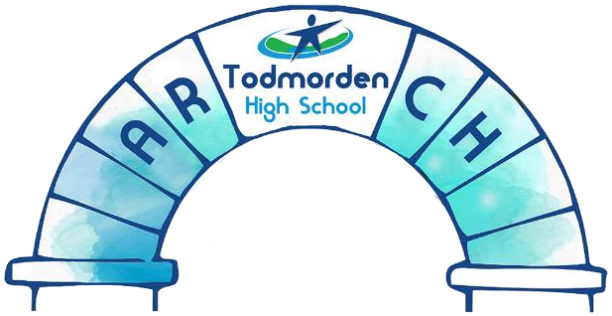
Curriculum Intent for KS3 Computing

Computing underlines most innovation today and prepares students to innovate and create the new technologies that drive local and national economies. This ability to innovate with technology is also important for students' future success and ability to make a difference in a global society. The Computing department equips pupils to use computational thinking and creativity to understand and change the world.

The Computing curriculum uses a progressive pathway at KS3, designed to build on prior knowledge and skills and providing a spiral of learning which scaffolds key concepts within Computer Science at KS4. The Computing Department motivates pupils to discover essential problem-solving skills using decomposition and abstraction. These transferable skills allow pupils to work independently. Pupils are actively taught the art of reflective practice and to make mistakes in Computer Science to encourage further development; embedding knowledge and building resilience.

The Computing Department endeavours to provide an environment of digital champions, who are resilient to a world of unprecedented technological change. Pupils are constantly challenged outside of their normal line of studies with opportunities in programming competitions and government run cyber programmes. The Computing Department aspires to enthuse pupils with the passion of digital creation.



Threshold Concepts Computing:

Communication and Networking	Programming and development	Algorithms	Memory and Storage	Hardware and processing	Creative iMedia

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y7	Induction and Collaborating online safely	Computer Systems (Hardware)	Flowol	Programming Microbit	Programming Microbit	Graphics
Y8	Networks	Python Programming	Graphics	Memory and storage (Binary)	Animation	Animation
Y9	Programming Fundamentals	Programming Fundamentals ii /Cybersecurity	Audacity	Memory and Storage (Binary)	Animation	Imedia project

Key Stage 3 – Autumn Half Term 1

		Week 1		\Week 2	Week 3	Week 4	Week 6	Week 7
		Introduction to the Computing Lab						
Year 7	Content	New log- ons	Welcome to the computing lab	Intro to Office 365 and Cloud Computing	Intro to Teams and Class Notebook	Intro to Outlook	Cyberbullying	Catch-up
	Assessment				STAR mark The 4 rules that you should always follow, Explain how you would create a folder for the one drive			End of unit assessment Completed on forms/online. Controlled assessment – exam conditions
	Home Learning							
		Networking						
Year 8	Content	Computer networks and protocols		Networking hardware	Wired and wireless networks	The internet	Internet services	The World Wide Web
	Assessment				STAR mark Explain the network for a given scenario and explain where and why you would use a hub and or server.			End of unit assessment Completed on forms/online. Controlled assessment – exam conditions
	Home Learning							
		Programming Fundamentals ii						
Year 9	Content	Warm up (Algorithms)	Playlist	In a while crocodile	Iteration	Iteration for loops	Iteration for loops	Wrap up
	Assessment					STAR mark A written set of questions where you will be asked to debug a series of programmes		End of unit assessment Completed on forms/online. Controlled assessment – exam conditions
	Home Learning							

Key Stage 3 – Autumn Half Term 2

		Week 8	Week 9	Week10	Week 11	**Week 12**	Week 13	Week14
		Computer Systems						
Year 7	Content	The roles of a computer	How a computer communicate with the outside world?	Input and Outputs Devices			What's inside a computer? Practical	What's inside a computer? Practical
	Assessment				STAR mark			End of unit assessment
	Historical Skill				Identify a range of special purpose and multipurpose computers Describe the differences between special purpose and multipurpose computers			Completed on forms/online. Controlled assessment – exam conditions
	Home Learning							
		Programming Concepts						
Year 8	Content	Sequence	Variables and INPUT	Selection IF and ELSE	Iteration WHILE	Data types	Putting it all together	End of unit assessment
	Assessment				STAR mark			End of unit assessment
	Historical Skill				A set of three questions where you will need to debug python programme			Completed on forms/online. Controlled assessment – exam conditions
	Home Learning							
		Programming concepts		Data Representation (II)				
Year 9	Content	Complete a mini programming project	Extended day for Wrap up if needed Complete a mini programming project	Binary mosaic	Catch-up	A splash of colour	Collage	Collage
	Assessment						STAR mark	
	Historical Skill							
	Home Learning							

Key Stage 3 – Spring Half Term 1

		Week 15	Week16	Week 17	Week 18	Week 19	Week 20
Year 7		Control Systems					
	Content	What is a flowchart?	Programming outputs	Multiple Outputs	Inputs and decisions	Subroutine	Combining Skills End of unit assessment
	Assessment			STAR mark Add the names below to the correct algorithm shape in the table. Can you identify the error with this algorithm?			End of unit assessment
	Home Learning						
Year 8		Animation					
	Content	What is animation – different types – stop star, tweening	Understand the key components of animation software	Understand additional features used in animation	Understand the difference in purpose and audience	Skills building	End of unit assessment
	Assessment				STAR mark Series of questions focusing on the timeline and FPS		End of unit assessment Completed on forms/online. Controlled assessment – exam conditions
	Home Learning						
Year 9		**Data Representation (ii) – Sound/ Photo Editing**					
	Content	Good vibrations	Sonic play-ground	Compression	Project	Project	End of unit assessment
	Assessment		STAR mark State the meanings of key terminology used in photo editing - such as bitmap, pixels, compression ect.				End of unit assessment Completed on forms/online. Controlled assessment – exam conditions
	Home Learning						

Key Stage 3 – Spring Half Term 2

		Week 22	Week 23	Week 24	Week 25	Week 26	Week 27
Year 7		Programming Fundamentals					
	Content	What is a Micro-bit and how to program it	What is a Micro-bit and how to program it	Algorithms	Algorithms	Selection and iteration	Selection and iteration
	Assessment			STAR mark State the purpose of the program shown. Explain what iteration is and give an example			End of unit assessment Completed on forms/online. Controlled assessment – exam conditions
	Home Learning						
Year 8		Data Representation					
	Content	Across time and space	Lights and drums	Binary digits	Numbers in binary	Handling large quantities	Turing's mug
	Assessment				STAR mark Convert a series of numbers from binary to denary and a series of numbers from denary to binary		End of unit assessment Completed on forms/online. Controlled assessment – exam conditions
	Home Learning						
Year 9		Cyber Security					
	Content	You and your data	Social Engineering	Rise of the Bots	Common Security Threats	Prevention	Under Attack
	Assessment			STAR mark How could you keep the person in the scenario safe ?			End of unit assessment Completed on forms/online. Controlled assessment – exam conditions
	Home Learning						

Key Stage 3 – Summer Half Term 1

		Week 29	Week 30	Week 31	Week 32	Week 33	Week 34
Year 7		Programming Fundamentals					
	Content	Variables part 1 (practical)	Variables part 1 (practical)	Variables part 2	Variables part 2	Data types	TOPIC TEST
	Assessment			STAR mark Explain step-by-step what the program will do when it's ran on			End of unit assessment Completed on forms/online. Controlled assessment – exam conditions
	Home Learning						

Year 8		Computer Systems II					
	Content	Types of computer systems	Input and outputs	System components	Computer memory	Fetch Decode Execute Cycle	End of unit assessment
	Assessment					STAR mark Explain the key peripherals used for a given scenario and why they would be best suited	End of unit assessment Completed on forms/online. Controlled assessment – exam conditions
	Home Learning						

Year 9		Animation					
	Content	Frame by frame animation	Motion tweening	Text buttons and actionscript	Planning an animation	Adding sound effects	Publishing an animation
	Assessment				STAR mark A set of 5 questions that will address your knowledge of file types and terminology used in adobe animate		End of unit assessment Completed on forms/online. Controlled assessment – exam conditions
	Home Learning						

Key Stage 3 – Summer Half Term 2

		Week 35	Week 36	Week 37	Week 38	Week 39	Week 40	Week 41
		Graphic Design						
Year 7	Content	Creating basic shapes	Grouping, and aligning	Creating custom' shapes	Animation	Combining	TOPIC TEST	
	Assessment			STAR mark Create the following shapes				End of unit assessment Completed on forms/online. Controlled assessment – exam conditions
	Home Learning							

		Week 35	Week 36	Week 37	Week 38	Week 39	Week 40	Week 41
		Graphic Design						
Year 8	Content	What are digital graphics?	Intro to software	Interpret a client's brief	Visualising the final product	Developing their final products and editor skills	Developing their final products and editor skills	Developing their final products and editor skills
	Assessment				STAR mark Set of 5 questions based on the needs and wants of an audience (given scenario)		End of unit assessment Completed on forms/online. Controlled assessment – exam conditions	
	Home Learning							

		Week 35	Week 36	Week 37	Week 38	Week 39	Week 40	Week 41
		Graphic Design						
Year 9	Content	What are digital graphics?	Intro to software	Interpret a client's brief	Visualising the final product	Developing their final products and editor skills	Developing their final products and editor skills	Developing their final products and editor skills
	Assessment			STAR mark Explain the job of a foley artist. What sort of things are they responsible for? What skills are important? Investigation: What is the difference between diegetic and non-diegetic sound? Explain when each is used, giving examples			End of unit assessment Completed on forms/online. Controlled assessment – exam conditions	
	Home Learning							