

Year 9 Computing Learning Journey

Year 9			
#	Topic	Description	Learning Aims
01	Introduction to Year 9 Review, GCSE preview and course overview	Review, GCSE preview and course overview	1. Know what you will be studying in Year 9 Computing 2. Use Teams and OneDrive to find and organise your work 3. Complete the retrieval grid and baseline test 4. Find out what GCSE Computer Science involves
02	Python PowerUp Advanced Python programming skills	Advanced Python programming skills	1. Build on your Python skills from Year 7 and Year 8 2. Use lists, dictionaries and file handling in Python 3. Write clear, well-commented programs
03	AI & Machine Learning Defining AI, real-world applications and hands-on training	Defining AI, real-world applications and hands-on training	1. Define artificial intelligence and machine learning 2. Find real examples of AI and ML in everyday life 3. Train a machine to recognise images
04	Bebras Computational Thinking Challenge Annual national computational thinking competition	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	HTML & CSS Web page structure, styling and a Mission to Mars project	Web page structure, styling and a Mission to Mars project	1. Write HTML to build a structured web page 2. Use CSS to style your page — colours, fonts, borders and layout 3. Use <div> tags and class selectors to build a multi-section page 4. Create a Mission to Mars web page using all your HTML and CSS skills
06	Networks Network types · Hardware · Internet & data transmission · Network security	Network types · Hardware · Internet & data transmission · Network security	1. Describe the difference between a LAN and a WAN 2. Explain what a NIC, switch and router do 3. Identify factors that affect network speed and performance 4. Describe the structure of the internet — ISP, router, DNS 5. Explain packet switching and the role of protocols like HTTP and HTTPS 6. Name common cyber threats: malware, phishing, ransomware 7. Describe technical and non-technical ways to protect a network
07	Cybersecurity Cyber attacks, protection methods and the WannaCry case study	Cyber attacks, protection methods and the WannaCry case study	1. Identify types of cyber attack including malware and social engineering 2. Know technical and non-technical ways to protect against attacks 3. Investigate the WannaCry / NHS attack and its impact 4. Practise everyday cybersecurity habits to stay safe online
08	Digital Representation Pixels, resolution, colour depth, RGB and file size	Pixels, resolution, colour depth, RGB and file size	1. Explain how images are stored as binary numbers 2. Define pixel, resolution and colour depth 3. Describe the RGB colour model and how it creates colours on screen 4. Calculate the file size of an image from its resolution and colour depth 5. Know how binary represents characters using ASCII
09	Image Editing — Affinity Photo Raster vs vector · Adjustments · Layers · Masks · Compositing	Raster vs vector · Adjustments · Layers · Masks · Compositing	1. Explain the difference between raster and vector graphics 2. Navigate the Affinity Photo workspace confidently 3. Adjust brightness, contrast and saturation on a photo 4. Use selection and crop tools to isolate parts of an image 5. Use layers, opacity and blend modes to combine images 6. Use layer masks to hide parts of a layer without deleting them 7. Create a composite image from two photos
10	Audiobook — Audacity Recording, editing and exporting audio	Recording, editing and exporting audio	1. Record a clear, expressive voiceover using Audacity 2. Edit your audio — trim, amplify and add fades 3. Layer music and sound effects on separate tracks 4. Export your finished audiobook as an MP3
11	Video Editing — Canva Timeline editing, transitions, text overlays and export	Timeline editing, transitions, text overlays and export	1. Navigate the Canva video editor — timeline, toolbar and media panel 2. Trim clips, add transitions and apply text overlays 3. Export your video in the right format
12	Web Design — RocketCake Planning, building, testing and improving a multi-page website	Planning, building, testing and improving a multi-page website	1. Explain what makes a website usable and review real sites 2. Plan your website with a mind map, mood board and wireframes 3. Build a multi-page website with working navigation in RocketCake 4. Understand copyright rules for images and content you use online 5. Test your website with real users and improve it based on feedback
13	Event Planning Presentations · Graphic design · Spreadsheets · Peer review	Presentations · Graphic design · Spreadsheets · Peer review	1. Create a PowerPoint with a theme, animations and transitions 2. Design a logo, poster and ticket for your event 3. Use spreadsheet formulas to calculate costs and profit 4. Evaluate your work using peer feedback and a checklist