Component 1:	
1.1 Systems architecture	1.1.1 Architecture of the CPU
	1.1.2 CPU performance
	1.1.3 Embedded systems
1.2 Memory and storage	1.2.1 Primary storage (Memory)
	1.2.2 Secondary storage
	1.2.3 Units

1.2 Memory and storage	
	1.2.4 Data Storage
	1.2.5 Compression
1.3 Computer networks, connections and protocols	1.3.1 Networks and topologies
	1.3.2 Wired and wireless networks, protocols and layers
	1.4.1 Threats to computer systems and networks

1.4 Network security	1.4.2 Identifying and preventing vulnerabilities
1.5. Systems Security	1.5.1 Operating Systems
	1.5.2 Utility Software
1.6 Ethical, legal, cultural and environmental impacts of digital technology	1.6.1 Ethical, legal, cultural and environmental impact

Component 2:	
2.1 Algorithms	2.1.1 Computational thinking
	2.1.2 Designing, creating and refining algorithms

	2.1.3 Searching and sorting algorithms
2.2 – Programming Fundamentals	2.2.1 Programming fundamentals
	2.2.2 Data types
	2.2.3 Additional programming techniques
2.3 Producing robust programs	2.3.1 Defensive design
	2.3.2 Testing
2.4 Boolean logic	2.4.1 Boolean logic

2.5 – Programming languages and Integrated Development Environments	2.5.1 Languages
	2.5.2 The Integrated Development Environment (IDE)

Resources to support revision:
1) Lesson presentations on VLE
2) Lesson booklets on VLE
3) Videos on VLE
4) Knowledge organisers on VLE
5) CGP workbook
6) CGP revision guide
7) CGP flash cards
8) CGP 10 minutes tests

Guiseley School Revision Support

Subject: GCSE Computer Science

	Exercise books/notes	☺	😐	☹	CGP workbook completed?
The purpose of the CPU					
Common CPU components and their features					
Von Neumann architecture					
How common characteristics of CPUs affect their performance					
The purpose and characteristics of embedded systems					
Examples of embedded systems					
The need for primary storage					
The difference between RAM and ROM					
The purpose of ROM in a computer system					
The purpose of RAM in a computer system					
Virtual memory					
The need for secondary storage					
Common types of storage					
Suitable storage devices and storage media for a given application					
The advantages and disadvantages of different storage devices and storage media relating to these characteristics					
The units of data storage					
How data needs to be converted into a binary format to be processed by a computer					

Data capacity and calculation of data capacity req					
Convert positive denary whole numbers to binary numbers and vice versa					
Add two binary integers together and explain overflow errors which may occur					
Convert positive denary whole numbers into 2-digit hexadecimal numbers and vice versa					
Convert binary integers to their hexadecimal equivalents and vice versa					
Binary shift					
Characters					
Images					
Sound					
The need for compression					
Types of compression					
Types of network					
Factors that affect the performance of networks					
The different roles of computers in a client-server and a peer-to peer network					
The hardware needed to connect stand-alone computers into a Local Area Network					
The Internet as a worldwide collection of computer networks					
Star and Mesh network topologies					
Modes of connection					
Encryption					
IP addressing and MAC addressing					
Standards					
Common protocols					
The concept of layers					
Forms of attack					

Common prevention methods					
The purpose and functionality of operating systems					
The purpose and functionality of utility software					
Utility system software					
Impacts of digital technology on wider society					
Legislation relevant to Computer Science					

	Exercise books/notes	☺	😐	☹	**CGP workbook completed?**
Principles of computational thinking					
Identify the inputs, processes, and outputs					
Structure diagrams					
Create, interpret, correct, complete, and refine algorithms					
Identify common errors					
Trace tables					

Binary search					
Linear search					
Bubble sort					
Merge sort					
Insertion sort					
The use of variables, constants, operators, inputs, outputs and assignments					
Programming constructs					
Arithmetic operators					
Boolean operators AND, OR and NOT					
Data types					
String maninpulation					
File handling operations					
Rcords to store data					
SQL to search for data					
Arrays					
Sub programs					
Random number generation					
Defensive considerations					
Input validation					
Maintainability					
Purpose of testing					
Types of testing					
Syntax and logic errors					
Suitable test data					
Refining algorithms					
Simple logic diagrams					
Truth tables					
Combining boolean operators					
Applying logical operators					

Characteristics and purpose					
The purpose of translators					
Compiler and interpreter					
Common tools in IDEs					

Videos
1. GCSE OCR 1.1 The purpose of the CPU - The fetch-execute cycle.mp4 2. GCSE OCR 1.1 Common CPU components and their function.mp4 3. GCSE OCR 1.1 Von Neumann architecture.mp4
4. GCSE OCR 1.1 The common characteristics of CPUs.mp4
5. GCSE OCR 1.1 Embedded systems.mp4 5. GCSE OCR 1.1 Embedded systems.mp4
6. GCSE OCR 1.2 The need for primary storage.mp4 7. GCSE OCR 1.2 RAM and ROM.mp4 7. GCSE OCR 1.2 RAM and ROM.mp4 7. GCSE OCR 1.2 RAM and ROM.mp4 8. GCSE OCR 1.2 Virtual memory.mp4
9. OCR GCSE 1.2 The need for secondary storage.mp4 10. GCSE OCR 1.2 Common types of storage.mp4 11. GCSE OCR 1.2 Suitable storage devices and storage media.mp4 11. GCSE OCR 1.2 Suitable storage devices and storage media.mp4
12. GCSE OCR 1.2 The units of data storage.mp4 13. GCSE OCR 1.2 How data needs to be converted into binary to be processed by a computer.mp4

14. GCSE OCR 1.2 Data capacity and calculation of data capacity requirements.mp4

15. GCSE OCR 1.2 Converting between denary and 8-bit binary.mp4

16. GCSE OCR 1.2 Adding two 8-bit binary integers.mp4

17. GCSE OCR 1.2 Converting between denary and 2-digit hexadecimal.mp4

17. GCSE OCR 1.2 Converting between denary and 2-digit hexadecimal.mp4
18. GCSE OCR 1.2 Binary shifts.mp4
19. GCSE OCR 1.2 Representing characters and character sets.mp4
20. GCSE OCR 1.2 Representing images.mp4
21. GCSE OCR 1.2 Representing sound.mp4

22. GCSE OCR 1.2 Compression.mp4
22. GCSE OCR 1.2 Compression.mp4

23. GCSE OCR 1.3 Types of networks.mp4
24. GCSE OCR 1.3 Factors that affect the performance of networks.mp4

25. GCSE OCR 1.3 Client-server and peer-to-peer networks.mp4

26. GCSE OCR 1.3 Hardware to connect a LAN.mp4

27. GCSE OCR 1.3 The internet.mp4
28. GCSE OCR 1.3 Star and mesh network topologies.mp4

29. GCSE OCR 1.3 Modes of connection, wired and wireless.mp4
30. GCSE OCR 1.3 Wireless encryption.mp4
31. GCSE OCR 1.3 The use of IP and MAC addressing.mp4
32. GCSE OCR 1.3 Standards.mp4
33. GCSE OCR 1.3 Common protocols.mp4
34. GCSE OCR 1.3 The concept of layers.mp4

35. GCSE OCR 1.4 Forms of attack.mp4

36. GCSE OCR 1.4 Threats posed to networks.mp4
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39. GCSE OCR 1.5 Operating systems part 1.mp4
40. GCSE OCR 1.5 Operating systems part 2.mp4

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46. GCSE OCR 1.6 Impacts of digital technology on wider society.mp4
47. GCSE OCR 1.6 Legislation relevant to computer science.mp4
48. GCSE OCR 1.6 Open source vs proprietary software.mp4

Videos

49. GCSE OCR 2.1 Abstraction.mp4
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51. GCSE OCR 2.1 Algorithmic thinking.mp4

52. GCSE OCR 2.1 Inputs, processes and outputs.mp4
53. GCSE OCR 2.1 Structure diagrams.mp4

54. GCSE OCR 2.1 How to produce algorithms using pseudocode and flow diagrams.mp4
55. GCSE OCR 2.1 Identifying errors and suggesting fixes.mp4
56. GCSE OCR 2.1 Trace tables.mp4

57. GCSE OCR 2.1 Binary search.mp4
58. GCSE OCR 2.1 Linear search.mp4
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60. GCSE OCR 2.1 Merge sort.mp4
61. GCSE OCR 2.1 Insertion sort.mp4

62. GCSE OCR 2.2 The use of variables, constants, inputs, outputs and assignments.mp4
63. GCSE OCR 2.2 The use of the three basic programming constructs.mp4
64. GCSE OCR 2.2 The common arithmetic and comparison operators.mp4
65. GCSE OCR 2.2 The common Boolean operators.mp4

66. GCSE OCR 2.2 The use of data types and casting.mp4

67. GCSE OCR 2.2 The use of basic string manipulation.mp4
68. GCSE OCR 2.2 The use of basic file handling operations.mp4
69. GCSE OCR 2.2 The use of records to store data.mp4
70. GCSE OCR 2.2 The use of SQL to search for data.mp4
71. GCSE OCR 2.2 The use of arrays.mp4
72. GCSE OCR 2.2 How to use sub programs.mp4
73. GCSE OCR 2.2 Random number generation.mp4

75. GCSE OCR 2.3 Defensive design considerations part 2.mp4
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76. GCSE OCR 2.3 Maintainability.mp4

77. GCSE OCR 2.3 The purpose and types of testing.mp4
77. GCSE OCR 2.3 The purpose and types of testing.mp4
78. GCSE OCR 2.3 How to identify syntax and logic errors.mp4
79. GCSE OCR 2.3 Suitable test data.mp4
80. GCSE OCR 2.3 Refining algorithms to make them more robust.mp4

81. GCSE OCR 2.4 Simple logic diagrams.mp4
82. GCSE OCR 2.4 Truth tables.mp4
83. GCSE OCR 2.4 Combining Boolean operators.mp4
84. GCSE OCR 2.4 Applying logical operators in truth tables to solve problems.mp4

85. GCSE OCR 2.5 Characteristics and purpose of different levels of programming language.mp4
86. GCSE OCR 2.5 The purpose of translators.mp4
87. GCSE OCR 2.5 Characteristics of compilers and interpreters.mp4
88. GCSE OCR 2.5 IDEs.mp4