

Term		Year 7	Year 8	Year 9	Year 10	Year 11
1	September-October	An introduction to what computing is, some computing ideas using computing terminologies	Understand several key algorithms that reflect computational thinking. Use logical reasoning to compare the utility of alternative algorithms for the same problem.	Computational Thinking and algorithms	Computational thinking and algorithms using exam reference language	Additional programming involving functions and procedures
	November-December	Introduction to computational thinking and algorithms	Problem solving and logical reasoning; debugging problems	Programming fundamentals using sequence, selection and iteration	Programming fundamentals involving variables, data types, SQL and string manipulation	Errors and testing Boolean logic
2	January-February	Using algorithm to design programs i. e. Python	Use textual programming language to solve a variety of computational problems	Use textual programming language to solve a variety of computational problems	Defensive design method and maintainable code	Languages & IDE Operating system & Utility software
	March-April	Data representation - How to use two different methods to convert denary numbers to binary	Data Representation - Binary bits and bobs & Boolean logic	Data representation - ASCII, text and Images & Boolean algebra	Data storage / memory and computer architecture	Revision and Ethical - legal - Environment and privacy issues
3	May-June	Computer hardware - Understand what a computer is and how they can come in various forms.	Cryptography - use and purpose of cryptography and encryption of data	Cyber security - Malware; social engineering	Computer network - Understand the hardware and software components that make up computer systems	Revision
	June-July	Retrieval - Programming project involving prior learning	Retrieval - Programming project involving prior learning	Retrieval - Programming project involving prior learning	Network threats and prevention methods Revision	Exam
<b>Additional reading</b>		<a href="#">Lift-the-flap Computers and Coding</a> <a href="#">Computer Coding Made Easy</a>	<a href="#">Adventure in Minecrafts</a> <a href="#">Computational fairy tales</a>	<a href="#">How Super Cool Tech Works</a> <a href="#">Coding as a playground</a>	<a href="#">Real world Algorithms</a> <a href="#">Python for kids</a>	<a href="#">Computational Thinking</a> <a href="#">I, Robot</a>
<b>Useful websites/Links</b>		<a href="#">Teach-ict.com</a> <a href="#">BBC Bitesize</a>	<a href="#">Teach-ict.com</a> <a href="#">BBC Bitesize</a>	<a href="#">Teach-ict.com</a> <a href="#">BBC Bitesize</a>	<a href="#">Teach-ict.com</a> <a href="#">BBC Bitsize</a>	<a href="#">Teach-ict.com</a> <a href="#">BBC Bitsize</a>