

Fareham Academy – Computer Science Overview – Year 8

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic(s)	How Computers Work	Superb Spreadsheets	The role of computerized graphics	Developing Programming Skills	Purposeful Programming	Digital Sounds
Topic Objectives	<p>You will learn:</p> <ul style="list-style-type: none"> Understand computing components Use computer specifications to compare computers Analyze Computer performance Research environmental impacts of computing Consider future technology and future jobs Identify correct units of measurement for specific components eg bytes or Hz. Be able to convert from Decimal to Binary 	<p>You will learn:</p> <ul style="list-style-type: none"> What a spreadsheet is and what it is used for Making sense of information The importance of data How to capture data How to filter and sort data Using programming to provide enhanced functionality Customising spreadsheets Visualising information in charts and diagrams 	<p>You will learn:</p> <ul style="list-style-type: none"> Methods of creating computerized graphics Bitmaps and Vector graphics differences Using graphics to solve problems Awareness of Copyright, Trustworthiness and sharing Digital manipulation and repurposing Secret graphics - cyphers - steganography Introduction to planning/ predicting using flowcharts 	<p>You will learn:</p> <ul style="list-style-type: none"> Algorithmic thinking methods Progression from block based programming to text based programming Become familiar with Python programming language Use IF, ELSE and WHILE and FOR constructs in aPython Programs Understand and use Variables, Data Types, Operators Enhanced programming 	<p>You will learn:</p> <ul style="list-style-type: none"> Learn object oriented programming Comparing and contrasting programming methods and languages. Creating mobile applications using javascript. Demonstrate interaction with your app using object oriented programming techniques 	<p>You will learn:</p> <ul style="list-style-type: none"> How Sound is created and saved Sound considerations Content Sharing, plagiarism Creating your own sounds Manipulating sounds Creating quality sounds
Acquired Knowledge/Skills	Awareness of computer technology, computer builds, selecting and choosing a computer based on requirements	Equation application, handling formula, evaluation techniques, graph work, presentation development, and information management	Development of image types, differences, uses of graphics, coded messages using graphics, Intro to using graphics for problem solving	Algorithmic thinking, Python language programming, use of constructs, options, loops and standard programming terminology	Adapting to object oriented programming, understanding similarities in programming methods, Introduction to Javascript language	Sound creation, development, editing and manipulation
Assessments	<ul style="list-style-type: none"> Base Assessment End of Topic 	<ul style="list-style-type: none"> End of Topic Spreadsheet Quiz 	<ul style="list-style-type: none"> End of Topic Video Game Cover 	<ul style="list-style-type: none"> End of Topic Python chatbot or RPG game 	<ul style="list-style-type: none"> End of Topic Mobile App(s) 	<ul style="list-style-type: none"> End of Topic Student Podcast

