Year 8 – COMPUTER SCIENCE Programme of Study

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit/Topic	P5.js Part 1: The basics	Digital Ethics 2.0	Video Editing The Easter Market Stall (part 1)	The Easter Market Stall (part 2)	P5.js Part 2: Creating flags	Computer Unit Part 2: Algorithms and B/D/H
Enquiry Question	How do I create art using basic Processing shapes?	How do we stay safe online in this digital world?	How can we create a compelling video of the Drama Silent Movie milestone? Why should the Dragons invest in your pitch?	How can I make a profit?	How can I accurately create flags in P5.js?	How do computers think?
Key Content	• Introduction to P5.js as a JavaScript library • The setup() and draw() functions • The canvas, and coordinates rect() and ellipse(); origins of shapes • RGB colours; additive vs. subtractive colours • Stroke weight, fill and background • Variables • Keypress and mouse event handling • Variables inside loops; patterns and repetition • Functions • Curves, quads and arbitrary shapes	• Understand a range of ways to use technology responsibly, respectfully, safely and securely • Protecting your online identity and privacy • Recognising inappropriate content, contact and conduct • Knowing how to report concerns	Video editing: • Introduction to video editing software. • Importing content. • The timeline. • Transitions and effects. • Exporting videos. • Collaboration and teamwork. Marketstall: • What makes a suitable product? • Planning considerations. • Logo designs and introduction to vector image editing. • Finding recipies and ingredients.	• Introduction to Google Sheets: • The unitary method (from Maths) • Cell references • Basic formulas • Formula repetition and absolute referencing • Common functions • Aggregate functions • Drawing conclusions from the data Introduction to Google Slides: • What makes a good presentation? • Effectively using notes in slides • Creating a script (links with Drama) • Sound effects	• Recap of basic functions, shapes, colours. • Accurately determining and using colours. • Understanding proportion, and using width and height effectively. • Adding "magic" to sketches using variables, mouse position and events. • Documenting work using the SWEDE approach.	• Introduction to the binary number system. • Converting between denary (decimal) and binary. • Introduction to hexadecimal. • Converting between binary and hexadecimal, and hexadecimal and denary. Computational thinking: • Accurately describing common algorithms (making a sandwich) • Searching algorithms • Sorting algorithms
Milestone Assessment	N/A (but this feeds into Part 2 at the end of Y8).	An individual website that covers the key Digital Ethics issues as well as extention investigations (for higher ability)	A portfolio of documents including: planning, logo designs, recipies and ingredient lists, cost/profit models and key profit data, presentation of idea and, potentially, radio advert script, flyer advertisment and website.		A SWEDE journal of at least three flags of different categories and complexities; a range of P5.js "magic".	N/A (but a booklet will be completed for this unit)