

Computer Science Curriculum map – Key Stage 3

YEAR 7 -CORE COMPUTING	AUTUMN1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
TOPIC	E/SAFETY	HARDWARE	LOGIC AND BINARY	CONVERGENCE AND ARTIFICIAL INTELLIGENCE	Introduction to programming (program design) Scratch/Python	i-Media/Game development/web design
ASSESSMENT	End of unit assessed presentation. 1.File Management. 2. Communicating online and Social media. 3.Online searching. 4. Cyber Bullying 5. Laws & Regulations	End of unit test, 1. History of computing 2. Internal Hardware 3. Fetch/Decode/execute (LMC). 4.Measurements of data(kb,MB,GB) 5.	End of unit test: 1. Basic logic gates (AND, OR, NOT) 2. Encryption. 3.. Number bases 4. Binary-addition 5. Hexadecimal	1. Introduction – Artificial Intelligence 2. Biometrics 3. Robotics 4. Mobile Phone Development 5. Technology and the environment	End of unit assessment: student to design a game in Scratch and or Python, 1. The 3 programming constructs- sequence, selection, iteration 2.. Program flow – selection statements -if/else iteration(loops)-For & while 3.Procedures and functions 4. Algorithm & pseudocode 5. Flowcharts	End of unit assessed presentation. 1.Planning stage-core features (i.e. storyboarding) 2. User interface design. 3.Introduction to HTML
SKILLS AND ABILITIES	Students to understand the meaning of E-safety. cyberbullying,	Student to understand how a computer works.	Students to understand how a computer uses binary to process	Students continue to advance their skills on Online searching. Researching on the	Students to be able to understand the steps taken to	Student to learn about graphical design.

	social networking. Students to understand online dangers and steps to take stay safe online		data using binary and make decisions using logic gates.	different emerging technologies like Artificial Intelligence; how they are used, the evolution of technology, positives and negatives influences. As well as impacts of technology on the environment.	design a computer program.	
KEYWORDS	Cyberbullying. E-safety.		Logic gates Binary Hexadecimal	Artificial Intelligence Biometrics Technology Development Environment Robotics Digital Society	Abstraction Decomposition Pattern recognition. Pseudocode Functions	Storyboarding. Mind-maps HTML

YEAR 8 - CORE COMPUTING	AUTUMN1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
TOPIC	E/SAFETY	HARDWARE AND SOFTWARE	BINARY AND LOGIC	Introduction to networks	ADVANCED SCRATCH AND PYTHON	IMEDIA, WEB DESIGN
ASSESSMENT	End of unit assessment: 1. Copyright, 2. E waste, 3. H&S 4. E-safety laws 5. Social and ethical issues 6. Artificial Intelligence	End of unit test assessment: 1. Internal Hardware 2. The CPU Fetch/Decode/execute (LMC) 3. Memory 4. Secondary Storage. 5. Software 4. BIOS and Operating Systems 5. File management systems 6. Future devices	End of unit assessment. 1. Number bases 2. Binary 3. Hexadecimal 4. Logic gates (AND, NOT, OR, (NAND, XOR, NOR, XNOR) 5. Real-life application Using complex combinational logic gates.	End of unit assessment. 1. How the internet works (difference internet and www) 2. Network topologies. 3. Network security (-how to protect your computer & network) Malware 4. Network protocols. 5. Encryption & Cryptography	End of unit assessment: 1. The 3 programming constructs- sequence, selection, iteration 2.. Computational thinking – abstraction, decomposition, pattern recognition, algorithm. 3. Procedures and functions . 4. pseudocode 5. flowcharts	End of unit assessed project. 1. Game Design (using Scratch) 2. Web site design (using raw HTML)
SKILLS AND ABILITIES	Students to understand the legal and ethical issues surrounding the use of computers.	Students to understand how computer and hardware work together.	Students to understand how a computer uses logic gates are used to make real-life applications.	Students to understand how the internet works. Students to design and create a simple SOHO network. Students learn how protect a network	Students to design and create a simple 2D game IE PONG, Space Invaders.	Student to design a create a web application

KEYWORDS	Copyright Infringement. Health and Safety. E-Waste	BIOS, CMOS, BOOTSTRAP, RAM , ROM	Logic gates: NAND, XOR,NOR,XNOR	encryption, decryption, cipher text. symmetric, asymmetric- public and private keys cloud computing trojan horse, ransomware, worm, virus, spyware	Computational thinking. Pattern recognition. Abstraction. Decomposition	
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