Computing KS3 | Course Outline

	AUTUMN TERM	SPRING TERM	SUMMER TERM
Year 7	• **Network Orientation** Logins for Windows/Email/Tootoot Doc Plus Username/password Google suite Sending email with attachment • **Organising files and Folders** Saving and retrieval from local drives & Google • **Computer Hardware** RAM Hard Drive CPU Input Devices Output Devices • **Christmas Card – DTP** File formats: JPG and PNG	• **Gym and Dance**: 2 Ticket Designs Program Design Poster Design Font formatting Page Layout File formats: JPG and PNG Image Resolution • **E-Safety: Social networking** • **Computational Thinking:** Decomposition Abstraction Pattern recognition Algorithm	• **Visual Scratch Programming:** Programming inputs Variable storage Outputs Sequencing Selection • **Scratch Game Maker:** Simple gaming scripts Controlled movement Gravity Object collisions Scoring systems
Year 8	• **Graphics** Bitmap & Vector Vector Based Poster Image Resolution • **HTML and CSS** HTML Basics HTML5 CSS Basics CSS Properties • **HTML Website Building** 1 Page Site that includes: Title, Heading, Images, List, Information & Table	• **Gym and Dance**: 2 Ticket Designs Program Design Poster Design Font formatting Page Layout File formats: JPG and PNG Image Resolution • **E-Safety: Keeping safe online** • **Scratch Shooter Game:** Code Sequencing Iteration Loops Gravity Levels Scoring Variables Testing Debugging	• **Introduction to Python Programming:** In this unit, students will be introduced to programming in the Python programming language. They will learn how to print messages to the screen, ask the user to input data and stores this data in variables. They will also understand how computers make decisions and consequently learn how to program IF statements. • **Game Design & Planning:** Screen Layout for splash screen and at least 2 levels Background Design Characters Scoring System

Year 9	• **Back to the Future** This unit takes a look back in time at the history of computers focusing on some key computer scientists • **Data Representation (GCSE Computer Science Topic)** Units of capacity: Binary/Denary Conversions Hexadecimal Conversion Binary Shifts Binary Images Image Compression Sound ASCII characters	• **Computer Networks:** Local Area Networks (LANS) Hardware of a local network Workings of the Internet How the WWW and Internet differ How data travels around a network (e.g. Packets Switching) • **E-Safety (GCSE Computer Science Topic): Cyber Security** Threats Effects Precautions • **Computer Networks** How the WWW and Internet differ How data travels around a network (e.g. Packets Switching) • **My Digital World:** In this unit of work, students will learn how to use the internet safely and effectively. They will learn about copyright law, search engines (including the use of Boolean logic for effective searching) and they will also learn about the dangers of the internet and ways to combat these dangers.	<u>OPTIONS GROUP</u> • **Python Programming:** Continuing on from the year 8 unit of work which introduced the Python programming language, students will reinforce their understanding of inputs, outputs, variables and selection through the means of a variety of programming challenges. Students will also be taught the programming structure of iteration. They will learn how FOR and WHILE loops work and will code these structures in a range of programs. • **(GCSE Computer Science Topic):** Computer Hardware CPU Computer Performance Memory Storage <u>NON OPTIONS GROUP</u> • **Spreadsheets -Cinema Project:** In this unit, students will be using spreadsheets to practice the various formulae they need to know. They will also be learning how to format cells and apply conditional formatting to specific areas of the spreadsheet. All of this will be re-enforced by creating a ticket booking system for a niche cinema experience. The students will design a theme which will be applied to the ticket booking system. And design the advertising for the new cinema. • **Photoshop:** Recolouring Background Removal Cloning Blending Warping