St Cuthbert Mayne School Curriculum Map 2023-2024

Year 9

Department: COMPUTING

At STCM, the Computing curriculum has been designed to be exciting, creative and dynamic, meeting the needs of all our students so they acquire skills for future learning & employment in an ever-changing world. The topic range is diverse, enabling each student to explore and find their own forte in computing. We have divided the curriculum into three strands, computer science, digital creativity and IT, each strand provides students with a different skill set and knowledge of career paths they could take.

Key Stage 3 Curriculum Summary

Computer Science: HTML, CSS and Javascript, App Development, Introduction to Python for GCSE, Networks

Digital Creativity: App Development

IT: How the web works, Cybersecurity

Autumn Term		
Topic/Unit	**App Creation using AppLab**	**HTML, CSS and Javascript Coding**
Knowledge (Content covered)	In a world where there's an app for every possible need, this unit aims to take the learners from designer to project manager to developer in order to create their own mobile app. Using App Lab from code.org, learners will familiarise themselves with the coding environment and have an opportunity to build on the programming concepts they used in previous units before undertaking their project. Students will work in pairs to consider the needs of the user; decompose the project into smaller, more manageable parts; use the pair programming approach to develop their app together; and finish off by evaluating the success of the project against the needs of the user.	Students will learn the basic tags needed to build a simple webpage, which includes text, images and hyperlinks. They will learn how to code using Javascript to create interactive web pages. To code several JavaScript programs containing IF statements in order make the webpage interactive and make decisions based on the users inputs. To code a web page with information flash cards bringing a webpage to life!
Skills	Computer science programming, computational thinking, creative, group work	Computer science programming, computational thinking
Assessment	Formal assessment Teacher assessment	Formal assessment Teacher assessment
Gatsby 4 (Linking curriculum learning to careers) GATSBY BENCHMARK 4	Application developer, Creative digital designer, Game designer	Software tester, Web developer Software engineer, Teacher

Spring Term			
Topic/Unit	**How the Web Works**	**Back to the Future**	**Python Programming**
Knowledge (Content covered)	Students will learn how the internet and World Wide Web works. They will understand how web browsers find and retrieve information that they have searched for.	This unit teaches students about the historical people of Computer Science and what they developed/created that has shaped our use of technology today. • Alan Turing and Code Breaking • Sir Tim Berners Lee and the World Wide web • George Boole and Logic Gates • Charles Babbage and Problem Solving	This Python unit teaches the fundamentals of programming in Python and leads on to more advanced skills and iteration. • Outputs • Inputs and Variable Storage • IF Statements • While loops • For loops
Skills	Digital Literacy and Computer Science	Computer Science Problem solving	Computer Science Problem solving
Assessment	Teacher assessment	End of unit assessment	Teacher assessment, Formal test
Gatsby 4 (Linking curriculum learning to careers) GATSBY BENCHMARK 4	Data scientist. Software tester. Web developer. Systems analyst. Business analyst. Product manager. Network architect. Software engineer. Teacher	Data scientist. Software tester. Web developer. Systems analyst. Business analyst. Product manager. Network architect. Software engineer. Teacher	Data scientist. Software tester. Web developer. Systems analyst. Business analyst. Product manager. Network architect. Software engineer. Teacher

Summer Term		
Topic/Unit	**Networks**	**Cybersecurity**
Knowledge (Content covered)	This is a fundamental building block for GCSE Computer Science. The students will start with understanding the difference between a WAN and a LAN network and how topologies play a crucial role in the network's performance. Students will learn about various threats to a network and be able to identify prevention measures. Finishing by understanding different protocols and how IP addresses are used on a network and the internet.	This unit takes the learners on an eye-opening journey of discovery about techniques used by cybercriminals to steal data, disrupt systems, and infiltrate networks. The learners will start by considering the value of their data to organisations and what they might use it for. They will then look at social engineering techniques used by cybercriminals to try to trick users into giving away their personal data. The unit will look at the more common cybercrimes such as hacking, DDoS attacks, and malware, as well as looking at methods to protect ourselves and our networks against these attacks.
Skills	Computer Science	Computer Science
Assessment	End of topic formal assessment	End of topic formal assessment
Gatsby 4 (Linking curriculum learning to careers) GATSBY BENCHMARK 4	Network manager/technician Network engineer/designer	Cybercrime unit in the police or armed forces