Academic Learning Plan 2022-2023

Computing – Year 9

Intent : The Computing Department aims to establish, in all students, an enquiring mind and a positive can do approach. Computing is a practical subject that at times requires students to active learns sometimes learning through trial and error, helping to build resilience. Students will leave Wadham School with essential Computing skills for everyday life and an understanding of how to develop those skills further in our ever-changing technological landscape.

	Term 1		Term 2
Year 9 Units	9.1 Animations	9.2 Cybersecurity	9:3 Programming with Python
Content (National curriculum)	Films, television, computer games, advertising, and architecture have been revolutionised by computer-based 3D modelling and animation. In this unit learners will discover how professionals create 3D animations. By completing this unit learners will gain a greater understanding of how this important creative field is used to make the media products that we consume. Sessions will take learners through the basics of modelling, texturing, and animating; outputs will animations, short videos, and Links are made throughout to computer science, computational thinking, and the world of work.	This unit takes the learners on an eye-opening journey of discovery about techniques used by cybercriminals to steal data, disrupt systems, and infiltrate networks. The learners will start by considering the value of their data to organisations and what they might use it for. They will then look at social engineering techniques used by cybercriminals to try to trick users into giving away their personal data. The unit will look at the more common cybercrimes such as hacking, DDoS attacks, and malware, as well as looking at methods to protect ourselves and our networks against these attacks.	Understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation Analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems Understand several key algorithms that reflect computational thinking; use logical reasoning to compare the utility of alternative algorithms for the same problem Understand how instructions are stored and executed within a computer system Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems
Literacy	Within Pupils PowerPoint work book	Within Pupils PowerPoint work book	Within Pupils PowerPoint work book
Knowledge organiser			
Assessment	Final animation	Online test	Final program
GCSE Link	Digital Media- Creating content	Computing- systems	Computing- Programming skills
Homework	NA	NA	NA
CEIAG			
Enrichment			

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	Term 3	
Year 9 Units	9.4 Representations going audio visual	9.5 Web development and construction
Content	In this unit, learners will focus on digital media such as images and sounds, and discover the binary digits that lie beneath these types of media. Just like in the previous unit, where learners examined characters and numbers, the ideas that learners need to understand are not really new to them. You will draw on familiar examples of composing images out of individual elements, mixing elementary colours to produce new ones, and taking samples of analogue signals, to illustrate these ideas and bring them together in a coherent narrative. This unit also has a significant practical aspect. Learners will use relevant software to manipulate images and sounds and get an idea of how the underlying principles of digital representations are applied in real settings.	Create, reuse, revise, and repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability. Plan a suitable product. Use specialist web design software to create a site. Understand the conventions of websites and the impact of Target Audience and Purpose. Evaluate the successfulness of the final product against set of given criteria.
Literacy	Within Pupils PowerPoint work book	Within Pupils PowerPoint work book
Knowledge organiser		
Assessment	Online test	Constructed webpage
GCSE Link	Digital Media creating appropriate content	Digital Media – Constructing a suitable digital product
Homework		NA
CEIAG		
Enrichment		

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