Beamont Collegiate Academy Curriculum Map

Year: 8

Subject: Computing

Intent	Implementation	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Clarity around knowledge	Theme / topic	The History of Computing	Bringing Computing into the modern era	Revisit to systems architecture and going deeper	Going deeper with Computer Science basics	Data and logic will develop the computational thinker	Purposeful programming project, to satisfy a brief
	Key substantive knowledge	• Recap: what is the network • What is the cloud • The history of computing • Who was Alan Turing and what did he do • What is encryption • Charles Babbage and problem solving • His machines and Ada Lovelace	• George Boole - Boolean logic • Logic gates and truth tables • Logic circuits • Time Berners Lee and the WWW • HTML coding and the syntax / tags	• BIOS (understanding input process output) • Purpose of the CPU • Stages of the fetch decode execute cycle • CPU components	• Memory (RAM & ROM) • Kinds of instructions and volatility • Binary conversion methods • Binary addition method	• Programming basics (the 3 constructs and the main programming techniques) • Programming techniques: variables / assignment / sequencing / selection / iteration	• Reaction to a design brief • Target Audience and purpose • Game development • Programming techniques: variables / assignment / sequencing / selection / iteration
	Disciplinary knowledge	• Accessing and using network and cloud • Performing encryption • Solving problems	• How to draw the 3 main gates • How to complete truth tables from a given circuit • Web coding using HTML • The process of using file formats (.txt and .html)	• Identification of internal components • Embedding dynamic content into e-portfolio	• Converting binary to denary • Converting denary to binary • Adding binary numbers (4 bit)	• Drawing the logic gates • Drawing logic circuits • Solving truth tables • Simple variable, input output programs	• Composing a response to a brief • Game interface and character creation • Using the programming techniques: variables / assignment / sequencing / selection / iteration
Clarity around sequencing	Main links across the curriculum	• IT sec Term 1 in y8 (encryption / Turing)	• Seen first time in Y7 term 2 • Digi lit for working between network	• Seen first time in Y7 term 2 • Digi lit for working between network	• Seen first time in Y7 term 2 • Digi lit for working between	• Revisited in term 2 / 3 year 8 • Digi lit for working between network	• • Digi lit for working between network and

		• Digi lit for working between network and cloud and developing eportfolio	and cloud and developing eportfolio	and cloud and developing eportfolio	network and cloud and developing eportfolio	and cloud and developing eportfolio	cloud and developing eportfolio
	Authentic cross curricular links	• Reading curric (Turing)	• Sequencing as a concept for animations applied in programming in Term 5 and in year 8 term 5	• Circuitry on motherboard links with engineering and technology	• Binary conversions and addition require numeracy skills / maths	• Decomposition using for programming relevant to maths / engineering / science and probably many other subjects. • Programming composition of a languages and decoding meaning has links with MFL	• Decomposition using for programming relevant to maths / engineering / science and probably many other subjects. • Programming composition of a languages and decoding meaning has links with MFL
Vocabulary	Key word	• Network / cloud / user area / shared area / folder structure • Encryption / cryptanalyst / cipher / encryption key / decrypt / enigma / bombe / problem solving / analytical engine and difference engine / programming	• Boolean logic / logic gates (and / or / not) / truth tables / input / output / world wide web / internet / html / web coding	• Input / process / output / storage / general purpose computer / embedded computer • CPU / CU / ALU / FDE / cache / RAM / processing / instruction cycles / cores / clockspeed / mther board / address bus / data bus	• RAM / ROM / Instructions / Volatile / bootstrapping instructions / address locations • Binary / denary notation system / conversion / bit / nibble / byte	• Decomposition / algorithm / programming / constructs / sequencing / selection / iteration / variables / assignment / input / output / string	• Decomposition / algorithm / programming / constructs / sequencing / selection / iteration / variables / assignment / input / output / string / operators / increment
Assessment	Summative assessment	• MCQs • Peer marked timed Q activity • Quality of development and	• MCQs • Peer marked timed Q activity • Quality of development and	• MCQs • Peer marked timed Q activity • Quality of development and	• MCQs • Peer marked timed Q activity • Quality of development and	• MCQs • Peer marked timed Q activity • Quality of development and	• MCQs • Peer marked timed Q activity • Quality of development and

		embedded content into e-portfolio	embedded content into e-portfolio	embedded content into e-portfolio	embedded content into e-portfolio	embedded content into e-portfolio •	embedded content into e-portfolio
Links to the real world / careers / PD		• It security jobs • Digital development pathways	•	•	•	•	•