Year 8 Computing and It Curriculum Overview

#	Topic	Learning Aims
01	**Introduction to Year 8**	1. Know what you will be studying in Year 8 Computing 2. Use Teams to find your classwork and OneDrive to organise your files 3. Complete the retrieval grid to show what you already know 4. Complete the baseline test on Teams
02	**Digital Skills** *Digital communication · Interactive adventure story in PowerPoint*	1. Name different types of digital communication with examples 2. Explain how email works and use good netiquette online 3. Understand what a branching adventure story is 4. Build an interactive PowerPoint with hyperlinks between slides 5. Work with others to plan and create a multi-path story
03	**Under the Hood** *Computer components · CPU · Operating systems*	1. Name the main hardware components and explain what each one does 2. Compare different types of storage and pick the right one for a scenario 3. Describe the Fetch–Decode–Execute cycle 4. Explain what happens when you open a program 5. Describe what an operating system does
04	**Bebras Computational Thinking Challenge** *Annual national computational thinking competition*	1. Use logical thinking to solve Bebras challenge problems 2. Work independently under timed conditions 3. Show computational thinking skills such as breaking problems into smaller steps
05	**Animation** *Pixel Art frame-by-frame animation with storyboard*	1. Learn what skills animators need 2. Analyse animations and spot what makes them work well 3. Plan your animation using a storyboard 4. Create a frame-by-frame Pixel Art animation 5. Evaluate your animation — what worked and what to improve
06	**Python — Virtual Pet** *Core Python concepts · Turtle graphics · Pixel art · Micro:bit*	1. Use variables, input, if statements, loops and functions in Python 2. Build a text-based virtual pet game in Python 3. Use Turtle commands and loops to draw pixel art 4. Store data in lists and dictionaries 5. Create a micro:bit project using your Python skills
07	**NASA Mars Mission** *Rover robots, space technology and engineering design*	1. Investigate NASA's Mars mission and its goals 2. Learn about Mars rover robots and their technology 3. Design a robotic insect that could survive on Mars
08	**Gaming Shop Project** *Digital advertising · Spreadsheet · Social media advert · Data science*	1. Design a looping advertising slideshow with a gaming theme 2. Use neon colours, bold fonts and animations for a gaming look 3. Build a gaming shop spreadsheet using SUM, IF and conditional formatting 4. Use Goal Seek to answer what-if questions in your spreadsheet 5. Create an Instagram Story advert in Canva 6. Analyse real video game sales data — sort, filter and create a chart
09	**HTML & CSS** *Building web pages from scratch – Technology Edition*	1. Write HTML to structure a web page with headings, paragraphs, lists and links 2. Use CSS to change colours, fonts, borders and layout 3. Use tags and class selectors to build a multi-section page
10	**Codebreaking** *Ciphers · Caesar Cipher · Bletchley Park · Encryption*	1. Investigate different ciphers and practise problem-solving 2. Understand how substitution ciphers like the Caesar Cipher work 3. Encrypt and decrypt messages using the Caesar Cipher 4. Evaluate the Caesar Cipher's weaknesses 5. Investigate Bletchley Park and the cracking of the Enigma machine 6. Understand Alan Turing's role in WW2 codebreaking 7. Explain what encryption is and how keys are used 8. Compare symmetric and asymmetric encryption