Coley Primary School – Progression in Computing

Progression	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
National curriculum	Pupils should be taught to: • 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 • use technology purposefully to create, organise, store, manipulate and retrieve digital content • recognise common uses of information technology beyond school • use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies		Pupils should be taught to: • 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 • understand computer networks, including the internet; how they can provide multiples 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 • 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 • use technology safely, respectfully and responsibly; recognise acceptable / unacceptable behaviour; identify a range of ways to report concerns about content and contact			
To code **Coding** Motion	Control motion on a programmable toy Recognise and debug errors	Plan and control motion in virtual scenarios, specifying number steps, direction and run. Recognise and debug errors	Use events and motion blocks to make a sprite move left and right, up and down different distances.	Use and adapt code to draw different shapes	Use specified screen coordinates to control movement Set IF conditions for movements	Specify types of rotation giving the number of degrees
Looks	Change the appearance of a programmable toy by making it a costume	Choose and edit a sprite Change the features of an object, modifying size and appearance Add text	Set the appearance of objects	Create sequences of changes	Show and hide objects	Change the position of objects between screen layers (send to back, bring to front)
Sound	Use controls to turn sound on and off and to change volume	Select sounds and control when they are heard	Use control and sound blocks to play a sound and change its duration and volume.	Create and edit sounds. Control when sounds are heard, their volume, duration and rests.	Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation	

Draw	Use art apps and programmes to draw and paint	Draw	Create a background for a scene	Control the shade of pens Control when drawings appear		Control the use of pens with movement to create interesting effects
Events	Recognise what is needed to start and stop a programmable toy.	Specify user inputs (such as clicks) to control events	Specify a range of user inputs (such as green flag, keyboard press) to control events	Specify conditions to trigger events		Set events to control other events by 'broadcasting' information as a trigger
Control	Recognise that programmable toys need the user to press 'clear' to reset before programming Explain that the user needs to press buttons to make a programmable toy do something	Create a simple algorithm, on and offline Use repeat functions	Ensure that their code controls the correct sprite Specify number of times	Identify which piece of code will control a particular event Specify the nature of events (such as a single event or a loop) Specify number of times or indefinite repetition	Use IF … THEN and IF … THEN ELSE to control events	
Sensing			Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?)	Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or line or responses to questions)	Use sensing blocks	Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions
Variables & Lists			Recognise that the sequence of an algorithm (set of instructions) is crucial to its success	Use count-controlled loops	Use conditions to switch between actions in code	Use lists to create a set of variables Use variables to store a value Use the functions define, set, change, show and hide to control the variables

To connect **e-safety and networks**	Recognise the uses of technology in school and in our local environment Use shared class blogging to communicate online Know what to do if they see something worrying or upsetting online Know that we need to ask our friends' permission before taking their photo	Participate on the blogs with adult support Enter a username and password. Keep a password private Understand that personal information should not be shared with others online Use child-friendly search engines and bookmarking to find and go back to relevant websites	Contribute to blogs that are moderated by teachers Recognise the need to be kind online and give examples Use a range of search engines and search effectively using key words Begin to evaluate websites and know that not everything on the internet is true	Give examples of the risks posed by online communications Protect personal information online Understand that comments made online that are hurtful or offensive are the same as bullying Know not to publish other people's pictures or tag them online without permission Know that it is unsafe to meet unknown people from online contact and how to report inappropriate contact Understand which search terms to enter for an effective search, avoiding unnecessary words Recognise that some websites contain advertisements Recognise which search results to click on and which to avoid Understand age rules for gaming and online networking sites	Collaborate with others on moderated online sites Recognise the difference between the internet and the Word Wide Web Understand online risks and the age rules for social networking sites Be discerning about the information and images they share online. Use security settings for a range of online environments Recognise that some websites and/or pop-ups have commercial interests that may affect the way the information is presented. Recognise why people may publish content that is not accurate and understand the need to be critical evaluators of content.	Give examples of the risks online communities and demonstrate knowledge of how to minimise risk and report problems Discus the positive and negative impact of the use of ICT in their own lives and those of their peers and family Know that it is unsafe to meet unknown people from online contact and how to report inappropriate contact Evaluate their own digital footprint and recognise that content put online is extremely difficult to remove Refine searches by using "", look past the first few search results and cross-check information found online Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games without express written permission, from the copyright holder.

To communicate digital media	Compose, record and replay sounds on a tablet Take and edit photos using a tablet	Locate and open software and apps Save work Open and edit work Create a simple presentation Format text by: • using the shift key to insert capital letters • using backspace, delete and arrow keys • selecting single words or a section of text • making text bold, italic or underlined	Use word processing software to create documents for a variety of purposes Format text by: • inserting WordArt • use the shift key or Caps Lock to insert capital letters • change the colour and size of text • include bullet points • insert images and tables • use Spellcheck Type with two hands	Create more advanced presentations, considering: • putting information into your own words • slide transitions • hyperlinks Use presentation software to create attractive and professional documents across the curriculum.	Create drawn and stop-motion animation to communicate ideas and entertain Use a range of applications and devices in order to communicate ideas, work and messages	Create non-linear presentations, including: • hyperlinks • action buttons • video • audio Choose the most suitable applications and devices for the purposes of communication. Use many of the advanced features of familiar applications in order to create high quality, professional or efficient communications.
To collect digital media	Use technology to collect information including photos and sound	Plan what data to collect to answer a question Add information to, make and save pictograms and bar charts	Use simple branching databases to record information in areas across the curriculum Use a ready-made database to answer questions Add to a database Plan, create and search a databases using applications designed for this purpose in areas across the curriculum	Plan what data to collect to answer a question Use a data-logger to monitor changes Interpret information collected	Select appropriate applications to devise, construct and manipulate data across the curriculum	Use a spreadsheet and database to collect and record data Check data for plausibility Search a database using different operators to refine a search