Computing Progression of Skills

Computing							
Skills progression							
Nursery	**Reception**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
1) Safety: use technology safely, respectfully and responsibly…							
By: • Knowing how to safely operate simple equipment (e.g. turns on a cd player, uses a remote control) • Showing an interest in technological toys or objects (e.g. remote-control toys, cameras, iPads)	By: • Recognising that a range of technology is used in places such as homes and schools • Selecting and using technology for a particular purpose in a safe and healthy way	By: • Understanding that the term technology and identifying a variety of examples in and out of school • Recognising personal information, simple password protection and know how to save work	By: • Making links between technology they see around them through coding and multimedia work they do in school • Understand the importance of keeping personal information private and how passwords can be used • Knowing the difference between appropriate and inappropriate online behaviour • Recognising bullying behaviour online and where to go for help and support	By: • Explaining the negative impact that technology can have on personal health • Recognising who trusted adult are and the importance of having a secure password and not sharing it with others • Know how online identities can be different to real life • Understand the importance of personal conduct when communicating online and carefully choosing what to share with others	By: • Developing strategies to limit the amount of time technology s used • Recognising contexts when personal information can be shared and the importance of having a strong password • Knowing how to protect personal identity and understanding the risk ok not doing so • Describing ways in which people can be bullied across media and considering how content might affect others before choosing to share access	By: • Describing ways in technology can affect health and strategies to promote healthy sleep • Recognising how a digital footprint can share private information and creating strong and secure passwords • Knowing the difference between negative and positive online interactions • Developing strategies to prevent online bullying and behaviour and supporting others in need	By: • Assessing the impact of technology on personal health ad strategies to self-regulate use • Using settings to increase levels of privacy and creating different passwords and strategies for managing them • Knowing the importance of questioning online content and making considered decisions • Capturing bullying content as evidence and identifying a range of ways to report concerns
2) Searching: effectively search and critically evaluate information from them…							
By: • Beginning to understand that information can be retrieved from computers	By: • Knowing that information can be retrieved from computers • Recognise ways in which the computer and technology can be used to communicate	By: • Use an internet search engine to perform simple keyword searches • Applying their learning of simple searching in school	By: • Using a search engine and simple webpages to retrieve relevant, purposeful content • Applying their learning of effective searching beyond the classroom	By: • Using internet-wide search engines effectively to retrieve digital content • Recognising ways in which the internet connects people	By: • Understand the function, features and layout of a search engine • Appraising selected webpages for credibility and information at a basic level	By: • Using a search engine with greater complexity for digital content • Explaining in some detail how credible a webpage is and the information it contains	By: • Understanding how to apply filters when searching for digital • Examining a range of everyday online communications sources and testing credibility
3) Communicating: develop digital literacy skills to communicate using text and graphics, multimedia and data…							
By: • Completing a simple program on a computer with supervision • Introducing computer equipment to enhance role-play activities	By: • Completing a simple program on a computer • Introducing computer equipment to enhance role-play activities, ensuring pupils understand its use in everyday life	By: • Logging-in independently • Developing and applying mouse control and keyboard control skills to write using Purple Mash • Using brush, fill and resize techniques in 2paint • Organising and retrieving digital content using a database and pictogram 2count	By: • Using different paintbrush sizes, patterns and colour mixing to recreate art using 2paint a picture • Creating a tune by editing and combing sound using 2Sequence • Organising and retrieving digital content on a spreadsheet using 2calculate	By: • Manipulating text and inserting images/pictures using different genres and presenting ideas to different audiences • Manipulating objects, backgrounds, sounds and using paint tools to create an animated scene using 2animate • Collecting and presenting data and information on a spreadsheet using 2calculate	By: • Developing touch typing skills using 2type and applying these to rewrite a final draft • Collecting, analysing, evaluating and presenting data and information from a database using 2Investigate • Working collaboratively	By: • Inserting and manipulating text, pictures and hyperlinks to create presentation using MS PowerPoint • Collecting and presenting information on a spreadsheet using MS Excel	By: • Designing and manipulating a 3D model based on a specified using TinkerCAD / Primary Tech V3 • Using camera, video, sound, effects, transitions to create a complex animation using Stop Motion
4) Coding: Using computational thinking to plan and program…							
	By: • Programming simple instructions into a robotic device (e.g. BeeBots)	By: • Understand that an algorithm is a set of instructions to solve a problem • Creating an algorithm • Use programming blocks to use, modify and create programme in Scratch Jr	By: • Demonstrate an awareness for the precision of inputting algorithms so that they can successfully be converted into code • Creating an algorithm using different sprites, backgrounds and commands to create an animation quiz in Scratch Jr	By: • Developing simple real-life situations into an algorithm • Creating a simple animation program using conditions to perform specified actions in Scratch	By: • Developing real-life situations into an algorithm • Creating a simple game using condition and repeat variables to control objects in Scratch	By: • Using physical computing to explore the concept of selection in programming through the use of the Crumble programming to develop more complex real-life situations into an algorithm • Connect and program components • Using repetition and conditions - 'if… then…'	By: • Turning a more complex programming task into an algorithm by identifying the important aspects of the tasks (abstraction) • Create a scoring game be decomposing task in a logical way using Scratch
5) Reasoning: use logical reasoning to identify errors ad ways to overcome them…							
		By: • Using single lines of coding to envision the overall effect on the program • Debugging an algorithm by reordering the coding sequence	By: • Identifying the parts of a program that respond to specific events and initiate specific actions • Understanding logical, programmable steps, identifying errors when this process is not followed and steps to fix it	By: • Identifying logical, achievable steps of coding to fit to the structure of a program • Using more complex coding in order to identify error within in an animation program and then fix it	By: • Identifying logical, achievable steps of coding to fit to the structure of their own program designs • Using intuitive and logical attempts to debug programs by tracing code and identifying errors	By: • Combining sequence, selection and repetition with other coding structures to achieve design in algorithm design • Beginning to think about coding structure as they go and how to debug and interpret the code later	By: • Interpreting a program in parts and making logical attempts to put the parts of a complex algorithm together to explain the program as a whole • Testing and debugging program designs to they go and by using logical and systematic methods to identify the cause of the bugs