

CITY OF LONDON PRIMARY ACADEMY ISLINGTON
PROGRESSION IN KNOWLEDGE AND SKILL: COMPUTING

	SKILLS	YEAR ONE	YEAR TWO	YEAR THREE	YEAR FOUR	YEAR FIVE	YEAR SIX
COMPUTER SCIENCE	APPLY KNOWLEDGE: ALGORITHMS	Plan a simple program. Sequence commands in a logical order.	Translate movements into a series of commands.	Break complex shapes into simple parts. Create a program to complete an image using sequential steps.	Order movement commands as sequential steps in a program. Read and comprehend given code.	Categorise and generalise code into useful functions. Recognize when a function could help to simplify a program.	Articulate the design process and how it helped shape the finished culminating project. Explain how system limitations can affect project design.
	ANALYSE PROBLEMS: DEBUGGING	Recognize problems or "bugs" in a program and develop a plan to resolve the issues	Identify and locate bugs in a program.	Develop problem solving and critical thinking skills by reviewing debugging practices.	Describe and implement a plan to debug a program. Identify a bug and the problems it causes in a program.	Define circumstances when certain parts of a program should run and when they shouldn't. Draft and implement plans to resolve any issues in their code.	Program solutions to problems that arise when designing.
	PROGRAMMING KNOWLEDGE: LOOPS, EVENTS, CONDITIONALS	Create loops: break down a long sequence of instructions into the smallest repeatable sequence possible.	Create a program to repeat simple sequences using loops.	Differentiate between commands that need to be repeated in loops and commands that should be used on their own. Identify the benefits of using a loop structure instead of manual repetition.	Nested loops: recognize large repeated patterns as made from smaller repeated patterns Build programs with the understanding of multiple strategies to implement conditionals. Create an animated, interactive game using sequence and events.	Break apart code into the largest repeatable sequences using both loops and nested loops. Describe when a loop, nested loop, or no loop is needed. Recognize the difference between using a loop and a nested loop.	Create a variable that stores information and changes over time.
		Identify actions that correlate to input events.	Create an animated, interactive story using sequences and event-handlers.	Match blocks with the appropriate event handler.		Determine whether a conditional is met based on criteria.	Make and test a prediction by modifying simulation variables.
INFORMATION TECHNOLOGY	CREATING MEDIA	Use different tools within a paint programme to independently create a picture.	Use a digital device to take and edit photos.	Use a stop motion animation programme to animate a sequence	Demonstrate how photography can be digitally edited in various ways.	Capture a video using a range of filming techniques.	Create a 3D digital model.
		Use a word programme to add, remove and edit text.	Use a music programme to create music for a purpose.	Use desktop publishing to edit text and layout for a particular purpose.	Use a digital device and app to create an audio podcast.	Use various different tools to create a vector graphic.	Design and make a web page for a purpose.
	COMPUTER SYSTEMS AND NETWORKS	Identify computers and their main parts. Use a keyboard and mouse.	Recognise the various uses for information technology.	Recognise the physical components of a network and how they are connected to share information.	Recognise that networked device make up the internet and information is accessed via the WWW.	Explain how search engines work and are ranked.	Explain and evaluate different ways people can work together online.
	DATA AND INFORMATION	Group data and answer questions about it.	Present information/data using a computer.	Create a branching database.	Collect data, use a computer to sort it and draw conclusions from it.	Use a database to search for answers and explain computer programs can be used to compare data.	Create a spreadsheet to sort and present data.
DIGITAL LITERACY	Self-Image and Identity						
	Online Relationships						
	Online Reputation						
	Online Bullying						
	Managing Online Information						
	Health, Wellbeing and Lifestyle						
	Privacy and Security						
Copyright and Ownership							