Denton Community College 2019/20

Departmental Curriculum Map Template

Subject: Computer Science   **Year Group: Y9**

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topics	Networks & Hardware	Intro to Python	Pioneers of Computer Science	Binary	Digital Safety	HTML
What will students during this unit?	Computer Networks - Advantages / Disadvantages of Networks - Local Area Networks (definition and hardware required) - Wide Area Networks (definition and hardware required) - Data Packets and the Internet - DNS and the Internet	Introduction to Python - Outputs - Inputs and Variable Storage - IF Statements Problem Solving (Abstraction and Decomposition) Tasks	Back to the Future Visiting famous CS pioneers and exploring their work: - George Boole – Boolean Logic - Tim Berners-Lee – HTML and WWW - Charles Babbage – The Difference Engine and Problem Solving - Alan Turing – Code Breaking	Binary Bits and Bobs - The Binary Number System - Binary – Denary Conversions - Binary Addition - Binary Representation of Text - Binary Representation of Images - Binary Representation of Sound	My Digital World: Exploring Online Issues: - Website Reliability and Quality of Sources of Information - Safe & Effective Searching - Copyright Issues - Online Dangers - Strategies to Stay Safe	HTML and CSS - HTML Basics - CSS: • Text • Images • Divisions • Layout
When will students be assessed?	Knowledge of WAN & LAN, Network Hardware. Basic knowledge of how computer systems work. The role of the CPU	Knowledge or reading code, inferring outcomes of data input / trace tables, the use of variables, data types, selections/decision, and application of programming techniques.	Alan Turning / Encryption, Sir Tim Berners-Lee / WWW, George Boole / Boolean Logic, Charles Babbage / Difference Machine,	Measurements of data, Binary number system, ASCII & Code Breaking, Bitmap Images, Representing Audio,	Critical Thinking, Using techniques to search more efficiently, Copyright Do's and Don'ts, Advice on staying safe online & identifying dangers, Cyberbullying,	Creating webpages using CSS and HTML, Background, DIV Tags, Layouts of webpages.

How will students be assessed?	• Midway online digital assessment • End of unit online digital assessment • End of unit written assessment	• Midway online digital assessment • End of unit online digital assessment • End of unit written assessment	• Midway online digital assessment • End of unit online digital assessment • End of unit written assessment	• Midway online digital assessment • End of unit online digital assessment • End of unit written assessment	• Midway online digital assessment • End of unit online digital assessment • End of unit written assessment	• Midway online digital assessment • End of unit online digital assessment • End of unit written assessment
Key Vocabulary	Devices, Data Packets, Transmit, Hardware, Input, Output, Processor, CPU, Hertz, Network	Program, Sequence, Variable, Selection, Iteration, Data Type, Integer, Comment, Input, Print	Boolean, Logic, Calculator, Problem Solving, Automation, Hyper Text Markup Language, World Wide Web, Impact, Data Packets	Bit, Nibble, Byte, Bitmap, Compression, True, False, Depth, Bitrate, Sample	Evaluate, Fact, Opinion, Bias, False, Copyright, Search, Boolean Operators, Acknowledgement, Plagiarism	Hyper Text Markup Language, Cascading Style Sheets, Secure, Tags, World Wide Web, Browser, Data Packets, Author, Host
Homework opportunities to broaden or deepen student knowledge	IDEA is used for homework which encourages a broad and balanced view of digital literacy outside of computer science. Students aim for a bronze award by the end of Y8 and silver by end of Y9. Lessons link to specific "badges" which encourage further knowledge of topic.	IDEA is used for homework which encourages a broad and balanced view of digital literacy outside of computer science. Students aim for a bronze award by the end of Y8 and silver by end of Y9. Lessons link to specific "badges" which encourage further knowledge of topic.	IDEA is used for homework which encourages a broad and balanced view of digital literacy outside of computer science. Students aim for a bronze award by the end of Y8 and silver by end of Y9. Lessons link to specific "badges" which encourage further knowledge of topic.	IDEA is used for homework which encourages a broad and balanced view of digital literacy outside of computer science. Students aim for a bronze award by the end of Y8 and silver by end of Y9. Lessons link to specific "badges" which encourage further knowledge of topic.	IDEA is used for homework which encourages a broad and balanced view of digital literacy outside of computer science. Students aim for a bronze award by the end of Y8 and silver by end of Y9. Lessons link to specific "badges" which encourage further knowledge of topic.	IDEA is used for homework which encourages a broad and balanced view of digital literacy outside of computer science. Students aim for a bronze award by the end of Y8 and silver by end of Y9. Lessons link to specific "badges" which encourage further knowledge of topic.
Links to the National Curriculum	• understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems	• create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability • use two or more programming languages, at least	• understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able	• understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and	• understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact	• undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and

		one of which is textual, 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 ● design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems	to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]	manipulated digitally, in the form of binary digits	and conduct, and know how to report concerns	analysing data and meeting the needs of known users