Computer Science Curriculum Map

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	Topic	**Introduction to Computing** Students will familiarise themselves with the systems used at Shenfield, and be taught how to navigate technology safely	**Digital literacy** Students will explore various software packages, including Word, Powerpoint and Excel	**Computer systems** Students will be introduced in the fundamentals of computer systems, looking at hardware, software, storage and binary	**Block based programming** Students will be introduced to the key fundamentals of programming via code.org's express programming course	**Digital enterprise - IDEA Bronze Award** Students will work towards an online qualification, called IDEA. Students will complete numerous online challenges based around being a digital citizen and digital worker	**Vector graphics** Students will learn to create vector graphics
	Assessment	**Google forms quiz** When? Last week of half term Contents: - How to stay safe online - Online risks - Features of a computer (desktop, tabs, menus etc)	**Google forms quiz** When? Last week of half term Contents: - Key features of Word - How to compose professional emails - Key features of Powerpoint -How to use basic formula and functions in Excel	**Google forms quiz** When? Last week of half term Contents: - Identifying hardware, software and storage components -Converting from binary to denary and vice versa -Binary addition	**Google forms quiz** When? Last week of half term Contents: - Identify examples of variables, sequencing, selection and iteration -Predict outputs of programmes	**Google forms quiz** When? Last week of half term Contents: - Cyber security -eSafety - Social media ethics - Digital ethics	**Google forms quiz** When? Last week of half term Contents: - End of year quiz recapping all of the key content covered over the year

Computer Science Curriculum Map

	PREP	Revision for assessment	Revision for assessment	Revision for assessment	Revision for assessment	Revision for assessment	Revision for assessment
Year 8	Topic	**Network security** Students will explore what a compute network is, and how it can be vulnerable to hackers	**Gaining support for a business** Students will come up with their own business idea, and then use various software packages to gain support for their business	**Boolean logic** Students will learn about Boolean logic, and how computers are designed using this logic	**Programming in Python** Students will apply their fundamental knowledge of programming to Python, a common text based programming language	**Digital enterprise - IDEA Bronze Award** Students will work towards an online qualification, called IDEA. Students will complete numerous online challenges based around using technology to make content as well as using technology in business	**Animations** Students will learn to create animations that they commonly see in films and TV programmes
	Assessment	**Google forms quiz** When? Last week of half term Contents: - Identify key network threats -Identify how to prevent being a victim of network threats	**Google forms quiz** When? Last week of half term Contents: - Key features of Word - How to compose marketing emails - Key features of Powerpoint -How to use more advanced formula and functions in Excel	**Google forms quiz** When? Last week of half term Contents: - Identifying AND, OR, NOT gates - Be able to complete truth tables	**Programming project** When? Last week of half term Contents: - Students will be asked to programme a car using Python turtle. Students will have their projects marked to assess their use of key programming skills,	**Google forms quiz** When? Last week of half term Contents: - Problem solving -Social media in business - Coding	**Google forms quiz** When? Last week of half term Contents: - End of year quiz recapping all of the key content covered over the year

Computer Science Curriculum Map

					such as using variables, loops and subroutines		
	PREP	Revision for assessment	Revision for assessment	Revision for assessment	Revision for assessment		Revision for assessment
Year 9	Topic	**Your data** Students will explore why social media is free, and how big tech companies use our data, and for what purpose	**Spreadsheets** Students will learn how to use functions and formula to analyse data	**How data is represented by a computer** Students will explore how computers store different forms of data	**Programming in Python** Students will develop their programming in Python knowledge by exploring sequencing, selection and iteration in more detail	**Digital enterprise - IDEA Silver Award** Students will continue to work towards an online qualification, called IDEA. Students will complete numerous online challenges based around being a digital citizen and entrepreneur	**Hour of code programming challenges** Students will finish their KS3 Computing journey by completing various programming challenges, practising both their programming skills as well as their problem solving skills
	Assessment	**Essay** When? Last week of half term Contents: - Students will be asked to write an essay style answer explaining their opinion on big tech companies using our data	**Google forms quiz** When? Last week of half term Contents: - How and when to use MIN,MAX,AVERAGE,SUM,COUNT AND COUNTIF -How to use + - / *	**Google forms quiz** When? Last week of half term Contents: - How sound, images and text are stored by computers -How to convert between binary, denary and	**Programming project** When? Last week of half term Contents: - Students will create a 10 question general knowledge quiz, using Python, that gives feedback on user answers, as well as keeping track of their score.	**Google forms quiz** When? Last week of half term Contents: - Problem solving -Time management -Market research - Financial investment	**Google forms quiz** When? Last week of half term Contents: - End of year quiz recapping all of the key content covered over the year

Computer Science Curriculum Map

				hexadecimal numbers	This will test their ability to use variables, if else statements and loops, as well as their ability to debug and problem solve		
	PREP	Revision for assessment	Revision for assessment	Revision for assessment	Revision for assessment	Revision for assessment	Revision for assessment
Year 10	Topic	**2.4 – Boolean Logic** **1.2.4 – Data storage - numbers**	**2.2.1 – Programming fundamentals** **2.2.2 – Data types**	**2.2.3 – Additional programming techniques** **1.2.4 – Data storage – images, sound, characters** **1.2.3 - Units**	**1.2.5 – Compression** **1.1 – Systems architecture**	**2.1 – Designing, creating and refining algorithms**	**Pre mock revision** **Pre mock review and consolodation**
	Assessment	**Past paper** covering how numbers are stored by a computer, as well as logic gates and truth tables	**Past paper** covering different types of data and their applications, as well as how to use sequence, selection and iteration When? Between week 4-6 of the half term	**Past paper** covering sequence, selection and iteration, as well as how images, sound and characters are stored by a computer. Units of storage and their	**Past paper** covering how files are compressed, as well as the components of a CPU, and factors that effects its performance	**Past paper** covering the features of a bubble, merge and insertion sort, as well as a binary and linear search.	**Past paper** covering all topics covered up to this point When? Between week 4-6 of the half term

Computer Science Curriculum Map

		When? Between week 4-6 of the half term		conversions are also covered When? Between week 4-6 of the half term	When? Between week 4-6 of the half term	When? Between week 4-6 of the half term	
	PREP	Practise questions	Practise questions	Practise questions	Practise questions	Practise questions	Practise questions
Year 11	Topic	**1.2.1 – Primary storage** **1.2.2 – Secondary storage** **1.3 – Networks**	**1.3 – Networks** **1.6 – Ethical, legal, cultural and environmental impacts of technology**	**1.4 – Network security** **1.5 – System software**	**2.3 – Producing robust programmes** **2.5 – IDEs**	**Revision**	
	Assessment	**Past paper** covering RAM, and ROM, as well as the characteristics and need for secondary storage When? Between week	**Past paper** covering all aspects of networking, as well as ethical, legal, cultural and environmental issues surrounding technology When? Between week 4-6 of the half term	**Past paper** covering network threats and their preventions, as well as system and utility software.	**Past paper** covering maintainability and defensive design, as well as features of an integrated development environment.	**Past paper** covering all topics covered up to this point When? Between week 4-6 of the half term	**P**

Computer Science Curriculum Map

		4-6 of the half term		When? Between week 4-6 of the half term	When? Between week 4-6 of the half term		
	PREP	Practise questions	Practise questions	Practise questions	Practise questions	Practise questions	Practise questions