



Year 10	AUTI	JMN	SPF	RING	SUM	MER
Computational Thinking	Algorithms & Programming Part 1: Sequence Determine the need for translators. Use sequence, variables, and input in Python. Design programs using a flowchart.	Programming Part 2: Selection Use randomisation in programs. Work with arithmetic and logical expressions. Use selection and nested selection in Python.	Programming Part 3: Iteration Use a while loop and a for loop in Python. Perform validation checks on data entry. Design programs using pseudocode.	Programming Part 4: Sub-routines Explain the differences between a procedure and a function. Describe scope of variables. Use functions and procedures as part of the structured approach to programming. Test a program for robustness	Programming Part 5: Strings & lists Define the term 'graphical user interface' (GUI). Perform string handling operations. Describe the differences between a list and an array. Manipulate a list. Work with 2D lists.	Algorithms Part 2 Describe a linear and binary search. Explain the key algorithms for a bubble, merge, and insertion sort.
Declarative What should they know?	 Define the terms decomposition, abstraction and algorithmic thinking Describe the difference between algorithms and computer programs Algorithms are represented as written description, flowcharts and code Describe what a highlevel / low-level language are. Explain the need for translators Describe characteristics of 	 flowchart symbols and describe how to use them (start, end, input, output, subroutine) Algorithms can be translated from flowcharts – program and vice versa How to generate random numbers in python Explain the purpose of pre-built libraries and functions Describe what is meant by true random 	 Define iteration as a group of instructions that are repeatedly executed Define a while loop Define a for loop State the purpose of a trace table Describe the purpose of pseudocode Design a program using pseudocode 	 Describe a subroutine Describe the purpose of parameters in subroutines Describe how subroutines are used for decomposition List the advantages of subroutines Describe a procedure Describe what a function does (input, process, output) Explain the differences between a function and a procedure Describe scope of variables Describe how parameters can reduce 	 Define the term GUI Describe the function of string operators Define the term ASCII Define a data structure Define a list Describe differences between lists and arrays Describe a 2D list Design a program that uses 2D lists 	 Trace tables walk through code that contains loops, selection and lists Define the searching problem (finding the position of an item in a list of items Describe linear search Describe binary search The difference between both search algorithms





	compilers & interpreters The tools of an IDE What is meant by syntax and logic errors Variable declaration, assignment, and initialisation Runtime errors Data types and their function Validation checks Flowchart symbols	 Define a condition as an expression that can be evaluated as True or False Interpret a flow chart that includes conditions Syntax relevant to and regarding selection. The concept of nested selection. 	 the need for global variables Describe the purpose of a constant in programming Design a program that involves function calls Describe the structured approach to programming List the advantages of the structured approach Describe iterative testing Describe types of testing (boundary, erroneous, normal) Design a program that builds on skills davalanced 	
Procedural What should they be able to do?	 Apply decomposition, abstraction and algorithmic thinking to solve a problem Recognise scenarios where computational thinking techniques are applied Analyse and create flowcharts using flowchart symbols Use an IDE to write and execute a Python program 	 Use Python documentation to inform correct use of syntax Use commenting appropriately within a program Use random in a program Import modules into programs Evaluate arithmetic expressions using rules of operator precedence 	 Perform a code walkthrough of a while loop Use variables as counters in iterative programs Use a trace table to track variables in iterative programs Perform a code walkthrough of a for loop Use while & for loops to control the flow of program execution Perform a code walkthrough of a for loops to control the flow of program Perform a code walkthrough of a for loops to control the flow of program 	 Use string-handling techniques Traverse a string Access a substring Perform ASCII conversions Create a program that uses string-handling techniques Append elements to a list Traverse a list Traverse a list Use Python documentation to investigate list operations Perform a binary search and binary search Trace code for linear search to final the position of an item in a list



 Perform a code walkthrough of a sequence Arrange program statements in a sequence Call subroutines (procedures) in a program Locate and correct common syntax errors Use meaningful 	 Use arithmetic expressions Evaluate logical expressions Perform code walkthroughs of selection statements Evaluate logical expressions that contain Boolean operators Perform code walkthroughs of 	 Perform a code walkthrough of iterative validation checks Translate pseudocode into a program Identify when to implement iterative statements Create a program that uses iteration 	 Identify global and local variables in programs Identify when to implement global variables Use Python naming conventions for constants Create a program that involves function calls Use the structured approach in 	 Manipulate a list Create a custom-built function Use lists to display output on a physical computing device Use randomisation to append items to a list Use a 2D list 	 Identify factors that could influence efficiency of a linear search implementation.
 Identifiers Use variables in programs Use appropriate naming conventions Obtain input from the keyboard Recognise the input/output states of the input function Translate a flowchart into a program sequence 	 nested selection statements Use nested selection to control the flow of execution in programs Use binary selection to control the flow of program execution 		 Create a program that builds on skills developed Use testing whilst creating a program Use subroutines to control the flow of execution in programs 		



Disciplinary	Interpret	Modules	• Iteration – While/for	Subroutines	String handling	Search Algorithms
	Instructions	Flowchart	 Exception handling 	Functions	o Len	o Linear
Literacy	High level Languages	Random	Trace Tables	Procedures	 Isdecimal 	 Binary
(Tier 3 Vocab)	Low level languages	Arithmetic	Errors	Constants	o Chr	Sort Algorithms
(Translators	expressions	Range	Parameters	o Ord	o Bubble
	Compiler	BIDMAS	 Validation 	Arguments	 Append 	o Merge
	Interpreter	Arithmetic operators	• Try	 Decomposition 	o Remove	o Insertion
	• IDE	(add, subtract,	 Except 	Return	o Index	Efficiency
	Editors	multiply, real division,	•	Global/Local Variables	o Insert	Midpoint DIV 2
	Error Diagnostic	integer division, MOD,		•	o Pop	Traverse
	Run-time environment	to the power)				
	Subroutines	• If			o Sort	
	Sequence	• Elit				
	Executed	• Else			String operators	
	Logic	Comparison			Data Structure	
	Syntax	Operators			list	
	Identifiers	 Equal to Not equal to 			Array	
	Variables	o Not equal to			Append	
	Declaration				• 1D	
	Initialisation	than			• 2D	
	Assignment				•	
	Naming conventions	o GTOFT				
	Data types	Boolean/logical				
	Commenting	operators				
	Randomness and using	Nested selection				
	modules					
	Arithmetic operators					
	and expressions					
	Selection (binary)					
	Comparison operators					
	in logical expressions					
	Comparison operators in logical expressions					
	Boolean operators and					
	 String methods 					



	Computer	Computer	Computer	Data	Data	Data
	Systems	Systems	Systems	Representation	Representation	Representation
Computer Systems	Describe the role of the CPU. Explain the processes of the fetch-decode-execute cycle	Determine the role of main memory and secondary storage	Construct truth tables for three input logic circuits. Write a program using assembly language (LMC).	Explain how numbers are represented using binary digits & performing operations and conversion between number systems	Explain how text, images, and sound are represented using binary digits.	Measurements of storage and Compression
Declarative	Difference between	• The characteristics of	 The symbols and 	Computers use binary	• The maximum number	• The units of data:
What should	embedded and	RAM and ROM	truth tables for each	to represent all data	of states that can be	• Bit
	general-purpose	The role of main	logic gate: AND, OR,	and instructions	represented by a binary	Nibble
they know?	systems	memory as part of a	NOT.	 Binary relates to two- 	pattern of a given	• Byte
	• The role of system	computer system	 Logic gates are used 	state electrical signals	length	Kilobyte
	software as part of a	Ine purpose and role	to carry out	I he difference and digits that are used in	How ASCII is used to	Megabyte Gizabuta
	computer system	OF CACHE IN a	computation	digits that are used in	represent characters	 Gigabyte Torabyte
	Inerole of the operating system and	Why a computer	 Truth tables are used to show possible 	10 number systems	What is meant by the	Potabyte
	utility software	system needs	combinations of logic	The conversion table for	• What is meant by the	 Felabyle How many units of data
	The role and nurnose	secondary storage		binary – decimal	The need for Unicode	make up the ensuing
	of each component of	The different types of	 Boolean expressions 	The rules of binary	Unicode uses the same	measurement of data
	the CPU in	secondary storage	used within logic	addition up to three	codes as ASCII up to	What data compression
	computation	and their functional	circuits	binary numbers	127.	is
	The basic components	characteristics	The difference	• The effect of both left	• What a pixel is and how	Why data may be
	of the CPU	• The limitations of	between high-level	and right binary shifts	they relate to bitmap	compressed and the
	• The role of each part	each secondary	and low-level	How overflow errors	images	different types of
	of the CPU as part of	storage medium	languages	can occur and what the	• The meaning of colour	compression 'lossy' &
	FDE Cycle	• The definition of	 The relationship 	impact is	depth and resolution	'lossless'
	 How the FDE Cycle 	'cloud storage' and its	between assembly	• The characters used to	• The term Metadata and	
	works by describing	characteristics	and machine code	represent Hexadecimal	examples that are	
	what happens at each	•	 Basic commands used 	 Why and where 	applied to bitmap	
	stage		within assembly	hexadecimal notation is	images	
	 The factors that 		code:	used	• How to calculate the file	
	impacts a CPU's		O INP	How to convert from	size of bitmaps	
	performance		0 OUT	decimal to hexadecimal	• The number of pixels	
			o STA		and colour depth affect	
			o LDA		tile sizes.	



			o ADD o SUB o BRP	 Why analogue sound needs to be converted into binary digits The concepts of sampling, sample rate, sample resolution The equation/formula for calculating file size of sound files The effect of that sample rate, duration and sample resolution have on the playback
Procedural What should they be able to do?	 Compare embedded and general purpose computer systems Describe the role of system software as part of a computer system Explore the role of t operating system a utility software Describe the basic components of the CPU Describe the roles a purpose of ea component of the Cl in computation Explain how the fetch 	 Describe the characteristics of RAM and ROM Explain the role of main memory as part of a computer system Define cache memory Describe the role of cache in a computer system Explain why a computer system needs secondary storage State the different types of secondary storage and describe 	 Design a logical circuit, combining logic gates to solve a problem Construct truth tables for a three-input logic circuit Write a Boolean expression to describe a logical circuit Write a Boolean expression to describe a logical circuit Describe how combinations of logic gates can perform mathematical operations Determine that assembly language Explain how binary relates to two-state electrical signals Explain the difference between base-2 and base-10 numbers Convert between binary and decimal numbers Count in binary Perform addition in binary Describe how combinations of logic gates can perform mathematical operations Determine that assembly language Explain how overflow errors can occur Explain how overflow errors can occur 	 quality and size of sound files Examples of metadata that are given to sound files Explain how ASCII is used to represent characters and its limitations Explain what a character set is Determine the maximum number of states that can be represented by a binary pattern of a given length Explain the need for Unicode State that Unicode uses the same codes as ASCII up to 127 Calculate the number of bytes needed to store a piece of text Determine prevention Determine the maximum number of states that can be represented by a binary pattern of a given length Explain the need for Unicode State that Unicode uses State that Unicode use State that Unicode use S



bisciplinary Literacy 0 General Purpose 0 0 RAM 0 Boolean 0 0 Boolean 0 0 Describe the concrete state 0 Boolean 0 0 Boolean 0 0 Describe the concrete state 0 Boolean 0 0 Boolean 0 0 Describe the concrete state 0 Boolean 0 0 Describe the concrete state Describe the concrete state 0 Boolean 0 0 Describe the concrete state Describe				-										
Disciplinary o General Purpose o RAM o Boolean o Decimal o Character Set o Bit Literacy o BIOS o Cache o OR o Base 10 o Unicode o Byte		•	decode-execute cycle works by describing what happens at each stage Describe the role of each part of the CPU as part of the fetch- decode-execute cycle Explore the factors that impact a CPU's performance Select components to create a computer system Evaluate a computer's suitability for a given task	•	their functional characteristics State how solid-state memory works and describe its characteristics Apply knowledge of storage devices to compare the three mediums of storage Apply the knowledge of storage devices to recommend an appropriate device Describe the limitations of secondary storage Explain the definition of 'cloud storage' and describe the characteristics of cloud storage	•	has a 1:1 relationship with machine code Explain the basic commands in the LMC's assembly code: INP, OUT, STA, LDA, ADD, SUB, and BRP Design and write their own program in assembly language	•	Explain how numbers are represented using hexadecimal Convert decimal numbers to and from hexadecimal numbers	•	Describe what a pixel is and how pixels relate to bitmap images Describe colour depth and resolution Define 'metadata' Give examples of metadata applied to a bitmap image Calculate the file size of bitmaps Describe how the number of pixels and colour depth can affect the file size of a bitmap image, using examples Explain why analogue sound data needs to be converted into binary digits Describe the concepts of sampling, sample rate, and sample resolution Give examples of metadata applied to sound files Calculate file size requirements of sound files Describe the effect of sample rate, duration, and sample resolution on the playback quality and the size of a sound file			
Disciplinary o General Purpose o RAM o Boolean o Decimal o Character Set o Bit Literacy o BIOS o ROM o AND o Denary o ASCII o Nibble											file			
Image: Second systems Image: Second systems <th image:="" second="" sys<="" th=""><th>Disciplinary</th><th>0</th><th>General Purpose</th><th>0</th><th>RAM</th><th>0</th><th>Boolean</th><th>0</th><th>Decimal</th><th>0</th><th>Character Set</th><th>0</th><th>Bit</th></th>	<th>Disciplinary</th> <th>0</th> <th>General Purpose</th> <th>0</th> <th>RAM</th> <th>0</th> <th>Boolean</th> <th>0</th> <th>Decimal</th> <th>0</th> <th>Character Set</th> <th>0</th> <th>Bit</th>	Disciplinary	0	General Purpose	0	RAM	0	Boolean	0	Decimal	0	Character Set	0	Bit
LITEPACY O BIOS O Cache O OR O Base 10 O Unicode O Byte		0	Embedded Systems	0	ROM	0	AND	0	Denary	0	ASCII	0	Nibble	
	Literacy	0	BIOS	0	Cache	0	OR	0	Base 10	0	Unicode	0	Byte	
(Tier 3 Vocab) O Memory O Main Memory O NOT O Binary O Character codes O Kilobyte	(Tier 3 Vocab)	0	Memory	0	Main Memory	0	NOT	0	Binary	0	Character codes	0	Kilobyte	
Image: Storage O Virtual Memory O Logic Gate O Base-2 O Pixel O Megabyte		0	Storage	0	Virtual Memory	0	Logic Gate	0	Base-2	0	Pixel	0	Megabyte	



 System Software 	0	Volatile	0	Logic Circuit	0	Binary Shifts	0	Bitmap	0	Gigabyte
 Operating System 	0	Non-Volatile	0	Assembly Language	0	Overflow	0	Colour Depth	0	Terabyte
 Utility Software 	0	Secondary Storage	0	Abstraction	0	Base-16	0	Resolution	0	Petabyte
 Software 	0	Solid State	0	Mnemonics	0	Hexadecimal	0	Metadata	0	Compression
 Hardware 	0	Optical Storage	0	Accumulator	0	Integer	0	Analogue	0	Lossy
o CPU	0	Magnetic Storage	0	Registers			0	Sampling	0	Lossless
o Von Neumann	0	Clock	0	Commands:			0	Sample Rate		
Architecture	0	Cache		o INP			0	Sample Resolution		
o ALU	0	CPU Core		o OUT			0	Duration		
 Clock 	0	Channels		o STA			0	Quality		
 Control Unit 	0	Overhead		o LDA						
o MAR	0	Overclock		 ADD 						
• MDR				o SUB						
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• PC										
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• DECODE										
• EXECUTE										
○ FDE										
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Year 11	AUT	UMN	SPRI	NG	SUN	IMER
Computational Thinking	Programming Part 6	Programming Project	Databases & SQL	EXAM PREP	EXAM PREP	
	Access and modify existing data, file handling.	Complete a complex programming project	Describe a database and list its key terms. Determine the difference between a flat file and a relational database. Use structured query language (SQL) to retrieve and update data in a database.			
Declarative	The use of basic file	• Learners complete	• Key terminology			
What should	handling operations:	their final	required to be able to			
	o Bead	challenge of the unit	undate a database			
they know?	o Write	This is their formal	• SOL commands:			
	o Close	assessment for the	• SELECT			
	• The purpose of	unit. The project is	○ FROM			
	external data files	very challenging, but it	• WHERE			
	 The meaning of CSV 	does cover everything	• The purpose of INSERT,			
	files	that they have learnt	UPDATE and DELETE			
		over this unit.	queries.			
Procedural	• Read an external data	 Determine the good 	• Describe a database			
What chould	file	habits of a	• Define database key			
vviiut siiuulu	• Write to an external	programmer	terms (table, record,			
they be able to		o Explore alternative	foreign key)			
do?	data file	nrogramming solutions	Describe the function			
uU;	• Read data from a CSV	 Design a challenging 	of SOL			
	file	program	 Use SQL to retrieve 			
	• Use the split() method	 Create a challenging 	data from a table in a			
	• Use the join() method	program	relational database.			
	• Write data from a 1D	 Test and refine a 	• Use SQL to retrieve			
	list to a CSV file	challenging program	data from more than			





	 Write data from a 2D list to a CSV file Append to a CSV file 		 one table in a relational database Describe the function of different data types. Use SQL to insert data 			
			 into a relational database. Use SQL to update data into a relational database. Use SQL to delete data from a relational database. 			
Disciplinary Literacy (Tier 3 Vocab)	 Records Dictionaries Files Read Write Open CSV Append Split 	Consolidate all disciplinary literacy from units: Algorithms Part 1 Algorithms Part 2 Programming: Sequence Programming: Selection Programming: Iteration Programming: Strings & Lists Programming: File Handling	 Database Data inconsistency SQL Structured Query Language Records Fields Tables Primary Key Foreign Key 			
Assessment			This unit includes a final summative assessment to be used at the end of the unit			
?						
Computer Systems	Impacts of technology	Networks Part 1	Networks Part 2	Security	EXAMP PREP	
	Determine the ethical, legal, environmental, and cultural impacts of technology	Describe network components. Explain connectivity and distinguish between the various types.	Describe the four layers of the TCP/IP model. Protect a network from threats.	Describe the various ways that users and organisations can be affected by cyberattacks. Demonstrate		



							how organisations can	
							prevent cyberattacks.	
Declarative	0	Technology introduces	0	The definition of a	0	How and why the		
M/bat abould		ethical, legal, cultural,		Computer Network		internet was created		
vvnat snoula		environmental and	0	The role of clients and		and how it works now.		
they know?		privacy issues		servers within a	0	Web browsers are		
,	0	Knowledge of a variety		network		used to access the		
		of examples of digital	0	I ne difference		WWW USING DINS to		
		technology and now		Detween PAN'S LAN'S		mu the P of each		
	~	The nurness of each		The purpose of	~	How packets are		
	0	nioco of logislation and	0	computer networks	0	transmitted across		
		the specific actions it	~	The range of hardware		networks		
		allows or prohibits	0	available/required	0	The different types of		
	0	The need to license		regarding computer	Ŭ	Domain Servers		
	Ŭ	software and the		networks		available		
		purpose of a software	0	The term topology and	0	The term protocol and		
		licence	_	the characteristics of		common networking		
	0	Features of open		each available		protocols that are used		
		source (providing		topology		whilst communicating		
		access to the source	0	The characteristics,		over a network.		
		code and the ability to		advantages and	0	The concept of layers		
		change the software)		disadvantages of	0	The importance of		
	0	Features of proprietary		different methods of		keeping data safe on		
		(no access to the		data transmission		networks and why		
		source code,		(wired/wireless)		networks need to be		
		purchased commonly	0	Network performance		protected.		
		as off-the-shelf		can be affected by a				
<u> </u>		Apply the terms	_	Define a computer		Describe the interact		
Procedural	0	Apply the terms	0	Denne a computer	0	Describe the internet		
What should		privacy, regar,		network		as a network of		
		'environmental'	0	Discuss the advantages		computer networks		
they be able to		'cultural'		and disadvantages of	0	Describe the function		
do?	0	Explain data legislation		computer networks		of an IP address		
	0	Explain the term	0	Describe the role of a	0	Describe a DNS and its		
		'stakeholder'		computer in a peer-to-		role in the conversion		
	0	Explain the right to be		peer network		of a URL to an IP		
		forgotten				address		
					1			



creative uses and infrigment of copyrightcomputer in a client- server networkfunction of a web browser•Define 'downtime' and explain the associated implact on an organisation•Describe the purpose of a PAN, LAN, and a WAN••Define 'downtime' and explain the associated implact on an organisation•Describe the tasks performed by the entwork hardware: wireless access point, or Describe the tasks•Describe the role of web servers and clients web servers and clients web servers and clients web servers and clients web servers and clients•Explain the Freedom of information Act (2000) •NIC, and bridge entwork hardware: web servers and clients would be classified as an offence under the Act et and measures to and measures to es of mobile technology•Describe the ord for software and storage of a software and storage•Identify positive and negative spects of the use of mobile technology•Describe the ord isdowntages of network••Explain the social and environmental impacts of social media•Select an appropriate technology••Explain the social and environmental impacts of been teramision•Describe the and advartages and the network protocols: environmental impacts of becibe live optical and environmental impacts of becibe live optical and environmental impacts•Describe the four nodel optical and environmental impacts of becribe live optical and environmental impacts•Describe the tarbiutes of becribe live optical <br< th=""><th>0 D</th><th>Distinguish between</th><th>0</th><th>Describe the role of a</th><th>0</th><th>Describe the role and</th><th></th><th></th></br<>	0 D	Distinguish between	0	Describe the role of a	0	Describe the role and		
infringement of copyrightserver networkbrowserDefine 'downtime' and explain the associated impact on an organisationDescribe the purpose of a PAN, LAN, and a WANDescribe the wservers are used for hosting services across the internet0Identify the implications of having personal data online information Act (2000)Describe the tasks wireless access point, router, switch, hub, NIC, and bridgeDescribe the role of web servers and clients0Describe the Freedom of information Act (2000)NIC, and bridge NIC, and bridgeDescribe the vertices star, bus, mesh, and ring topologyDescribe the role of router, switch, hub, router, switch, hub, or wand describeDescribe the vertices star, bus, mesh, and ring topologyDescribe the reled disdvantages and ring topologyDescribe the reled for standards in network communications0Describe the advantages and mitigate its effectO bear ring topologiesDefine the rem ring topologiesDefine the rem relever and common use of the network protocol:0Explain the social and erwironmental impacts of the use of of inte contentDefine a wired and a wired networksDefine the tribut and negative effects of befine transmissionDefine the red region advantages of the network protocol:0Explain the positive and negative effects of the use of of the use of of the use of of the use ofDefine transmissionDefine the red of ibre optic and wired networks0Explain the positive and negative effects of the use of of the use of of the use	C	creative uses and		computer in a client-		function of a web		
copyright explain the associated impact on an organisationoDescribe the purpose of a PAN, LAN, and a ware used for hosting are used for hosting services across the internetoIdentify the impications of having personal data online or Explain the Freedom of information Act (2000)Describe the tasks network hardwarezoDescribe the ose of were servers and clients wireless access point, router, switch, hub, or ad bridgeoDescribe the role of wireless access point, router, switch, hub, or ad bridgeoDescribe the role of wireless access point, router, switch, hub, or ad bridgeoDescribe the vireless for software and and describe a sociated offencesoDescribe the vireles for software and and describe a star, bus, mesh, and ring topologythe cloudoIdentify positive and network and measures to an entify software and by the 'digital divide' and measures to and measures to and measures to star, bus, mesh, and scenariooDefine the term network protocol: and common use of the network protocol: and common use ofoExplain the positive and negative effects or online content of bothine technologyoDefine the term network protocol: and common use of the network protocol: and common use of the network protocol: explain the positive and negative effects or online content of the use of the chologyoDefine the term network So o Describe Bluetoth as a mode of connectionoExplain the positive and negative effects of the use of the technologyoDefine the need of the optic and sof	ir	nfringement of		server network		browser		
o Define 'downtime' and explain the associated impact on an organisation of a PAN, LAN, and a WAN are used for hosting services across the internet o Identify the implications of having personal data online the work hardware: o Describe the tasks performed by the network hardware: o Describe the role of web servers and clients o Explain the Freedom of information Act (2000) oruter, switch, hub, NC, and bridge o Describe the value for software and star, bus, mesh, and mitigate its effect o Draw and describe a advantages and mitigate its effect o Describe the advantages of the envork protocol o Describe the role of web servers and clients o Identify situations that would be classified an offence under the Act o Define a MAC address star, bus, mesh, and ring topology o List the advantages of tring topologies o Determine the need for standards in network o Identify positive an evironmental impacts of social media o Define a wired and a wired and a environmental impacts of social media o Define ta arming services atrows the topology for a given and common use of the network protocols: o Define ta tramposite and common use of the network protocols: o Define ta tramsission online content o Define ta tramsission of fibre optic and copper cables used in wired networks o Define t	C	copyright	0	Describe the purpose	0	Describe how servers		
explain the associated impact on an organisationWANservices across the internet0Describe the tasks performed by the implications of having personal data online0Describe the tasks performed by the internet00Explain the freedom of information Act (2000)network hardware: wireless access point, information Act (2000)0Define 40Define 'computer misuse' and the act the Act0Define a MAC address or Define a MAC address00Define definese associated offences act the would be classified as an offence under the Act0Describe the advantages and ring topologies00Explain what is meant by the 'digital divide' disadvantages of the use of mobile technology0Define a wired and advantages of the star, bus, mesh, and ring topologies0Define the need for safudards in network kardwards or Define the term0Identify positive and negative aspects of the use of mobile and negative effects of online content0Define the term performed by the scenario00Explain the positive and negative effects of online content0Define transmission region a modelHTTPS, FTP, POP, model0Explain the positive and negative effects of of the use of of the use of of the use of0Describe the attributes of Bibre optic and copper cables used in wireless network0Defermine the need for and importance of network security0Explain the ethical environmental effects of the	0 D	Define 'downtime' and		of a PAN, LAN, and a		are used for hosting		
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	ir	mpact of using				network security		



		algorithms to make	0	Discuss the advantages	0	Identify different forms			
		decisions		and disadvantages of		of attacks on networks			
	0	Explain the ethical		wireless networks		(social engineering,			
		issues surrounding the		compared to wired		malicious software)			
		use of AI in society		networks	0	Explain network			
				Describe the factors	Ŭ	socurity mothods			
			0	Describe the factors		security methous			
				that affect network					
				performance					
				(bandwidth, range,					
				latency, number of					
				devices)					
			0	Determine how					
				network speeds are					
				measured and					
				construct expressions					
				involving file size					
				the size,					
				transmission rate, and					
				time					
			0	Determine methods of					
				routing traffic on a					
				network and					
				calculation of routing					
				costs					
Disciplinary	0	Privacy	0	Network	0	Internet			
Disciplinary	0	Legal	0	Node	0	IP Address			
Literacy	0	Ethical	0	Client	0	DNS			
(Tier 3 Vocab)	0	Environmental	0	Server	0	URL			
	0	Cultural	0	Peer-to-peer	0	Web Browser			
	0	Legislation	0	Client-Server	0	Servers			
	0	Stakeholder	0	PAN	0	Hosting			
	0	Right to be forgotten	0	LAN	0	Web Servers			
	0	Copyright	0	WAN	0	Clients			
	0	Freedom of	0	WAP	0	Cloud			
		information act	0	Kouter	0	Protocol			
	0	Computer Misuse	0	Switch	0	Ethernet			
	0	Downtime Disital Divide	0	HUR	0				
	0	Digital Divide	0	NIC	0	ннг	1	1	



	• Privacy	 MAC Address 	• HTTPS		
	• Surveillance	 Topologies 	o FTP		
	0	o STAR	o POP		
		 MESH 	o SMTP		
		o Wired	o IMAP		
		 Wireless 	o TCP/IP		
		• Transmission			
		o Optic			
		o Copper			
		 Bluetooth 			
		 Bandwidth 			
Assessment	Students engage in a		Recall knowledge of		
///////////////////////////////////////	comprehensive end-of-unit		networks through a final,		
	assessment, covering		summative assessment - A		
	aspects from each of the		multiple choice summative		
	preceding seven lessons.		assessment has been		
	This includes the previous		created for this unit.		
	lessons covered in legal,				
	cultural, environmental,				
	and ethical aspects of the				
	impact of technology.				

Additional

Education for a Connected World (publishing.service.gov.uk)