Curriculum Summary Documents

Year 8 Computing

Module/Unit of Learning	Taught During	What will students learn?	How does this help to broaden horizons?	Links to other Subjects
Modelling and animation	**Half term 1**	This unit gives pupils the opportunity to create a variety of 3D computer models in technical software and animate these 3D objects. Initially the lessons use Sketchup software to create architectural 3D designs. Then later pupils will use Blender to create 3D models that could be used in animations, video games or be printed in 3D. The final few lessons look at 3D animation where pupils can animate their own 3D models and also professionally created 3D rigged models.	This unit is quite different to other topics covered in Computing and allows pupils to get a taste of 3D modelling and animation which is used in a variety of sectors from Computer games to manufacturing precise equipment.	Computer Aided Design and Manufacturing in DT
Networks and web design	**Half term 2**	This unit builds on the basic knowledge of How the internet works that they cover in year 7, going to more detail and looking at cyber security Techniques used by hackers and how to prevent them. The second half of this unit looks at how to create web pages using both HTML and graphic tools such as Canva to create web pages.	This topic helps pupils to understand how the internet isn't some magical thing that just exists but is the collection of computers, devices and networks working with other networks to transfer information. We look at the wide variety of jobs opportunities in these fields from very techie ones such a cyber security engineers to more creative ones such as web designers.	
Game programming	**Half term 3**	This unit initially allows pupils to consider what makes a successful computer game and how complex games can be simplified by using decomposition. Pupils will then	We look at the size of the Computer game industry (which is larger in terms of money generated than all	

		use the game engine G-develop to create and program several 2D computer games. Each game will involve creating image and sound assets, using these assets with the scene/level and then programming behaviour and events for objects.	other media industries combined) and the jobs opportunities in, or linked to computer game development.	
Flowcharts and Logic	**Half term 4**	Students will improve their problem-solving abilities by learning the principles of computational thinking: abstraction, decomposition. This will develop into designing, creating and refining a variety of algorithms including flowcharts. In the final lessons of this unit they will use their problem solving knowledge to complete a logic and problem solving assessment (The Bebras test)	This unit of work centres around the need to be able to solve problems in a modern world, regardless of whether the subject of Computing is one they wish to have a career in. Hopefully pupils will be able to apply the skills and knowledge learnt in this unit to a wide variety of problems both technological and non- technological.	Hopefully the skills gained here will link to many other subjects and areas of their own lives.
Python Programming	**Half term 5**	Building on programming knowledge acquired last year pupils will adapt and improve python programs using the PRIMM (Predict, Run, Investigate, Modify and Make) learning pedagogy methods. The focus will remain on being able to use the main programming structures (Sequencing, Selection, Iteration).	This aim of this unit is to equip students with a fundamental understanding of text-based programming by modifying and improving existing programs . The unit builds upon students learning from other programming topics in Year 7.	English - creative writing
Scratch Programming	**Half term 6**	Building on programming knowledge acquired last year pupils will create a range of different programs using the drag and drop programming language Scratch. The programs they will create including a maze game, flappy bird and meteor dodge. The focus will be on applying their	This aim of this unit is to equip students with a fundamental understanding of programming by creating complex, useful programs. The unit builds upon students learning from the logic and problem solving	Maths – co-ordinates

		knowledge to solve problems and program independently.	unit in half term 4 and other programming topics in Year 7 and 8.	