



GO2 EDUCATE

**FOLLOWING THE CCEA GCSE SPECIFICATION
FROM SEP 2017**

Digital Technology Route A TEST PACK SAMPLE



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TEST PACK INCLUDES:

**18 QUICK TESTS AND 12 PRACTICE EXAM TOPIC TESTS WITH ANSWERS
SAMPLE INCLUDES ONE EXAMPLE OF EACH**

Release date: February 2019



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SPECIFICATION
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Digital Technology



EXAM PRACTICE TEST BOOKLET BY TOPIC

Student Name: _____

Registration Class: _____

Teacher: _____

SITE LICENCE

Name of School:

UNIT 1 REPRESENTING DATA AND IMAGES TEST 1

(Q1) Digital Data can be measured in units. Complete the table below by filling in the gaps (4 marks)

Unit of measurement	Value
Nibble	4 bits (or half a byte)
	8 bits
Megabyte	
	1024 gigabytes
Petabyte	

(Q2) In each of the following electronic files described below, identify the unit they are most likely to be measured in (4 marks)

File contains	Unit of measurement
MP3 Song	
2 hour movie	
500 word essay	
Photos from a family holiday	
Large company database backup	

(Q3) Joanne from 'Flower Power' is writing a database programme for the Contact Us page of her website. As she adds the data names, Joanne must choose a suitable data type for each. (4 marks)
Identify the most appropriate data type for the data in the table below:

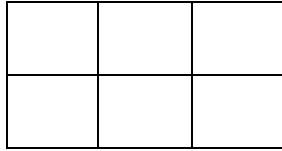
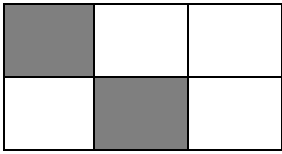
Data	Data Type
Customer Name	
Customer Age	
Telephone Number	
Would like to register to receive e-newsletters (Y/N)	

(Q4) Complete the following sentence about images by filling in the appropriate word from the list: binary, pixels, digital, count (4 marks):

Images are converted into _____ in order for a computer to understand and process them. Digital images are made up of _____ and when they are displayed onto our screen it is divided into thousands of

pixels arranged in rows and columns. The number of pixels used to create a _____ image is referred to as the 'resolution' and the higher the pixel _____, the better the quality of the image.

(Q5) In the example below 0 is white (OFF) and 1 is black (ON) to produce a black and white image. Using the information, record the position of the 0s and 1s in the blank table below:



(3 marks)

(Q6) In reality, most images today are colour. Complete the table below showing how many 'bits per pixel' or 'colours' are available (2 marks)

Number of bits per pixel	Colours Available
1 bit	2 colours
	8 colours
5 bits	

(Q7) Joanne wants to design a logo for her website. She is unsure where she should use an original photo of flowers taken from her camera or have a hand designed one using straight lines and curves. Name the 2 image types each are likely to be saved as and describe 2 key points about each to help Joanne make a good decision (5 marks)

(Q8) When watching a movie online through our phones it is referred to as 'streaming'. To minimise disruption the interruption the phone will use 'buffering'. Explain your understanding of each of the 2 key words (2 marks)

TEST TIME: APPROXIMATELY 30 MINUTES

TOTAL MARKS = 28



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FOLLOWING THE CCEA GCSE SPECIFICATION FROM SEP 2017 DIGITAL TECHNOLOGY (ROUTE A)



QUICK TEST STUDENT BOOKLET DECEMBER 2017

Student Name: _____

Registration Class: _____

Teacher: _____

SITE LICENCE

Name of School:

QUICK TEST 1: Digital Data - Data and Data Types

QUESTION	Exemplary Answers
Explain the difference between data and information.	
What is the value of a bit?	
How many bytes in a kilobyte?	
What is the approximate storage of a CD (Optical Device)	
Which storage capacity would be most suitable to back up your coursework?	
Describe with an example the following common data types	
Integer numbers	
Real numbers	
Date/Time	
Character	
String	
Boolean	
What is the most appropriate data type for the following data?	
18.5	
Hammond	
15/04/19	
On	
Y	
22	TOTAL MARKS



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SPECIFICATION

FROM SEP 2017

Digital Technology



**EXAM PRACTICE TEST TEACHER ANSWER
BOOKLET BY TOPIC**

SITE LICENCE

Name of School:

UNIT 1 REPRESENTING DATA AND IMAGES TEST 1

(Q1) Digital Data can be measured in units. Complete the table below by filling in the gaps (4 marks)

Unit of measurement	Value
Nibble	4 bits (or half a byte)
Byte	8 bits
Megabyte	1024 kilobytes
Terabyte	1024 gigabytes
Petabyte	1024 terabytes

(Q2) In each of the following electronic files described below, identify the unit they are most likely to be measured in (4 marks)

File contains	Unit of measurement
MP3 Song	Megabytes
2-hour movie	Gigabytes
500-word essay	Kilobytes
Photos from a family holiday	Megabytes
Large company database backup	Petabytes

(Q3) Joanne from 'Flower Power' is writing a database programme for the Contact Us page of her website. As she adds the data names, Joanne must choose a suitable data type for each. (4 marks)
Identify the most appropriate data type for the data in the table below:

Data	Data Type
Customer Name	Text, String
Customer Age	Numeric
Telephone Number	Text, Numeric
Would like to register to receive e-newsletters (Y/N)	Y or N, Boolean

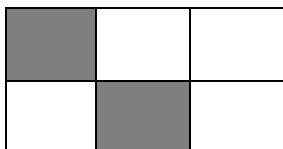
(Q4) Complete the following sentence about images by filling in the appropriate word from the list:

binary, pixels, digital, count (4 marks):

Images are converted into **binary** in order for a computer to understand and process them. Digital images are made up of **pixels** and when they are displayed onto our screen it is divided into thousands of pixels arranged in rows and columns. The number of pixels used to create a **digital** image is referred to as the 'resolution' and the higher the pixel **count**, the better the quality of the image.

(Q5) In the example below 0 is white (OFF) and 1 is black (ON) to produce a black and white image.

Using the information, record the position of the 0s and 1s in the blank table below:



1	0	0
0	1	0

(3 marks)

(Q6) In reality, most images today are colour. Complete the table below showing how many 'bits per pixel' or 'colours' are available (2 marks)

Number of bits per pixel	Colours Available
1 bit	2 colours
3 bit	8 colours
5 bits	32 colours

(Q7) Joanne wants to design a logo for her website. She is unsure where she should use an original photo of flowers taken from her camera or have a hand designed one using straight lines and curves. Name the 2 image types each are likely to be saved as and describe 2 key points about each to help Joanne make a good decision (5 marks)

The photograph taken is likely to be a bitmap image which are organised as a grid of coloured squares called pixels. The key problem with bitmaps is that the image quality reduces as they are enlarged. The hand designed image is likely to be a vector image which uses mathematical calculations and shapes. These are scalable without reducing the quality of the image.

(Q8) When watching a movie online through our phones it is referred to as 'streaming'. To minimise disruption the interruption the phone will use 'buffering'. Explain your understanding of each of the 2 key words (2 marks)

Streaming is sending data, usually audio or video that allows it to start being processed before it is complete and does not require the user to download and save the data. Buffering is where memory is used to temporarily store data while it is being moved from one place to another.

TEST TIME: APPROXIMATELY 30 MINUTES

TOTAL MARKS = 28



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FOLLOWING THE CCEA GCSE SPECIFICATION FROM SEP 2017 DIGITAL TECHNOLOGY (ROUTE A)



QUICK TEST TEACHER ANSWERS DECEMBER 2017

SITE LICENCE

Name of School:

QUICK TEST 1: Digital Data - Data and Data Types

QUESTION	Exemplary Answers
Explain the difference between data and information.	Raw data is a string of meaningless information that has not been given a context. Information has been given a context and is meaningful.
What is the value of a bit?	0 or 1
How many bytes in a kilobyte?	1024 bytes
What is the approximate storage of a CD (Optical Device)	700 mb
Which storage capacity would be most suitable to back up your coursework?	USB Memory Pen External hard drive Cloud Storage
Describe with an example the following common data type	
Integer numbers	Includes positive and negative whole numbers e.g. 10, -5
Real numbers	Contains decimal values, although can also store whole numbers e.g. 12.2
Date/Time	Can be set up to record date or time data in a specific way. For example: Short Date 15/01/15, Medium Date 15-Jan-15, Short Time 15:30
Character	May store a single letter, number or symbol e.g. Y or symbol e.g. Y or N
String	Can contain combinations of letters, numbers and symbols e.g. telephone number, Postcode, Passwords
Boolean	Can represent 1 or 0, On or Off, True or False
What is the most appropriate data type for the following data?	
18.5	Real number
Hammond	String
15/04/19	Date/Time
On	Boolean
Y	Character

SAMPLE