OCR GCSE (9-1) Computer Science

# Overview of Overview January to February: 2.6, 2.4, 2.1, Data Representation, Computational Logic and Algorithms

**2.6 Data Representation (continued)**

|  |  |  |  |
| --- | --- | --- | --- |
| Week | Statements | Teaching activities | Notes |
| 1 | Need for compression | <http://www.canyoucompute.co.uk/l11-compression-part-1.html> |  |
|  | Types of compression:1. lossy
2. lossless
 | <http://www.canyoucompute.co.uk/l12-compression-part-2.html> |  |

# 2.4 Computational Logic

|  |  |  |  |
| --- | --- | --- | --- |
| Week | Statements | Teaching activities | Notes |
| 2 | Why data is represented in computer systems in binary form | <http://www.canyoucompute.co.uk/l1-comp-logic-1.html> |  |
|  | Simple logic diagrams using the operations AND, OR and NOT | <http://www.canyoucompute.co.uk/l2-comp-logic-2.html> |  |
|  | Truth tables |  |  |
|  | Combining Boolean operators using AND, OR and NOT to two levels |  |  |
|  | Applying logical operators in appropriate truth tables to solve problems |  |  |
|  | Applying computing-related mathematics:1. +
2. –
3. /
4. \* Exponentiation (^)
5. MOD
6. DIV
 | <http://www.canyoucompute.co.uk/l3-operators-python.html> |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Week | Statements | Teaching activities | Notes |
| 3 | Building a VENDING MACHINE WITH PYTHON  | <http://www.canyoucompute.co.uk/vending-machine.html> |  |
| 4 | TEST |  |  |

# 2.1 Algorithms

|  |  |  |  |
| --- | --- | --- | --- |
| Week | Statements | Teaching activities | Notes |
| 5 | Computational thinking:1. abstraction
2. decomposition
3. algorithmic thinking
 | <http://www.canyoucompute.co.uk/l1-intro-to-algorithms.html> |  |
| 6 | 1. The Knights Tour

Computational thinking:1. abstraction
2. decomposition
3. algorithmic thinking
 | <http://www.canyoucompute.co.uk/l2-the-knights-tour.html> |  |
| 7 | The Bresenham Line-Drawing AlgorithmComputational thinking:1. abstraction
2. decomposition

algorithmic thinking | <http://www.canyoucompute.co.uk/l3-bresenham.html> |  |