

Computing at Key Stage 3 at Cottenham Village College. Our aim is for every child in Cottenham Village College to have a world-leading computing education. We believe our pupils should know the fundamental principles of computer science and be encouraged to engage with digital technologies which will equip them for life and at work. Our curriculum has been designed to be inclusive and allow pupils the opportunity to problem-solve, create and use collaborative skills.

At Cottenham VC, we routinely use a range of strategies to formatively assess and give feedback about our learners' progress. In computing, these strategies include low-stake quizzes, questioning in class, homework, observations in lesson and the use of digital worksheets and workbooks on Teams.

Y7 Autumn Term	Topic	Topic	Topic
Key subject knowledge:	Communicating and collaborating online respectfully	Computing Introduction	Cryptography
Key disciplinary knowledge:	Learners will consider how they use different forms of information technology safely in a range of different environments. They will think about the choices that are made when using information technology, and the responsibility associated with those choices. This will include what makes a 'good' password, understanding the schools acceptable use policy (AUP), communicating respectfully to staff and pupils via Microsoft Teams or Outlook.	This unit will introduce learners to notable people in computing history such as Babbage, Lovelace, Turing, Berners-Lee and will include study of other lesser known men & women who continue to inspire. The unit will also cover computer specifications with an opportunity to examine hardware components. Pupils will also be introduced to the binary numbering systems, how they work, and how to convert between bases.	This unit begins with a look at the history of encryption and the human need for communicating in 'secret.' Learners will learn what encryption is and understand its use in the past by using the Caesar and Vigenère ciphers.
Summative Assessment Strategies	KS3 Assessment skills demonstration in lesson and on Teams. Homework	KS3 Assessment with knowledge-based questions. Homework	KS3 Assessment with knowledge-based questions

Y7 Spring Term	Topic	Topic	Topic
Key subject knowledge:	Algorithms	Programming essentials 1	Programming essentials 2
Key disciplinary knowledge:	Pupils will develop their understanding of what an algorithm is and will develop flowcharts using the correct symbols.	Learners will build on their understanding of the control structures in programming: sequence, selection, and iteration, (the big three), and will develop their problem-solving skills using a block-based program	Learners will build on their understanding of the control structures in programming: sequence, selection, and iteration, (the big three), and will develop their problem-solving skills using a text-based program
Summative Assessment Strategies	Mid-year assessment	KS3 Assessment project in the form of an electronic workbook	KS3 Assessment project in the form of an electronic workbook

Y7 Summer Term	Topic	Topic
Key subject knowledge:	Programming essentials 2	Spreadsheets
Key disciplinary knowledge:	Learners will build on their understanding of the control structures in programming: sequence, selection, and iteration, (the big three), and will develop their problem-solving skills using a text-based program	Introduction to the wonderful world of spreadsheets and the concept of cell referencing. Learner will collect, analyse, and manipulate data, before turning it into graphs and charts. Data is beautiful!

Summative Assessment Strategies	KS3 Assessment final project in the form of an electronic workbook Multiple-choice knowledge quiz Homework	KS3 Assessment project in the form of an electronic workbook; end of year assessment
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