



## Year 8 Computing Summer Assessment

The exam paper will be a total of **50 marks**. Year 8 – **30 marks**, Year 7 – **20 marks**

Revision tips: We would suggest creating mind maps/revision clock, record cards with the question one side and answer on the other (self-testing). *A blank revision clock is on the last page for you to print off.*

### Section A: E-Safety

Students will be assessed on the following:

- Define types of computer hackers – grey, black and white.
- Identify how a DDoS attack works
- Knowledge of the 4 offences of the Computer Misuse Act
- The Purpose of the Copyright, Designs & Patents Act

Helpful resources: (Students can use their text books and work on google classroom too)

- 1) Types of hackers - <https://tinyurl.com/2ccfztc>
- 2) Computer Misuse Act - <https://tinyurl.com/4w4h332y>
- 3) Copyright, Designs and Patents Act - <https://tinyurl.com/2n9zyycn>

### Section B: Computer Networks

- Difference between the Internet and World Wide Web
- Identify an advantage of copper cable (cheap)
- Define what is meant by a Local Area Network (LAN), using an example i.e. school
- Describe the difference between a hub and switch (network hardware)
- Draw an image of a 'star' network topology

Helpful resources:

- 1) Networks - <https://tinyurl.com/56b5e8b4>
- 2) Network Topologies - <https://tinyurl.com/mv88zbde>

### Section C: Data Representation

- Understand why computers use binary (switches, on/off)
- Know that binary is known as Base 2 (0 and 1) and decimal is Base 10 (10 numbers)
- Convert decimal numbers to binary and vice versa.

Students need to know that:

128	64	32	16	8	4	2	1
1	0	1	1	0	0	0	1



Binary number: 10110001 = 177 in decimal (128+32+16+1)

- Add two 8 bit (byte) numbers together and understand what is meant by an overflow error i.e when the calculation requires an extra bit.
- State the numbers of bits and characters for ASCII (7 bits – 128 characters) and Unicode (16 bits – 65,536 characters)
- State how sound is created.
- Identify the conversion needed to take analogue sound and store it in a computer (ADC).
- How changing the sample rate affects both the quality and file size (Increasing the sample rate, improves the quality (closer to the original) but increases file size.

Helpful resources:

- 1) Binary conversion: <https://tinyurl.com/y3ekf734>
- 2) Binary addition: <https://tinyurl.com/mvxymw9r>
- 3) Sound: <https://tinyurl.com/4bkkbva7>

#### **Section D: Spreadsheets**

- To be able to explain the purpose of a spreadsheet
- To use formulas and the following four functions
  - SUM
  - MIN
  - MAX
  - AVERAGE
- To be able to use absolute cell references
- To be identify conditional formatting tools with Excel

Helpful resources:

Spreadsheets- <https://tinyurl.com/42vevas6>

#### **Section E: Year 7 Topics (20 marks)**

Topics covered include:

- Definitions of cyberbullying and online grooming
- Identifying types of computers from an image: laptop, desktop, tablet
- Identify the purpose of the CPU and motherboard
- Purpose of RAM and ROM in a computer system.
- Identify a flowchart as an algorithm
- State a variable in a Scratch program.



Helpful resources:

- 1) E-safety: <https://tinyurl.com/2p8ksmrw>
- 2) RAM and ROM: <https://tinyurl.com/5xymcbyZ>

