

OCR 9-1 J277 GCSE Computer Science - Year 10 - Learning Journey 2023-2024

Week	Date	Key Construct	Topic	Assessment
1 (Wed)	04.09.23	1-1-1 Architecture of CPU	What a computer is, hardware and software, peripherals. Von Neumann Architecture: Components of a computer system and the parts inside a CPU. The stored-program concept and the Fetch-Decode-Execute cycle.	Unit Test A: Architecture and Systems A01A02
2	11.09.23		What embedded systems are, where they are used, typical components.	
3	18.09.23		1-1-2 CPU Performance	
4	25.09.23	1-1-3 Embedded Systems		
5	02.10.23	1-2-4 Data Storage	Numbers: Binary integers. Adding binary, shifting binary, overflow. Conversions between denary, binary and hexadecimal. Characters: Symbols, character codes and character sets. Bitmap images: pixels, colour-depth, quality, resolution. Sound: samples, sample-rate, bit-depth, bit-rate, quality, file-sizes.	Unit Test B: Representing Data A01A02
6	09.10.23			
7	16.10.23			
Half term				
8	30.10.23	1-2-3 Units of Data Storage	Bits, Nibbles, Bytes, KB, MB, GB, TB, PB, conversion between units.	Unit Test C: Storing Data A01A02
9	06.11.23	1-2-5 Data Storage: Compression	The need for compression, lossy compression vs loss-less compression.	
10	13.11.23	1-2-1 Primary Storage (Memory)	Differences between RAM and ROM. Purposes of each.	
11	20.11.23		Virtual memory.	
12	27.11.23	1-2-2 Secondary Storage	Data Drop Primary vs Secondary storage. Need for Secondary storage. Types of storage (magnetic, solid-state, optical) and devices (HDD, SSD, CD) Characteristics of storage devices: capacity, reliability, portability etc.	
13	04.12.23			
14	11.12.23			
CHRISTMAS				
15 (Tue)	02.01.24	1-3-1 Networks and Topologies	LANs and WANs, Client-Server and Peer-to-Peer. Performance of networks. Network hardware: Wireless access points, routers, switches, NICs, transmission media e.g. twisted pair, coax cables, Wi-Fi. The Internet. Packets of data and routes across the internet. The Cloud. Hosting, web servers and clients. Domain Name System.	Unit Test D: Networks and Protocols A01A02
16	08.01.24			
17	15.01.24			
18	22.01.24			
19	29.01.24	1-3-2 Wi-Fi and Wired Networks, Protocols & Layers	Star and Mesh topologies. IP and MAC addressing. Standards, protocols and layers. Modes of connection: Ethernet, Wi-Fi and Bluetooth. Encryption.	
20	05.02.24			
Half term				
21	19.02.24	2-1-1 Computational Thinking and Algorithms	Computational thinking: abstraction, decomposition and algorithmic thinking. Identifying inputs, process and outputs for a problem. Structure diagrams.	Unit Test E: Algorithms, Flow-Charts and Pseudo-Code A01A02A03
22	26.02.24			
23	04.03.24	2-1-2 Designing, Creating and Refining Algorithms	Flow-chart symbols. Tracing the path of execution through flow-charts. Pseudo-code: what it is and how it relates to real programming languages. Identifying common errors in code. Using trace-tables.	
24	11.03.24			
25	18.03.24			
26	25.03.24		Data Drop and Contingency lesson.	
EASTER				
27	17.04.24	2-4-1 Boolean Logic and Computational Operations	Boolean operations: AND, OR, NOT. Truth tables. Combining operations together. Logic diagrams and logical expressions. ^ (exponentiation) , MOD (modulo), DIV (division), shifting, overflow.	Unit Test F: Logic and Operations A01A02A03
28	24.04.24			
29 (BankH)	02.05.24			
30	08.05.24	2-2-1 Programming Fundamentals	Data-types, variables and constants, casting. Flow of control in a program: Sequence, Assignment, Selection, Iteration. Working with 1D and 2D arrays. Generating random numbers. Sub-programs: Procedures and functions. Arguments and return values. Creating, opening and closing files. Reading and writing data. Records.	Unit Test G: Programming Techniques A01A02A03
31	15.05.24			
32	22.05.24		Data Drop and Contingency Time	
Half term				
33	05.06.24	Exam Preparation		
34	12.06.24	Exam Preparation		
35	19.06.24	Annual Exams		
36	23.06.24	Annual Exams		
37	03.07.24	RAP / Addressing Misconceptions		
38	10.07.24	Data Drop		
39	17.07.24	WORK EXPERIENCE		

OCR 9-1 J277 GCSE Computer Science - Year 10 - Assessment Progress Tracker 2023-24

Name:			Autumn	Spring	Summer
Subject Target		Flightpath			
Annual Exam Grade:		BFL			

Date	Assessment	Flight-path Grade	Comments / How to Improve
Autumn Term Part 1	Unit Test A: Architecture and Systems A01 A02		
Autumn Term Part 1	Unit Test B: Representing Data A01 A02		
Autumn Term Part 2	Unit Test C: Storing Data A01 A02		
Spring Term Part 1	Unit Test D: Networks and Protocols A01 A02		
Spring Term Part 2	Unit Test E: Algorithms, Flow-Charts and Pseudo-Code A01 A02 A03		
Summer Term Part 1	Unit Test F: Logic and Operations A01 A02 A03		
Summer Term Part 1	Unit Test G: Programming Techniques A01 A02 A03		
Summer Term Part 2	YEAR 10 ANNUAL EXAM		