| Year | Autumn | Spring | Summer |
|---|---|---|---|
| 7 | **E-Safety**<br>• including cyber bullying and digital footprints.<br><br>**Office Skills**<br>• including email, Teams and online systems use. | **E-Safety**<br>• including cyber bullying and digital footprints.<br><br>**Introduction to Computer Systems**<br>• including hardware, software, storage devices, networks and network security. | **E-Safety**<br>• including cyber bullying and digital footprints.<br><br>**Photoshop**<br>• looking at image manipulation in the media and using skills learnt to create an image based on a given scenario.<br><br>**Scratch**<br>• a block-based visual programming language where students learn coding concepts and develop a game based around the classic PONG theme. |
| 8 | **E-Safety**<br>• including body image and social media.<br><br>**Intermediate Computer Systems**<br>• including binary, sorting algorithms, network topologies, | **E-Safety**<br>• including body image and social media.<br><br>**Vector Graphics**<br>• including digital graphic properties, branding and image editing skills. | **E-Safety**<br>• including body image and social media.<br><br>**Game Maker**,<br>• a high-level visual programming language where students learn |

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| | computer logic and data representation. | **Cyber Security**<br>• discovery of techniques that cybercriminals use to steal data, disrupt systems, and infiltrate networks. | coding concepts, basic scripting and develop a maze game of their own theme, similar to that of PAC MAN |
| 9 | **E-Safety**<br>• including grooming, inappropriate content and messaging.<br><br>**Python**<br>• including sequence, selection, iteration and string manipulation. | **E-Safety**<br>• including grooming, inappropriate content and messaging.<br><br>**Interactive Multimedia Products**<br>• students design and create a product for a given scenario, including video, sound, and animation.<br><br>**Photoshop**<br>• looking at image manipulation in the media and using skills learnt to create an image based on a given scenario. | **E-Safety**<br>• including grooming, inappropriate content and messaging.<br><br>**Digital Literacy Skills**<br>• students will be empowered with knowledge and skills to enable them to be exceptional digital citizens of today's digital world. |
| 10 | **Systems architecture**<br>• including the CPU, its purpose and how it impacts performance, Von Neumann Architecture and embedded systems. | **Programming fundamentals**<br>• including sequence, selection, iteration, and string manipulation.<br><br>**Computer networks** | **Ethical, legal, cultural & environmental impacts of Digital Technology**.<br><br>**Programming fundamentals** |

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| | **Memory and storage**<br>• including primary, secondary, units, data representation and compression. | • connections and protocols including types of factors effecting the performance of hardware required for networks. Also, network topologies and methods of connection.<br><br>**Network security**<br>• including threats to computer systems and how to protect against vulnerabilities.<br><br>**Systems software**<br>• including both operating, application and utility software. | • including sequence, selection, iteration and string manipulation. |
| 11 | **Programming fundamentals**<br>• including sequence, selection, iteration and string manipulation.<br><br>**Additional programming techniques**<br>• including records to store data, SQL, arrays and subprograms.<br><br>**Producing robust programs**<br>• including defensive design and testing. | **Component 1** and **component 2** revision. | **Component 1** and **component 2** revision. |

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| | **Boolean logic**<br>• including common arithmetic operators.<br><br>**Programming languages and Integrated Development Environments**<br>• including characteristics of purpose of and facilities available in. | | |

# Curriculum Overview – Computer Science- Rye Hills.