

CS3 Data representation and compression



Personal learning checklist | 1 of 1

OCR GCSE Computer Science J277 | Paper 1 · Specification 1.2.3–1.2.5

Name _____ Class _____ Date _____

Tick one box for each statement. Red: need help. Amber: partly confident.
Green: can do independently.

Support your confidence with explanations, workings, diagrams and tested code. Quick checks do not assess a complete program or evaluation.

I can	Red	Amber	Green
Units and capacity			
Explain binary representation and convert between bits, nibbles and bytes.	☐	☐	☐
Convert storage units consistently and calculate total file capacity.	☐	☐	☐
Number systems			
Convert unsigned eight-bit binary and denary values in both directions.	☐	☐	☐
Convert two-digit hexadecimal, denary and binary values.	☐	☐	☐
Add binary numbers with carries and identify eight-bit overflow.	☐	☐	☐
Apply logical shifts and explain rounding and loss of significant bits.	☐	☐	☐
Text and images			
Explain character sets and compare ASCII with Unicode encodings.	☐	☐	☐
Use supplied character codes and calculate uncompressed text sizes.	☐	☐	☐
Explain pixels, colour depth, resolution and metadata.	☐	☐	☐
Calculate image size with stated dimensions and colour depth.	☐	☐	☐
Sound			
Explain sampling, sample rate and bit depth and their quality effects.	☐	☐	☐
Calculate sound size from rate, duration, depth and stated channels.	☐	☐	☐
Compression			
Compare lossy and lossless compression and justify a method.	☐	☐	☐

My next revision priority _____