

HSMS Computing Curriculum Overview 2023-2024

Building Cognitive Architecture – Coherent and Connected – Knowledge and Skill Based

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
School Value	Thankfulness	Justice	Endurance	Compassion	Koinonia	Trust
Year 5	Microsoft		Internet		Scratch Selection	
Key Concepts/ideas	Develop keyboard typing skills Introduction to Microsoft 365 applications: - Word - PowerPoint - Outlook - Teams		Use a web search to find specific information Learn about some of the ways that search engines can be influenced and so understand their limitations		Introduction to Scratch programming Design, create and evaluate a program which uses selection (if ... then ... else)	
Sequence of Learning	Practice keyboard typing skills Learn about keyboard shortcuts Log on and explore Microsoft 365 applications Outlook, Word and Teams Develop skills to create PowerPoint presentations Plan and present an advertising campaign using PowerPoint		Recognise the role of computer systems in our lives Experiment with search engines and learn how search engines select results Find out how search results are ranked Recognise why the ranking of results is important and to whom		Learn how selection is used in computer programs and how selection directs the flow of a program Design a program which uses selection; an interactive quiz Create a program which uses selection Evaluate the program and how it can be improved	
Key Opportunities			Safer Internet Day			
Year 6	3D Modelling		Scratch Variables		Micro:bits	
Concepts/Ideas	Create and manipulate three-dimensional objects using open source software Design, develop and improve a digital 3D model		Understand variables and use them to improve games Design and create a game using Scratch		Introduction to micro:bit programming Use sequence, selection and loops in programs	
Sequence of Learning	Introduction to Tinkercad and compare working digitally with 2D and 3D graphics Recognise that objects can be combined to make a 3D model; a name badge Create a 3D model for a given purpose; a desk tidy To plan, create and improve my own 3D digital model house		Understand that a variable is something that is changeable and why variables are used in computer programming Choose how to improve a game on Scratch by using variables Design a game that builds on a given example Use this design to create a game on Scratch and then evaluate it		Introduction to micro:bit (a pocket sized computer) and the MakeCode editor Use selection in a program to create a fortune teller and a random number generator Use a condition to change a variable to create a manual counter Extend this using an input sensor to create a step counter	
Key Opportunities			Safer Internet Day			

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Year 7	Internet Excel	E-safety	Micro:bits	Hardware Binary	SketchUp	Website Flowcharts
Key Concepts/Ideas	Internet terminology Trends in social media and technology Introduction to Excel	Revisit online safety as appropriate for a Key Stage 3 audience	Develop further micro:bit programming skills including use of sensors and alternative outputs	Learn about hardware components Introduction to binary numbers	A creative 'Grand Design' project to create a three-dimensional house using open source software	Design and create a website using open source software Explore programming by building flowcharts
Sequence of Learning	Research and explain the meaning of internet terminology Compare how we interact using technology Introduction to Excel and what it is used for Learn how to use formula and create charts and graphs in spreadsheets	Learn about ways to use the internet and social media responsibly and safely Research some examples and consequences of poor social media choices Design and create e-safety posters Understanding your digital footprint	Revisit loops and variables in micro:bit programming Extend the use of a condition to change a variable to create a secure password generator A selection of programming projects that make use of built-in sensors and alternative outputs; eg headphones	Identifying parts of a computer and their purpose Different types of inputs and outputs Distinguishing between memory and storage devices and different types of each Converting between binary and denary numbers	Create a 'SketchUp for Schools' account Begin by creating 3D chair and mug designs using Google SketchUp An extended project to design and create the 3D exterior of a Grand Design house and the plot of land it sits on	Understand what makes a website look professional Plan the design of a website Create the website on Wix Understand how flowcharts are constructed Design, use and evaluate flowchart programs on Flowol to model real world problems
Key Opportunities			Safer Internet Day			
Year 8	Cryptography Career Planning	Cyber Security	Create a Video	Text Adventure Python	Networks	Design Project
Key Concepts	Code breaking in World War 2 Use online sources as an introduction to career planning	Various legal safeguards for computer use Different types of computer crimes and ways to protect online identity and privacy	A creative project to develop video editing skills Create and re-purpose digital content to inform and be historically relevant	Design and create a text based adventure Introduction to Python; first exposure of a text-based programming language	How computers communicate with each other and other systems Different types of networks and topologies	Create and promote a new product or business idea An opportunity to revisit and build on previous multimedia skills
Sequence of Learning	Understand the historical	Learn about different types	An extended project to:	Develop programming	Explore how web addresses	An extended Dragon's Den



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	<p>importance of Alan Turing and code breaking in World War 2</p> <p>Learn about different types of cypher and try out some code breaking</p> <p>Use Careerpilot to choose skills and values profiles and plan for subject option choices</p> <p>Use Careerpilot to explore possible career pathways</p>	<p>of email scams and how to spot them</p> <p>Understand terminology relating to computer crime</p> <p>Learn about the Computer Misuse Act and GDPR</p> <p>Understand copyright and plagiarism</p> <p>Learn about health & safety regulations relating to computer use</p>	<p>- research the significance of Winston Churchill or Alan Turing in World War 2</p> <p>- design a sequenced flow and purpose to the video</p> <p>- find relevant / appropriate media assets to use in the video</p> <p>- create the video using the OpenShot Video Editor</p>	<p>skills by designing and creating a text adventure</p> <p>This is firstly as a PowerPoint presentation with hyperlinks</p> <p>Introduction to the syntax of Python</p> <p>Use Python to solve several of computational problems</p> <p>Use Python programming to create a text adventure</p>	<p>are constructed and what the internet and World Wide Web are</p> <p>Learn about connectivity and different types of networks and topologies</p> <p>Understand the importance of encrypting data and different encryption techniques</p>	<p>style project:</p> <p>- come up the product or business idea</p> <p>- brand (name, logo, slogan)</p> <p>- design; 2D or 3D model</p> <p>- presentation with target market, business plan, and projections</p> <p>- create an advert poster and/or video</p> <p>- create a website</p>
Key Opportunities		Digital Leaders CyberFirst Girls	Digital Leaders Safer Internet Day	Digital Leaders	Digital Leaders	Digital Leaders