

Computing Progression of Skills

	Coding/programming	Producing professional documents / Computer skills.	Online Safety
FS	Use a range of programmable toys, as well as other equipment involving IT. Complete a simple program on a computer. Click on different icons to cause things to happen in a computer program.	Speculate on the reasons why things happen or how things work. Use IT hardware to interact with age-appropriate software. Play with and explore a range of electronic devices that work in different ways for different purposes.	Know what to do if they don't feel safe. Understand risks of online friendships. Understand who 'safe' adults are and when I need to find them.
Year 1/2	Identify algorithms and understand them to be a sequence (list) of instructions. Begin to implement algorithms on a digital device. Write, test and predict simple programs. Recognise and discuss changes needed in algorithms. Control motion by specifying the number of steps to travel, direction and turn and clicks to control events. Locate and select sounds, control when drawings appear, change pen colour, size and shape. Add text strings, show and hide objects and change the features of an object.	Organise, store, manipulate and retrieve data in a range of simple digital formats. Use a range of simple applications and devices in order to communicate and describe ideas, work and messages. Use simple databases to record information in areas across the curriculum, use labels or annotations where necessary.	Communicate safely and respectfully online, keeping personal information private and recognise common uses of information technology beyond school. Participate in class social media accounts Understand online risks and the age restrictions for sites. Understand what to do if they saw something inappropriate online.
Year 3/4	Experiment with the designing and writing of programs that accomplish simple but specific goals (predicting what will work and why), including controlling or simulating physical systems; solve problems by deconstructing them into smaller parts. Use mind maps to modify ideas and implement them. Use sequence, selections and repetition in programs; variables, inputs and outputs. Use logical reasoning to articulate how a simple algorithm works, detect and correct errors in algorithms and programs (debug), to breakdown the sequence of instructions and examine how effective it is. Use specified screen coordinates to control movement. Create and edit sounds, volume, timing, duration.	Use a variety of software on a range of digital devices, including collecting, analysing, evaluating, presenting data and making correlations between information. Devise and construct databases in areas across the curriculum. Contribute to blogs that are moderated by teachers. Use advanced features on devices to communicate and message professionally. Describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content. Understand the term 'copyright'.	Begin to understand and explore how computer networks work, including the use of the world wide web. Respect individuals and intellectual property; use technology responsibly, securely and safely. Give examples of the risks posed by online communications. Understand that comments made online that are hurtful or offensive are the same as bullying.
Year 5/6	Design, predict, write and assess programs that accomplish specific goals, including controlling or simulating physical systems; hypothesise reasons for problems and solve them by decomposing them into smaller parts, rearranging sequences where necessary. Use sequence, selections and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs, measuring their effectiveness. Use logical reasoning to investigate and explain how a simple algorithm works, detect and correct errors in more complex algorithms and programs (debug), review and reflect in order to create improved algorithms.	Understand and explain how computer networks work, including the use of the internet; how they can provide multiple services and the opportunities they offer for communication and collaboration. Select and use a variety of software on a range of devices to collect, analyse, evaluate, manipulate and present data and information effectively and professionally. Understand how simple networks are set up and used. Choose suitable applications and devices to communicate efficiently and professionally to formulate responses. Describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content and categorising results.	Respect individuals and intellectual property; use technology responsibly, securely and safely. Collaborate with others online on sites that are approved and moderated. Understand the risks of being online and know how to report problems. Understand that it is illegal to download copyrighted material, without permission, from the copyright holder. Understand the effect of online comments and show responsibility and sensitivity when online.