Year 7	Emerging	Developing	Secure	Excelling
Algorithms	• **Some basic knowledge** of an algorithm • **Some basic Knowledge** that computers need precise instructions but this is not secure • **Some basic knowledge** of the importance of avoiding basic errors when writing an algorithm	• **Knows** what an algorithm is • **Knows** that computers need precise instructions • **Knows** the importance of avoiding basic errors when writing an algorithm	• **Is able to** express basic algorithms using symbols • **Is able to** record basic algorithms with precisions • **Is able to** avoid basic errors	• **Understands** that algorithms are implemented on digital devices as programmes • **Understands** how to design simple algorithms using loops, and selection i.e. 'If' statements • **Understands** how to use logical reasoning to predict outcomes • **Understands** how to find and correct errors i.e. debugging in algorithms
Programming and development	• **Some basic knowledge** that users can write their own programmes • **Some basic knowledge** of running, checking and changing programmes • **Some basic knowledge** that programmes run by following precise instructions	• **Knows** that users can write their own programmes. • **Knows** how to run, check and change programmes. • **Knows** that programmes run by following precise instructions	• **Is able to** create a simple programme • **Is able to** identify errors in a programme • **Is able to** write precise instructions	• **Understands** how to use arithmetic operators, if statements, and loops, within programmes. • **Understands** how to use logical reasoning to predict the behaviour of programmes. • **Understands** how to find and correct simple semantic errors i.e. debugging, in programmes

Year 7	Emerging	Developing	Secure	Excelling
Data and data representation	• **Some basic knowledge** of different types of data • **Some basic knowledge** that programmes can work with different types of data • **Some basic knowledge t**hat data can be structured in tables to make it useful • **Some basic knowledge** of simple binary numbers	• **Knows** the different types of data: text, number. • **Knows** that programmes can work with different types of data. • **Knows** that data can be structured in tables to make it useful • **Knows that** Binary is a number system that only uses two digits: 1 and 0.	• **Is able to** use filters or can perform single criteria searches for information • **Is able to** structure data in tables to make it useful. • **Is able to** convert between binary and denary	• **Understands** how to perform complex searches for information e.g. using Boolean and relational operators. • **Understands** how digital computers use binary to represent all data. • **Understands** how to perform addition of binary numbers.
Hardware & Processing	• **Some basic knowledge** that a range of digital devices can be considered a computer • **Some basic knowledge** that there is a difference between input and output • **Some basic knowledge** that computers have no intelligence and that computers can do nothing unless a programme is run • **Some basic knowledge** that all software executed on digital devices is programmed	• **Knows** that a range of digital devices can be considered a computer • **Knows** and can use a range of input and output devices. • **Knows** that computers have no intelligence and that computers can do nothing unless a programme is run • **Knows** that all software executed on digital devices is programmed.	• **Is able to** differentiate between hardware and application software, and their roles within a computer system. • **Is able to** explain how computers collect data from various input devices, including sensors and application software. • **Is able to** describe the differences between physical, wireless and mobile networks.	• **Understands** the function of the main internal parts of basic computer architecture. • **Understands** the concepts behind the fetch-execute cycle. • **Understands** that there is a range of operating systems and application software for the same hardware.

Year 7	Emerging	Developing	Secure	Excelling
Communications and networks	• **Some basic knowledge** of how to find content from the world wide web using a web browser • **Some basic knowledge** of the importance of communicating safely and respectfully online, and the need for keeping personal information private • **Some basic knowledge** of what to do when concerned about content or being contacted	• **Knows** how to find content from the world wide web using a web browser • **Knows** the importance of communicating safely and respectfully online, and the need for keeping personal information private • **Knows** what to do when concerned about content or being contacted	• **Is able to** navigate the web and can carry out simple web searches to collect digital content. • **Is able to** demonstrate safe practices when using computers safely and responsibly, • **Is able to** report unacceptable content and contact when online • **Is able to** construct a static web page using HTML.	• **Understands** the difference between the internet and internet service e.g. world wide web. • **Understands** the role of, and can use a range of internet services e.g. VOIP. • **Understands** what is acceptable and unacceptable behaviour when using technologies and online services. • **Understands** know how to construct interconnected multimedia web pages using HTML.
Information Technology and Digital Literacy	• **Some basic knowledge** of how to use software under the control of the teacher to create, store and edit digital content using appropriate file and folder names • **Some basic knowledge** that people interact with computers • **Some basic knowledge** of some common uses of information technology beyond the classroom	• **Knows** how to use software under the control of the teacher to create, store and edit digital content using appropriate file and folder names • **Knows** that people interact with computers • **Knows** common uses of information technology beyond the classroom	• **Is able to** talk about own work and make changes to improve it. • **Is able to** independently use technology to purposefully organise digital content. • **Is able to** show an awareness for the quality of digital content collected. • **Is able to** use a variety of software to manipulate and present digital content: and information. • **Is able to** share own experiences of technology in school and beyond the classroom. • **Is able to** talk about own work and make improvements to solutions based on feedback received.	• **Understands** how to collect, organise and present data and information in digital content. • **Understands** how to create digital content to achieve a given goal through combining software packages and internet services to communicate with a wider audience e.g. blogging • **Understands the need to** make appropriate improvements to solutions based on feedback received, and can comment on the success the solution.