



# Denton Community College 2019/20

## Departmental Curriculum Map Template

### Subject: Computer Science

### Year Group: Y8



	Lessons 1 - 4	Lessons 5 - 6	Lessons - 7-12
<b>Topics</b>	Gaming in Scratch	Hardware	Introduction to Python
<b>What will students during this unit?</b>	Continuation and progress within Scratch programming. Students apply their skills and knowledge to create aspects of a game e.g. movement, scoring and levels.	Students will gain a knowledge and understanding of what a computer is, what defines a computer, where and why used. Furthermore, students will gain an awareness of computer hardware components.	Students apply knowledge and skills learnt within Scratch to “line based coding” in the form of Python. Students should be able to link the different programming types (Scratch and Python) with a logical approach e.g. the structure of a selection construct.
<b>When will students be assessed?</b>	Continued development from Y7. Motion scripts, the use of variables within games, developing options/menus/difficulty settings.	Knowledge of computer systems, input, process and output, 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.
<b>How will students be assessed?</b>	<ul style="list-style-type: none"> <li>Midway online digital assessment</li> <li>End of unit online digital assessment</li> <li>End of unit written assessment</li> </ul>	<ul style="list-style-type: none"> <li>Midway online digital assessment</li> <li>End of unit online digital assessment</li> <li>End of unit written assessment</li> </ul>	<ul style="list-style-type: none"> <li>Midway online digital assessment</li> <li>End of unit online digital assessment</li> <li>End of unit written assessment</li> </ul>
<b>Key Vocabulary</b>	Scripts, Programming, Sprite, Variable, Broadcast, Stage, Background	Input, Process, Output, CPU, RAM, Motherboard, Hard Drive	Program, Sequence, Variable, Selection, Iteration, Data Type, Integer, Comment, Input, Print
<b>Homework opportunities to broaden or deepen student knowledge</b>	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”	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”	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

	which encourage further knowledge of topic.	which encourage further knowledge of topic.	“badges” which encourage further knowledge of topic.
<b>Links to the National Curriculum</b>	<ul style="list-style-type: none"> <li>● understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem</li> <li>● use 2 or more programming languages, at least 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</li> <li>● create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</li> </ul>	<ul style="list-style-type: none"> <li>● understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems</li> <li>● 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 manipulated digitally, in the form of binary digits</li> </ul>	<ul style="list-style-type: none"> <li>● design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems</li> <li>● create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</li> </ul>