that there are people who they can tell when they see something that makes them uncomfortable.	Know the SMART rules and adhere to them when online (including when they view inappropriate content). Know that the internet gives us opportunity to learn and communicate. Know that there are different types of content on websites and how to recognise it (eg adverts, links) Know that we have to keep personal information private. Know that there are ways to recognise who they are sharing their information with online	Can show awareness of the school's acceptable use policy, know what to do when content is inappropriate or upsetting and know who to report this to. Know the importance of positive online conduct and a sensible online footprint. Know that it isn't healthy to excessively use computers/devices. Know that there is a global infrastructure that enables the internet to work Know that any personal information they put online can be seen and used by others. Know that choosing a secure password enables us to protect our data. Know that they need to be careful about downloading files and games from the Internet.	Understand the impact of the inappropriate use of social media (reporting any incidents of unacceptable or offensive online behaviour when necessary). Know that hackers exploit vulnerabilities in networks and that cryptography is used to keep information safe Know that potential threats including viruses and phishing attacks can put their personal data at risk Know that passwords are made more secure by using numbers symbols and capital letters. Know that they are responsible for information that is shared and how it may impact on others.