

BCT KS4 Curriculum Intent, Implementation and Impact Overview

Year: 10 Subject: GCSE Computing IMPLEMENTATION							
<p>Key concepts and skills ('Big ideas')</p>	<p>Half Term 1 - Context: Unit 1 Computer Systems</p> <p>Key Vocabulary: Components, characteristics, Boolean, CPU, Virtual, binary, hexadecimal, Program Counter, Accumulator, Fetch Decode Execute Cycle.</p> <p>Prior Learning/LTM: Computing at KS3</p> <p>Cultural Capital: George Boole - creator of Boolean logic</p> <p>Numeracy Links - Clock Speed Cache Size ALU (Arithmetic Logic Unit)</p>	<p>Half Term 2 - Context: Unit 2 Computational Thinking</p> <p>Key Vocabulary: Pseudocode, Flow Charts, Reference Language, High Level programming Language, Identify Common Errors,</p> <p>Prior Learning/LTM: KS3 Computing</p> <p>Cultural Capital: Ada Lovelace - credited with creating the first computer program</p> <p>Numeracy Links Data types, casting and iteration</p>	<p>Half Term 3 - Context Unit 1 Computer Systems & Unit 2 Computational Thinking</p> <p>Key Vocabulary: LAN network, WAN Network, Client Server, Peer to Peer Network, WAP, Routers, Switches, NIC, Transmission Media, DNS, Cloud</p> <p>Prior Learning/LTM: KS3 Computing</p> <p>Cultural Capital: Bob Metcalf - co-creator of the internet Garry McKinnon - British hacker</p> <p>Numeracy Links Calculating file size and transmission speeds</p>	<p>Half Term 4 - Context: Unit 2 Computational Thinking</p> <p>Key Vocabulary: Algorithmic thinking, decomposition, compiler, interpreter, assembly language, abstraction, iteration, selection & sequence</p> <p>Prior Learning/LTM: KS3 Computing</p> <p>Cultural Capital: Konrad Zuse - pioneering computer scientist & inventor</p> <p>Numeracy Links Encryption, Caesar Cipher Shifts,</p>	<p>Half Term 5 - Theme 1 Context: Unit 2 Computational Thinking</p> <p>Key Vocabulary: Iterative testing, terminal testing, defensive design, sanitisation, mandatory, high Level programming Language, Identify Common Errors,</p> <p>Prior Learning/LTM: KS3 Computing</p> <p>Cultural Capital: Ludwig Wittgenstein</p> <p>Numeracy Links Data types, casting and iteration</p>	<p>Half Term 6 - Theme 1 Context: Trail exam prep. Unit 1 Computer Systems & Unit 2 Computational Thinking</p> <p>Key Vocabulary: Embedded systems, operating systems, utility software, CPU, RAM, virtual memory</p> <p>Prior Learning/LTM: Half term 1 - 5 Y10 KS3 Computing</p> <p>Cultural Capital: Charles Stark Draper -</p> <p>Numeracy Links Casting Strings to Integers, Clock Speed Cache Size Binary & hexadecimal</p>	
	understand and apply the fundamental principles and concepts of Computer Science, including abstraction, decomposition, logic, algorithms, and data representation		X	X	X	X	X
	analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs		X	X	X	X	X
	think creatively, innovatively, analytically, logically and critically	X	X	X	X	X	X
	understand the components that make up digital systems, and how they communicate with one another and with other systems	X		X		X	X
	understand the impacts of digital technology to the individual and to wider society			X		X	X
	apply mathematical skills relevant to Computer Science.	X				X	X
	IMPACT	<p>Assessment 1: Binary and hexadecimal task</p> <p>Assessment 2: 10.1 exam</p> <p>Progression to Post 16: Gives understanding and knowledge of wide variety of Computing content.</p>	<p>Assessment 1: Practical programming challenges</p> <p>Assessment 2: Algorithm mini test</p> <p>Progression to Post 16: Gives understanding and knowledge of wide variety of Computing content.</p>	<p>Assessment 1: Network recommendation task</p> <p>Assessment 2: 10.2 exam</p> <p>Progression to Post 16: Gives understanding and knowledge of wide variety of Computing content.</p>	<p>Assessment 1: Compression assessment task</p> <p>Assessment 2: Compilers and interpreters task</p> <p>Progression to Post 16: Gives understanding and knowledge of wide variety of Computing content.</p>	<p>Assessment 1: Practical programming challenges</p> <p>Assessment 2: Programming mini test</p> <p>Progression to Post 16: Gives understanding and knowledge of wide variety of Computing content..</p>	<p>Assessment 1: Embedded systems and CPU task</p> <p>Assessment 2: 10.3 trial exam</p> <p>Progression to Post 16: Gives understanding and knowledge of wide variety of Computing content.</p>