Long Term Plan

Introduction to key computing systems, principles and algorithmic thinking

		Learning Cycle	Key Concepts and Themes	Vocabulary	
Year 7: Computer Science	**HT1**	Impact of technology: Collaborating online respectfully	• Welcome to the computing lab • Welcome to your workstation • Respectful online communication • Presenting to an audience (PowerPoint) • Who are you talking to	Audience, catfishing ,comments, community, computing hazards, cyberbullying, email, network , recipient, online, password, presentation software, secure, slide deck	
	HT2	Programming Essentials in Scratch	• Sequence and variables • Selection • Operators • Count controlled iteration • Problem Solving	Sequencing, subroutines, instructions, execute, Variables, commands, execute, input, process, output, storage, tracing, Expressions, evaluate, conditions, selection, If statements, variables, sequencing, subroutines	
	HT3	Using Media: Gaining support for a cause	• Features of a word processor • Licensing appropriate images • The credibility of sources • Researching and planning a blog • Promoting your cause project	Application software, appropriate, audience, blog, citation, creative commons, copyright, credibility, cropping, formatting, fonts, icons, licensing, paraphrase plagiarism, recolouring, referencing, source, text wrapping, word processor	
	HT4	Modelling Data - Spreadsheets	• Spreadsheet terminology and basics • Simple mathematical calculations • Differences between information and data • Functions and charts • Conditional formatting	Autofill, average, axis/axes, bar chart, cell, cell reference, chart column, conditional formatting, criterion/criteria, condition, data, drag handle, filter, formula, function, headers, information range, labels, maximum, minimum, pie chart, primary source, row, secondary source, select, series, source	
	HT5	Networks: From semaphores to the internet	• Computer networks and protocols • Networking and hardware • Wired and wireless networks • The internet • Internet services • The world wide web	3G, 4G, 5G, bandwidth, bit, broadband, buffering, hub HTTP, Internet of Things (IoT), Internet Protocol , mainframe, megabit, gigabit, IP address, packet header, packet payload, Transmission Control Protocol, Voice over Internet Protocol (VoIP), WiFi	
	HT6	Programming Essentials in Scratch – Part 2	• Subroutines • Lists • Condition controlled iteration • Decomposing a large project	Condition, condition-controlled, count-controlled, decomposition, Iteration, list, repeat until, subproblems, subroutine, variable	

Skill Development	• Algorithmic Thinking: The ability to decompose problems into manageable steps and to plan for the opportunity to use the programming constructs (sequence, selection and iteration) • Programming – Design, write, test and refine programs, using one or more high-level programming language with a textual program definition, either to a specification or to solve a problem

| | • IT – Use of word processing, presentation and spreadsheet software |