SUBJECT: COMPUTING & DIGITAL MEDIA YEAR 9 OVERVIEW

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic (s)	Cyber Security	Python Programming Using Turtles	Image Manipulation using Bitmap Graphics	Working World	Mobile App Programming	Inspiring Digital Enterprise Award
Topic Objectives	• Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct, and know how to report concerns	• Use programming languages, at least one of which is textual, to solve a variety of computational problems; design and develop modular programs that use procedures or functions	• Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users • Create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability	• Understand the hardware and software components that make up computer systems • Understand a range of ways to use technology safely, respectfully, responsibly and securely, • evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems	• Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known user • Use programming languages, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions	• Model the state and behaviour of real-world problems and physical systems • Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy

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<table>
<tr><td></td><td></td><td></td><td></td><td></td><td>• create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</td><td></td></tr>
<tr><td>Acquired Knowledge / Skills</td><td>The value of your data
Social Engineering
Hacking
Automated Hacking
Threats to a network
Defending Cyber attacks</td><td>Problem solving challenge practice
Problem solving international competition
Sequences in Python
User inputs and Variables
Selection in Python
Iteration in python
Problem Solving with Python</td><td>Layers & Transformation tools
Selection tools
Adjustment tools
Retouching
Text & Typography
Products for an Audience</td><td>Modern working world
Accessibility
Communication & Collaboration
Cloud Computing
Personal Networks
Remote Working</td><td>Decomposing a problem – Creative solutions -Apps
Concept Driven Programming - Development of a Tappy Tap App
Debugging and Identification of project
User input
App development
Project completion</td><td>Citizen
Worker
Maker
Entrepreneur</td></tr>
<tr><td>Target Vocabulary</td><td>Data, information, cybersecurity, cybercriminals, profiling, user behaviour, privacy policies, data protection, data</td><td>Sequence / Module
Command / Function
Iteration / Variables</td><td>Image Editing / Manipulation
Canvas / Resize
Layers / Rotate</td><td>Stakeholders, Organisations, Accessibility, Inclusivity, Collaboration, Communication,</td><td>Decomposition, mobile app, properties, Event Driven programming, variables, sequence, workspace,</td><td>Bronze Award, Independence, Decomposition, Identification, Problem Solving,</td></tr>
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	subject, data portability, malware, Social Engineering, phishing, blagging, shouldering, scams, Cyberthreats, Hacking, Ethical, illegal , DDos, DoS, Computer Misuse Act, Penetration Testing, Ransomware, Malware, Viruses, Trojans, Worms, Adware, Spyware, Bots, Botnet, Firewall, Authentication, Biometrics, Two-Factor Authentication,	Debug / Comments IF statement / While Print / Syntax Logical / Condition Controlled Count Controlled, / String Concatenation / Index	Transform / Overlap Crop / Quick Select Magic Wand / Foreground Background / Radius Edge / Brush Clipping Mask / Flip Hue / Saturation Threshold / Gradient Invert / Red Eye Spot Healing / Healing Brush Font / Vertical Horizontal / Opacity	Netiquette, Modern, Traditional, Infrastructure, Local Software, Online Software, Processing Power, RAM, Ad hoc networks, PAN, Remote Working, Ergonomics, Mental and Physical health	parameters, objects ids, errors, debugging, Success Criteria, event handler, checkbox, feedback, evaluation	Communication, Collaboration
Assessment	Lesson starters, Homework and End of Unit Assessment	Lesson starters, Homework and End of Unit Assessment Bebras Competition	Lesson starters, Homework and End of Unit Assessment	Lesson starters, Homework and End of Unit Assessment	Lesson starters, Homework and End of Unit Assessment	Lesson starters, Homework and End of Unit Assessment

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