Computer Science
Year 8

Glenthorne High School
Achievement for all

Emerging - The student is just beginning to learn/understand subject content/skills

Developing - The student is showing an increased understanding/skill level in the subject

Secure - The student has achieved a sound understanding and competence in the subject

Mastered - The student shows evidence of a deeper understanding/higher skill level in the subject and can make connections between different areas within the subject

	Emerging	Developing	Secure	Mastered
	To achieve this, students must….			
Computer Hardware	Understand what a computer system is and the relevance of learning about computer parts	Identify and explain how each main component of a computer works and its relevance in data processing	Understand which parts of a computer relate to computing problems, recommending ways to solve them	Understand and interpret abstract concepts like Binary and ability to demonstrate how it explains computer systems.
Data Representation	Understand how images/sound are stored in a computer and why it is stored in this way. Understand the form images/sound are stored in a computer system	Understand how Binary plays a part in image/sound data representation Identify different file formats and why different formats are used for different needs of the user	Understanding and explaining the process of how images/sound are digitally stored	Recommend software that could enable the storage and processing of images/sound applying knowledge of data representation to real life scenarios as seen/experienced in relevant industries

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Programming **PYTHON**	Use text-based programming. Runs, checks, and changes programmes. Understands that programmes are executed by following precise instructions.	Use text- based programming. Knows that users can develop their own programmes, and can demonstrate this by creating a simple programme in an environment that does not rely on graphics.	Use text- based programming. Understands the difference between, and appropriately uses if, then and else statements. Can write and debug programmes with limited teacher support.	Uses nested selection statements in a text-based programming language. Has practical experience of a high-level textual language, including using standard libraries, when programming.
Computer Networks	Understand what Networking is and why it relates to the world around us Understands the potential of information technology for collaboration when computers are networked.	Understand the impact and need for Networking – understand the issues that could within a network	Identifies and explains using specific computer hardware to build a network and why each is needed	Explains and justifies why companies, individuals decide to use certain computer networks, weighing the social, economic effect of their decisions
Spreadsheets	Understand what is meant by computer modelling. Understand what financial modelling is and how computer systems help with this	Understands that different features of spreadsheet software can enable financial modelling in an efficient way.	Applying previously learnt programming skills – If statements, COUNT-IF etc to sort data within EXCEL	To use financial modelling tools to predict outcomes using analysis and information generated to make recommendations for clients/entities

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3D Modelling and Animation	**BLENDER**	Understands the impact of 3D animation on the wider world, linking to their own experiences. Understands the basic of making models in Blender – Deleting, adding objects, moving and rotating	Understand how to add, move, and delete keyframes to make animation also ability to join multiple objects together using parenting	Independently use more complex modelling techniques to build realistic-looking models.	Understands how to produce an animation video, rendering out the animation applying project management skills.