



### Year 11

#### Algorithms

- To understand that iteration is the repetition of a process such as a loop.

#### Programming

- To understand a textual language, including using standard libraries when programming.
- To be able to use a range of operators and expressions e.g. Boolean, and applies them in the context of program control.

#### Data

- To understand that digital computers use binary to represent all data.
- To understand threats to data and forms of attack.

#### Computer

- To understand the function of the main internal parts of basic computer architecture.
- To understand CPU components and their functions and how they relate to memory

#### Communication

- To understand how to construct static web pages using HTML and CSS.
- To understand basic network topologies including star and mesh.

#### Information Technology

- To be able to evaluate the appropriateness of digital devices, internet services and application software.

#### Digital literacy

- To be able to use technologies and online services securely
- To know how to identify and report inappropriate conduct.

### Year 10

#### Algorithms

- To be able to decompose a problem and create a solution including sub-solution for each part.

#### Programming

- To understand the difference between, and appropriately uses if and if, then and else statements.
- To be able to use a variable and relational operators within a loop to govern termination.
- To be able to design, write and debug modular programs using procedures.

#### Data

- To be able to perform more complex searches for information e.g. using Boolean and relational operators.
- To be able to list a wide range of security measures.

#### Computer

- To understand the main functions of the operating system.
- To know the difference between physical, wireless and mobile networks.

#### Communication

- To understand how to effectively use search engines and know how search results are selected.

#### Information Technology

- To be able to make judgements about digital content when evaluating and repurposing it for a given audience.

#### Digital Literacy

- To be able to demonstrate responsible use of technologies and online services.
- To know a range of ways to report concerns.



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## Pathway 4

### Year 9

#### Algorithms

- To be able to design solutions (algorithms) that use repetition and two-way selection i.e. if, then and else.

#### Programming

- To be able to declare and assign variables.
- To be able to use selection statements in programs, including an if, then and else statement.

#### Data

- To be able to understand the difference between data and information.
- To be able to explain basic data security rules.

#### Computer

- To understand the difference between hardware and application software, and their roles within a computer system.

#### Communication

- To understand the difference between the internet and internet service (www)

#### Information Technology

- To be able to create digital content to achieve a given goal through combining software packages.
- To be able to use internet services to communicate with a wider audience e.g. blogging.

#### Digital Literacy

- To be able to recognise what is acceptable and unacceptable behaviour when using technologies and online services.

### Year 8

#### Algorithms

- To be able to design simple algorithms using loops and selection i.e. if statements.

#### Programming

- To be able to detect and correct simple semantic errors i.e. debugging, in programs.

#### Data

- To understand that programs can work with different types of data: text, number
- To know some ways of keeping data safe

#### Computer

- To be able to recognise and can use a range of input and output devices.

#### Communication

- To understand how to navigate the web and can carry out simple web searches to collect digital content

#### Information Technology

- To be able to use a variety of software to manipulate and present digital content: data and information.

#### Digital Literacy

- To be able to use computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online.



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## Pathway 4

### Year 7

#### Algorithms

- To understand that computers need precise instructions and be able to avoid errors.

#### Programming

- To understand how to run, check and edit a program.

#### Data

- To recognise that digital content can be represented in many forms.
- To understand the need to keep data safe

#### Computer

- To recognise a range of input and output devices.

#### Communication

- To be able to obtain content from the world wide web using a web browser.

#### Information Technology

- To be able to use software (with guidance) to create, store and edit digital content using appropriate file and folder names.

#### Digital Literacy

- To understand the importance of communicating safely and respectfully online, and the need for keeping personal information private.