

Knowledge Progression in Computing

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
KS1 Cycle A	Online Safety (1.1) Know how to log in and out; find, open, save and print work; and search Purple Mash to find resources Start to add pictures and text to work <i>DNA: your self</i> Technology Outside School (1.9) Find and record examples of where technology is used in the community <i>DNA: your community</i>	Technology Outside school continued (1.9) See Autumn 1 Pictograms (1.3) Understand that data can be represented in picture format Record the results of an experiment with a pictogram	Creating Pictures (2.6) Learn about and recreate the works of various artists Explore surrealism and eCollage Spreadsheets (1.8) Know what a spreadsheet program looks like and how to enter data into cells Use image and control tools in 2Calculate Presenting Ideas (2.8) Explore how a story can be presented in different ways		Grouping and Sorting (1.2) Sort items using a range of criteria in real life and on Purple Mash Lego Builders (1.4) Follow and create simple instructions, considering how their order affects the result	Coding (1.7) Use design mode to set up a scene and add characters which can perform actions Use collision detection Know the save, print, open and new icons
KS1 Cycle B	Online Safety (2.2) Understand that information put online leaves a digital footprint Identify steps to take to keep personal data and hardware secure Begin to use email as a communication tool <i>DNA: your self</i>	Effective Internet Searching (2.5) Gain a better understanding of searching on the Internet	Animated Stories (1.6) Add animation and sound (including voice recordings and composed music) to a story Work on a more complex story including adding backgrounds and copying and pasting pages	Making Music (2.7) Make, edit and refine composed music Explore, edit and combine sounds Record and upload sounds to create music	Spreadsheets (2.3) Learn how to use the tools in 2Calculate to make a counting machine, calculate with money, collect data and make a graph Maze Explorers (1.5) Understand how to create and debug a set of instructions	Coding (2.1) Design and code algorithms Use the repeat and timer commands Know what debugging is and debug programs

					Use direction keys as part of an algorithm Understand how to create a longer algorithm	
LKS2 Cycle A	Online Safety (3.2) Understand what makes a safe password and methods for keeping them safe Understand how a blog can be used to communicate with a wider audience Consider the truth of the content of websites <i>DNA: your self</i> Effective Internet Searching (4.7) Use search effectively to find information about the local area and the Stone Age Assess whether an information sources is true and reliable	Presenting (PowerPoint) (3.9) Create an engaging presentation including media, animations and timings about the Stone Age <i>Link to history: the Stone Age</i>	Writing for Different Audiences (4.4) Explore how font size and style can affect the impact of a text Produce writing based upon simulated scenarios <i>Link to history: the Romans</i>	Spreadsheets (4.3) Format cells as currency, percentage, decimal to different decimal places or fraction Use a formula wizard to calculate averages Use spreadsheet to model a real-life situation	Hardware Investigators (4.8) Understand the different parts that make up a computer Branching Databases (3.6) Sort objects using only 'yes' or 'no' questions Create a branching database about fruits and vegetables to link with science	Coding (3.1) Use a flowchart to design an algorithm that represents a physical system and code this representation Use variables and the 'if' command
LKS2 Cycle B	Online Safety (4.2) Learn about identity theft and how to guard against it	Effective Emailing (3.5) Learn how to use email safely including adding attachments	Animation (4.6) Learn how animations are created by hand Learn about onion skinning, add backgrounds and sounds in animation		Simulations (3.7) Explore, analyse and evaluate simulations Logo (4.5)	Coding (4.1) Use flowcharts for design of algorithms including selection

	Learn about plagiarism and about appropriate behaviour when contributing to collaborative projects Identify positive and negative influences of technology on health and the environment <i>DNA: your self</i>	Explore simulated email scenarios <i>DNA: your self; your community</i>	Be introduced to ‘stop motion’ Spreadsheets (3.3) Use < > and = to compare values Collect data and produce a variety of graphs Learn about cell references Graphing (3.8) Enter data into a graph and answer questions Solve an investigation and present the results in graphic Present results from the science topic about sound		Input simple instructions, create letter shapes, use and build procedures in Logo	Use ‘repeat until’ with variables to determine the repeat Learn about and use computational thinking terms: decomposition and abstraction
UKS2 Cycle A	Online Safety (5.2) Review sources of support when using technology and understand their responsibility to one another in their online behaviour Understand the advantages, disadvantages, permissions and purposes of altering an image digitally <i>DNA: your self; your community</i> Networks (6.6) Learn what the Internet consists of and how it is accessed in school	Quizzing (6.7) Create quizzes involving different question types in 2Quiz Make a quiz that requires the player to search a database <i>Link to science: design and make a quiz linked to the science topic of properties of materials</i>	Databases (5.4) Learn how to search for information in a database Create a database around a chosen topic <i>Link to science: create a database about the planets</i> <i>Link to art: op-art creations</i>	Word Processing (5.8) Add and edit images, use word wrap and change the look of text in Word Use tables to present information Consider page layout including headings and columns <i>Link to history: use images and text relating to World War II to create a non-chronological report</i>	Text Adventures (6.5) Plan and make a story-based adventure Code a map-based text adventure <i>Link to geography/history: create adventures based around Derby and World War II</i>	Coding (5.1) Explore and string text variable types so that the most appropriate can be used in programs Program a playable game with times and score pad <i>Link to geography: create games linked to the Amazon</i> Binary (6.8) (optional post-SATs unit with maths link) Know what the terms binary and denary mean and how they relate to the number system, the digital

	Find out what a LAN and WAN are					system and the terms base-10 and base-2 Convert numbers from decimal to binary and vice versa
UKS2 Cycle B	Online Safety (6.2) Identify benefits and risks of mobile devices broadcasting location information Identify secure sites by looking for privacy seals of approval Have a clear idea of appropriate online behaviour <i>DNA: your self; your community</i>	Blogging (6.4) Plan the theme and content for a blog and write the content considering the audience Understand how to contribute to or comment on an existing blog and know why posts are approved by the teacher <i>Link to history: write a blog from a Tudor's perspective</i>	3D Modelling (5.6) Explore the effect of moving parts when designing in 2Design and 2Make <i>Link to history: design a robot linked to the Artificial Intelligence topic</i>	Spreadsheets (Excel) (6.9) Use basic formulae for percentages, averages and max/min numbers Model a real life situation Create a variety of graphs	Game Creator (5.5) Create a game environment and quest Finish, share and evaluate games <i>Link to topic: create a game where participants have to survive despite challenges</i>	Coding (6.1) Use the program design process, including flowcharts, to develop algorithms for more complex programs using and understanding abstraction and decomposition to define the important aspects of the program