

Computing & Digital Media

Computers play a pivotal role in our society and in our everyday lives. Our curriculum at Cornwallis Academy aims to help students be equipped to use technology as they grow up, as well as future proofing them to be safe and confident users of computers in their future careers. We aim for students to develop their computational thinking, problem solving skills and creativity so that they develop the ability to understand and change the world through application of their knowledge and skills to real-world scenarios.

In Key Stage 3, students will study the 3 inter-related strands within the subject of computing (computer science, digital literacy and information technology) largely through project-based learning. Computing at Key Stage 4 teaches Creative iMedia, which leads into Key Stage 5 where students can choose to study Digital Media.

Year 8 Computing

Students study computing on rotation for two terms during the academic year.

	ROTATION 1	ROTATION 2	ROTATION 3
TERM 1 & 2	PRODUCTION	DRAMA	COMPUTING
TERM 3 & 4	DRAMA	COMPUTING	PRODUCTION
TERM 5 & 6	COMPUTING	PRODUCTION	DRAMA

In the first term, students will study Netiquette and Classic Games and Tunes. In the second term, students will study A-MAZE-ING!

Content of study	Netiquette	Classic Games and Tunes	A-MAZE-ING
What are the aims and objectives of this term?	Lessons 1 and 2: 1. Define netiquette 2. Identify why we misunderstand 3. Know how to THINK!	Lesson 1: 1. To re-create a Magic 8 ball using the micro:bit 2. To explain how 'selection' works in your program 3. To test and improve your Magic 8 ball Lesson 2: 1. To create a rock, paper, scissors game using the micro:bit 2. To explain how 'variables' work in your program 3. To test and improve your game Lesson 3:	Lesson 1: 1. Define an algorithm 2. Identify the different techniques of computational thinking. 3. Practice creating algorithms. Lesson 2: 1. Explain why a sequence is important in an algorithm. 2. Create a sprite and maze. 3. Test your game. Lesson 3: 1. Define a condition 2. Identify where a condition could be used in your maze game.

		1. To identify key components on a micro: bit 2. To explain key computing terms 3. To create a graphical dice Lesson 4: 1. To read, reflect and respond to YAP feedback 2. To create a jukebox using a micro: bit 3. To explain how inputs and outputs work within your program 4. To test and improve your jukebox	3. Complete and test your maze game. Lesson 4: 1. Read and respond to your YAP assignment from the last lesson. 2. Define the term 'de-bugging' 3. Practice debugging an algorithm. Lesson 5 and 6: To create a game of your choice that incorporates the skills learnt so far, for a: - shooting game - or a - platform game
What previous knowledge is required?	This builds on the topic from Year 7 about E-safety and online relationships teaching students about appropriate online behaviour.	Students need to be familiar with block-based programming from the Year 7 unit of work as well as using a physical micro: bit from Year 7. They should know what an algorithm is and be familiar with the process of testing code for errors.	In Years 7 and 8, students have exposure to programming a micro: bit so will be familiar with block-based programming. This unit builds on this knowledge with the same platform of programming but tailored towards making arcade games.
How will this term's content help with future learning?	Teaching students how to behave appropriately online will support them as they grow older to interact with people in an appropriate way online, regarding their SMSC development.	Problem solving and creativity skills will start introducing some of the wider skills needed for work later in Year 8 and in Year 9.	It supports their development of problem solving and creative skills ready for Year 9.
Resources	https://www.thinkuknow.co.uk/11_13/ https://www.codeforlife.education/rapidrouter/ https://www.youtube.com/watch?v=Da5TOXCwLSg https://www.youtube.com/watch?v=v_Pc3UnePZY https://www.youtube.com/watch?v=dJYIRcsdHWg https://arcade.makecode.com/		
Links to the national curriculum	• Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems		

	• Understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem • Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users • Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns.
Assessments	In Term 2, students are assessed in the unit Classic Games and Tunes on their programming of a game or tune and knowledge of key terms. This will take place in lesson 3. In Term 2, students are assessed in the unit A-MAZE-ING! on their programming in their maze game in lesson 3.