

Year 9 End of Year Computing Assessment

The exam paper will be a total of **60 marks**.

Year 9 – 35 marks, Year 8 – 15 marks, Year 7 – 10 marks

Revision tips: We would suggest creating mind maps, record cards with the question one side and answer on the other (self-testing) and try the quizzes (links below).

Methods of Revision Suggestions:	Website Link:
Mind map	http://tinyurl.com/37xezntd
Quizlet (allows you to create flashcards) Sign up using your school email address	http://tinyurl.com/37dubdjik
Padlet (revision board) – Sign up using your school email address	http://tinyurl.com/ysjaahr5
Power Point/Notes	http://tinyurl.com/mpnrnj4w

Year 9 topics: (students should use their books and presentations on Teams)

E-Safety- be able to define sexting, selfies, trolling and age ratings.

Creative Video-

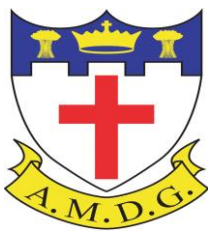
- Lossy and lossless compression- be able to describe the difference between lossy and lossless compression.
- File types- audio, suitability for use and size.

System Architecture & Data Representation

- CPU- definition (carries out an endless cycle of fetch, decode, execute).
- Clock speed – number of F-D-E cycles per second.
- Logic Gates - state the output from given inputs (AND, NOT)
- Binary - binary addition.
- Hexadecimal – decimal to hex, reason why we use hex instead of binary.
- Images- understand how bitmap images are stored on a computer.
- Software – Task carried out by the operating system. Utility software used for security.
- Computational thinking- define, giving examples (algorithms, decomposition, pattern recognition and abstraction).

Python

- Variables and Data types
- Selection



- Data Structures i.e. 1D Lists

When you write lines of code, there are three ways you can control the order these lines will be executed by the computer:

sequencing

1. **Sequencing:** This means that the computer will run your code in order, one line at a time from the top to the bottom of your program. It will start at line 1, then execute line 2 then line 3 and so on till it reaches the last line of your program.

selection

2. **Selection:** Sometimes you only want some lines of code to be run only if a condition is met, otherwise you want the computer to ignore these lines and jump over them. This is achieved using IF statements. e.g. If a condition is met then lines 4, 5, 6 are executed otherwise the computer jumps to line 7 without even looking at line 4, 5 and 6.

iteration

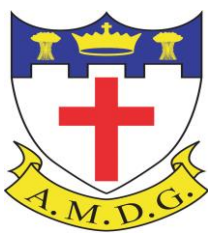
3. **Iteration:** Sometimes you want the computer to execute the same lines of code several times. This is done using a loop. There are three types of loops: For loops, while loops and repeat until loops. That's handy as it enables you not to have to copy the same lines of code many times.

Helpful resources:

- 1) E-safety: <https://tinyurl.com/2kky6b6c>
- 2) Lossy and lossless compression: [Compression - Units and data representation - OCR - GCSE Computer Science Revision - OCR - BBC Bitesize](#)
- 3) File types: <https://tinyurl.com/4ctrwsva>
- 4) CPU: <https://tinyurl.com/2jz8z93d>, <https://tinyurl.com/bdcuzzdh>
- 5) Logic gates: <https://tinyurl.com/4m6ada3b>, <https://tinyurl.com/yrek4efm>
- 6) Binary: <https://tinyurl.com/5n8y2shd>, <https://tinyurl.com/yzzv7y2w>
- 7) Hexadecimal: <https://tinyurl.com/mm82b3hz>, [Hexadecimal - Units and data representation - OCR - GCSE Computer Science Revision - OCR - BBC Bitesize](#)
- 8) Images: <https://tinyurl.com/889z2x2t>
- 9) Software: <https://tinyurl.com/bdd4tw57>, <https://www.blooket.com/set/61f6cb30ea27e20db2853d7a>,
- 10) Computational thinking: <https://tinyurl.com/2p949ed5>
- 11) Python - www.w3schools.com/python/
- 12) Python Selection/iteration- [Sequencing, Selection & Iteration - 101 Computing](#)

Year 8 topics (15 marks)

- Define a white hacker.
- Describe a DDoS network attack.
- Identify the law that makes hacking illegal.
- Describe a Star network topology.
- Identify a variable in a python program.
- WWW vs Internet
- Network Topology (advantages and disadvantages)
- Know there are 3 programming constructs: Sequence, Selection & Iteration
- Write syntax to extend a program using selection (IF-ELSE)



- Identify syntax to carry out multiplication.
- Python variables

Helpful resources:

- 1) Types of hackers - <https://www.kaspersky.com/resource-center/definitions/hacker-hat-types>
- 2) Computer Misuse Act - <https://tinyurl.com/4w4h332y>
- 3) Difference between the internet and world wide web- <https://tinyurl.com/z937nnx8>
- 4) Network Topologies - <https://www.bbc.co.uk/bitesize/guides/z666pbk/revision/1>
- 5) Python - www.w3schools.com/python/

Year 7 topics (10 marks)

- Describe the difference between cyberbullying and online grooming.
- Describe the purpose of the motherboard
- Know the purpose of RAM and ROM.
- State the type of secondary storage e.g. optical, magnetic, or solid state.
- Define an algorithm by an image e.g. pseudocode or flowchart.
- Create and debug python code to output a string e.g.
`print("Hello")` or carry out calculations e.g `print(4/2)` divides

Helpful resources:

- 1) E-safety: <https://tinyurl.com/2p8ksmrw>
- 2) Internal computer components: <https://tinyurl.com/ycksthcn>
- 3) RAM and ROM: <http://tinyurl.com/4tjxec4r>
- 4) Secondary storage: <https://tinyurl.com/3fpcnfs2> (Oak Academy)
- 5) What is an algorithm: <https://tinyurl.com/7m9hz643>
- 6) Python arithmetic <https://tinyurl.com/2p96nvif>