

Year 8 Curriculum Map: Computing

| | Unit 1 | Unit 2 | Unit 3 | Unit 4 | Unit 5 | Unit 6 |
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| Unit Title & Assessment Task | Computational Thinking & Programming (Mission Encodable Level 1) Assessment: Project based - Programming skills and techniques | Networking & the Internet Assessment: Connectivity | Computer Systems and Data Representation Assessment: Infographic Design | Programming (Mission Encodable Level 2 and 3) Assessment: Project based - Programming skills and techniques | App Development Assessment: Project based - Develop an app that meets a client brief | Digital Awareness, Safety and Ethics (iDEA – Citizen Badges) Assessment: Online Completion of digital badges |
| Key Knowledge/ Skills | To understand how to structure your programs using an IDE To understand and be able to apply knowledge of key programming constructs. To learn how print statements and arithmetic operators, are used within programs. To be able to understand logical reasoning and explain how some simple algorithms work and to detect and correct errors in algorithms and programs | Examines the importance of network security including simple security techniques such as strong passwords To understand data transmission between digital computers over networks, including the internet i.e. IP addresses and packet switching. To understand the importance of communicating safely and respectfully online and the need for keeping personal information private. | To develop an understanding of the key internal components of computer systems. To learn the underlying principles of computer architecture such as: Logic circuits and binary to represent data. To understand logic gates and their Boolean operations. To know how to convert a binary number into a denary number. To know how to convert a denary | To learn to add logic to programs using the concept of selection. To learn how if statements, and loops, are used within programs. To understand simple Boolean logic and how it applies to programming. To know how to use slicing and concatenation | To learn the fundamentals of creating mobile applications and designing visually appealing digital graphics to enhance their apps. To learn how to repurpose an asset and understand the reasons for doing this. To be introduced to event-driven programming. To understand the use of selection in programming To learn how to complete an app that | To be able to describe and assess the benefits and the potential risks of sharing information online. Know how to check the reliability of a source. To be able to Identify the risks associated with using a social media platform. To be able to recognise the legal, ethical, cultural, privacy, and environmental issues related to computer technology. To understand the importance of |

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| | <p>To be able to create subprograms</p> <p>To be able to convert between different data types (casting)</p> <p>To be able to declare and assigns variables.</p> | <p>To understand how to effectively use search engines.</p> <p>To explain the difference between a web browser and a search engine.</p> | <p>number into a binary number.</p> | | <p>successfully meets a client brief.</p> | <p>responsible and ethical use of computers</p> |
| Rationale: | <p>This unit is designed to introduce students to Python with the focus on getting pupils to understand the process of developing programs, the importance of using the correct syntax and having the ability to debug their programs.</p> | <p>This unit develops students' knowledge and understanding of networks and associated hardware.</p> | <p>This unit is designed to provide students with a fundamental understanding of the key internal components of computer systems.</p> | <p>This unit continues to develop students' ability to use a programming language, the purpose is to apply these fundamental programming concepts in a creative and practical manner, fostering problem-solving skills and reinforcing key coding principles</p> | <p>This unit develops students' knowledge, understanding and application of key programming skills.</p> | <p>This unit is designed to Raise awareness of potential offences under the Computer Misuse Act</p> |