



<u>Y9</u>	<u>Weeks</u>	<u>Topic</u>	<u>Rationale</u>	<u>Assessment</u>	<u>Homework</u>	<u>Wider Curriculum (FBV, Employability, SMSC, Cultural Capital)</u>
Autumn	1-7	Python programming with sequences of data	Students are introduced to how data can be represented and processed in sequences such as lists and strings. Use of pair programming, & live coding used. This develops on from the year 7 & 8 programming units and assumes learners are able to write-programmes to display messages, received keyboard inputs, and simple arithmetic expressions.	Summative assessment online, and project development, formative assessment on class worksheets	Set to re-cap / confirm / build knowledge / summarise key information.	This will give students an understanding of how code is now embedded in society, give them a grounding in computational terms, and using textual based programming languages. This can then be developed further and enhanced and be good for employability in the future.
	8-14	Animations	Students to gain understanding of how Animations in film television and computer games advertising have been revolutionised by 3D computer-based modelling and animation. Students will gain opportunity to look at modelling and animation with a range of different tools and techniques learnt	Students will produce a product based on learning incorporating homework	Set to re-cap / confirm / build knowledge / summarise key information.	Students need to appreciate what they are creating and ensure if they are advertising a product then it needs to be correct in thinking about the morals and ethics of what they are doing as well providing them with skills for future employment.



Spring	15-20	Cybersecurity	<p>Students to gain understanding of how Animations in film, television and computer games. Advertising has been revolutionised by 3D computer-based modelling. Students will gain opportunity to look at modelling and texturing animation with a range of different tools and techniques learnt.</p>	<p>Students will produce a product based on learning incorporating homework.</p>	<p>Set to re-cap / confirm / build knowledge / summarise key information.</p>	<p>Students need to be able to complete this unit to have greater understanding of how cyber criminals are working to give them the benefit so they can understand how to keep safe in the workplace, and socially, also they need to stay safe while using it in an ethical and moral way.</p>
	21-26	Data Science	<p>Development of students' ability to understand how cyber criminals steal data, disrupt systems and infiltrate networks. Looking at social engineering and other varieties of common cyber crimes</p>	<p>End of unit Socratic online test and homework's</p>	<p>Set to re-cap / confirm / build knowledge / summarise key information.</p>	<p>Students need to understand how data is used in a range of different circumstances and shown that data can be used to solve problems outside of IT and within the wider cultural capital of society</p>



Summer	30- 33	Representations: going audio-visual	Students will focus on making digital media, images and sound and discover how it is stored as binary code. They will develop images, mix colours, and students will use image editing software, and sound editing software to manipulate both images and sounds to give an understanding of the underlying principles of digital representation in the real world setting. This builds on student's year 8 unit representation from clay to silicon.	Summative assessment online, and project development, formative assessment on class worksheets	Set to re-cap / confirm / build knowledge / summarise key information.	The students appreciate the fact of what they are developing being ethical and moral, of producing a product that is not deceiving to a wider population, and so giving them an ethical fundamental value of what to do and what not to do.
	34-40	Physical computing programming	Students will develop their programming skills using BBC Microbits to become acquainted with real world steps in programming. In the process they refresh their Python programming skills using a range of programming patterns that feature frequently in physical computing applications. In the 2nd half of the unit, students will build a project, and apply to a prototype. This builds on units completed previously in KS3 ICT.	Summative assessment online, and project development, formative assessment on class worksheets	Set to re-cap / confirm / build knowledge / summarise key information.	Students need to understand for employability that coding and programming skills are vitally important and by being able to program a range of different programming patterns that arise frequently. Projects can be tailored to allow sequence, selection, iterations and functions to control different programs and link these into how different cultural, capital and employability points, which can be utilised at a later stage in their education.



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