WJEC GCSE Digital Technology

Unit 1: The digital world (Block 2: Digital technology systems)

Resources provided:

- Each lesson provided is for first-time teaching and they include the following components:
  - Starter activity – The starter is designed for knowledge retrieval, many people believe (including myself) that revision should start from the very first lesson. So, each lesson the starter activity will include questions from previous topics to improve memory recall.
  - Exam practise – As much as we would like students to be great at exams, they need considerable practise and guidance to master the art. Each lesson includes a 'walk and talk' style exam question that students can work through and self-assess using the mark scheme provided.
  - Concept map – A concept map provides students with an overview of the topic and establishing the relationship it has with other concepts taught throughout the course.
  - Keywords – Each lesson will include a set of key words students will come across throughout the lesson. The really important key terms will include a definition and meaning which they can refer back to throughout the lesson.
  - New information – New concept is introduced and, in most cases, a video is provided which students watch and then answer a set of questions based around it. This is designed to provide some in-class discussion before moving onto the main activity.
  - Activity – Each lesson will include at least one activity that allows students to be more independent and dig a little deeper into the new concept. All activity sheets include answers.
  - Self-checker tool – This is a useful AFL tool in which students can check their understanding. The lesson could include a multiple-choice quiz which was built in Microsoft Forms.
- AFL (Knowledge capture):
  - This document is very versatile. It can be used as a plenary at the end to check understanding, could be used as a homework to consolidate learning, a starter for retrieval practice or saved for some revision.
  - It includes a RAG rating for students to complete with some exam-style questions. The answers/mark scheme to these exam-style questions also been included.
- Review:
  - An accelerated writing activity to encourage students to go into more detail and demonstrate a deeper understanding of certain concepts. This could be converted into a bingo card and each box they complete they get a reward, works well with low ability students who need some extra motivation.
- Knowledge organisers
  - There are some question marks as to whether these really have an impact but I know a decent proportion of students find them useful so for me that's a win. Most lessons will include a knowledge organiser that can be used as future revision. Completed copy and a blank version will be provided in case you wanted students to complete them.
- Workbooks
  - These are condensed versions of topics taught and act as a useful revision guide for students to complete in preparation for an exam.
  - It's quite flexible and could easily be used for anyone who prefers to go down the 'flipped learning' approach.
  - It's also good to set students who may be absent from lesson.
- End of block assessment
  - This is a short exam-style paper on the first block. It's out of 40 marks and a mark scheme has been included.

Lesson breakdown

Lesson	Topic	Structure

1	Interaction and Connection	• Starter activity on retrieval practice.
		• Students practise an exam-style question based on last week's learning. The mark scheme has been provided with some guidance on better understanding the command words used.
		• In-class activities on slides 8-13 with supporting videos.
		  ○ Reference will made to machine learning. The level of student's understanding really depends on their KS3 curriculum. However, if this is new information to your students then there is an activity in the **DT8 revision workbook**
		• The lesson consists of one activity:
		  ○ Activity 1 is about students identifying the advantages and disadvantages to using more traditional methods of interaction such as the keyboard and mouse.
		  ○ Activity 2 will get students to look into different interaction methods. They will be provided with an example of a device, which they have to identify the method of interaction it uses and any advantages and disadvantages to using that particular method. Students might take a while to find the information they need. A range of sample answers have been provided but other reasonable examples are accepted.
		  ○ Activity 3 will get students to delve a little deeper into biometrics which is quite a broad term as there are a wide range of biometric methods used.
		• Self-checker tool
		  ○ A quiz in Microsoft Forms have been provided. Teachers can create a duplicate copy so they can pass it on to students.
		  ○ Knowledge capture acts as a skills audit in which students can check their level of understanding and test it against exam-style questions.
		• Knowledge organisers
		  ○ One organiser part of this lesson which covers two pages and covers all interactive methods stated in the specification
		• Revision workbook
		  ○ Teacher copy with answers and blank student version provided.

2	Types of networks	• Starter activity on retrieval practice.
		• Students practise an exam-style question based on last week's learning. The mark scheme has been provided with some guidance on better understanding of the command words used.
		• In-class activities on Slide 9,10 and 11 with videos contributing to some of the in-class discussions.
		• The lesson consists of two tasks.
		  ○ Task 1 is a re-cap for students to remember the difference between a LAN (Local Area Network) and WAN (Wide Area Network) – a common question in the exam. The second part will encourage students to identify when a LAN or WAN would be used, whether it's a home network or the internet (this part will tie in later with CS19).
		  ○ Task 2 allows students to build on their understand of client-server and peer-to-peer networks by identifying the pros and cons to using each. The second part will require them to

		contextualise and think about which model is best suited to a home network and a school network. The final part will get them to research a wide range of factors that can cause the performance of a network to drop.
		• Self-checker tool
		  ○ A quiz in Microsoft Forms have been provided. Teachers can create a duplicate copy so they can pass it on to students.
		  ○ Knowledge capture acts as a skills audit in which students can check their level of understanding and test it against exam-style questions.
		• Knowledge capture
		  ○ Three questions based on today's learning (answers provided).

3	Network hardware	• Starter activity on retrieval practice.
		• Students practise an exam-style question based on last week's learning. The mark scheme has been provided with some guidance on better understanding of the command words used.
		• In-class activities on Slides 9-13 and a video that will contribute to the discussion. This is quite extensive but students must have knowledge of a wide range of network hardware and their purpose.
		• The lesson consists of two tasks:
		  ○ Task 1 is a differentiated activity. The network hardware denoted by a green is compulsory as these have been made explicit on the specification. It also means the lower ability can focus on these tasks without worrying about others because they don't need to know. Conversely, it allows your more able students to explore the different hardware available and their purpose. The second part is a context-based task which is designed to get students to identify what hardware is best suited to this type of network so this follows on from the first task.
		  ○ Task 2 aims to bring together their understanding from DT9 and DT10. They're required to design an abstract version of a home network and a school network. They must identify whether a LAN or WAN has been used, a client-server or peer-to-peer and what network hardware and cabling is required to set up the network. This is a useful activity because a common exam question is to get students to draw a network and label it correctly.
		• Self-checker tool
		  ○ A quiz in Microsoft Forms have been provided. Teachers can create a duplicate copy so they can pass it on to students.
		  ○ Knowledge capture acts as a skills audit in which students can check their level of understanding and test it against exam-style questions.
		• Knowledge capture
		  ○ Three questions based on today's learning (answers provided).

4	The internet	• Starter activity on retrieval practice. • Students practise an exam-style question based on last week's learning. The mark scheme has been provided with some guidance on better understanding the command words used. • In-class activities on Slides 9 to 12 with supporting videos. • This lesson consists of two activities: • Activity 1:

		○ Task 1: Help students to understand terms such as client, host and web server. ○ Task 2: The process of linking the URL to its associated IP address by using a DNS (Domain Name System) Slide 10 has a great video on this which explains it pretty well. From experience, it is a difficult concept for students to understand so you might want to adapt the second task if you feel it's too comprehensive. ○ Task 3: Continuation of the IP addressing theme and getting students to understand how it's different to a MAC address. This ties in which network hardware as a computer will use a NIC to connect to a network and they use MAC addresses to uniquely identify a device connected to the network, whereas an IP address is used to assign a device to a network. ○ Task 4: As stated in the specification, students will need to be able to identify the five different parts of the URL. ○ Task 5: A basic understanding of what an ISP is and the services they provide. • Activity 2 ○ Task 1 and 2: Cloud storage was covered in 1.1. and this can be used to draw on their prior knowledge/leaning. This task is to help students understand the difference between cloud storage and cloud computing. Task 2 in particular looks at advantages and disadvantages. From my experience, I have found it useful to use school as a good example of this. If your school uses Google or One drive then it can be a good way to get students to understand the concept of cloud computing. ○ Task 3: Students need to identify the advantages and disadvantages associated with different modes of connection. The RAG table identified is completely subjective, I've tried to order it by difficulty but you may decide to change it yourself. • Self-checker tool ○ A quiz in Microsoft Forms have been provided. Teachers can create a duplicate copy so they can pass it on to students. ○ This same quiz has been repeated for the next two lessons which is good for repetition. ○ Knowledge capture acts as a skills audit in which students can check their level of understanding and test it against exam-style questions. • Knowledge organisers ○ One organiser provided. • Revision workbook ○ Teacher copy with answers and blank student version provided.
5	Operating sytems	• Starter activity on retrieval practice. • Students practise an exam-style question based on last week's learning. The mark scheme has been provided with some guidance on better understanding of the command words used. • In-class activities on Slides 8-13 that cover a wide range of OS functions. • The lesson consists of five separate worksheets. ○ Worksheet 1: User interface ▪ Task A is a labelling activity which was covered in the in-class discussion.

		▪ Task B students need to identify what the acronym WIMP stands for. ▪ Task C will get students to think about a wide range of interfaces and the pros and cons to using each one. ▪ Task D is an accelerated writing activity to encourage students to go into more detail and demonstrate a deeper understanding of certain concepts. This could be converted into a bingo card and each box they complete they get a reward, works well with low ability students who need some extra motivation. o Worksheet 2: Device drivers ▪ Task A is ensuring students understand what a peripheral device actually is and allow them to make that connection with device drivers. ▪ Task B requires students to create an abstract diagram of the process, it gets them to visualise how device drivers allow peripheral devices communicate with the CPU. ▪ Task C is an accelerated writing activity to encourage students to go into more detail and demonstrate a deeper understanding of certain concepts. This could be converted into a bingo card and each box they complete they get a reward, works well with low ability students who need some extra motivation. o Worksheet 3: User management ▪ Task A is designed for students to understand the different permissions that can be imposed upon them by the network administrator. Based on their own experience, they should be able to come up with a range of reasonable answers. ▪ Task B gets them to think about the different levels of access and place into a hierarchy. Again, this provides them with a visual representation of the process. ▪ Task C is an accelerated writing activity to encourage students to go into more detail and demonstrate a deeper understanding of certain concepts. This could be converted into a bingo card and each box they complete they get a reward, works well with low ability students who need some extra motivation. o Worksheet 4: File management ▪ Task A encourages students to identify how they can manage their own file management system. From previous experience, this type of question has tripped up students because they overthink it. They need to understand that file management is not just a facility that allows you to save your work, but also an opportunity to manage the entire process such as moving files, renaming files, password protecting files etc… ▪ Task B presents them with a set of files that have been saved loose and it's their task to provide an appropriate folder structure which will store the relevant files. ▪ Task C is an accelerated writing activity to encourage students to go into more detail and demonstrate a deeper understanding of certain concepts. This could be converted into a bingo card and each box they complete

		they get a reward, works well with low ability students who need some extra motivation. ○ Worksheet 5: Memory management ▪ Task A requires students to visualise the process in which memory is managed. They should be able to build on their knowledge from CS11 in which they learnt how virtual memory works. ▪ Task B requires students to answer some key questions that they may come across in the exam. The first three questions are probably the most important. Q4 and 5 are beyond the specification so this might be useful as an extension activity. ▪ Task C is an accelerated writing activity to encourage students to go into more detail and demonstrate a deeper understanding of certain concepts. This could be converted into a bingo card and each box they complete they get a reward, works well with low ability students who need some extra motivation. • Self-checker tool ○ A quiz in Microsoft Forms have been provided. Teachers can create a duplicate copy so they can pass it on to students. ○ Knowledge capture acts as a skills audit in which students can check their level of understanding and test it against exam-style questions. • Knowledge capture ○ Three questions based on today's learning (answers provided). ○
6	Utility Software	• Starter activity on retrieval practice. • Students practise an exam-style question based on last week's learning. The mark scheme has been provided with some guidance on better understanding of the command words used. • In-class activities on Slides 10-16 that cover a wide range of utility software. • The lesson consists of five separate worksheets. ○ Worksheet 1: Anti-virus software ▪ Task A gets students to identify a range of different threats to the network. Good for systems security. ▪ Task B get students to think about the mechanics behind the software and how it works. ▪ Task C students need to identify the pros and cons to using anti-virus software. ▪ Task D focuses on Windows specifically and the anti-virus software they provide as part of their operating system which is Windows Defender. Students will need to use the internet to identify the pros and cons to using this particular facility. ▪ Task E is an accelerated writing activity to encourage students to go into more detail and demonstrate a deeper understanding of certain concepts. This could be converted into a bingo card and each box they complete they get a reward, works well with low ability students who need some extra motivation. ○ Worksheet 2: Backup

		▪ Task A will require students to understand some key terms such as fault tolerance and a disaster recovery plan, they won't be asked this in the exam but it provides a useful introduction into the purpose of backing up data. ▪ Task B students need to identify the pros and cons of the two backup methods mentioned in the specification: Full, Incremental, Differential and GFS. ▪ Task C is to remove the perception and potential misconception, which is that incremental is always the best option because it's in the main a 'faster process'. ▪ Task D requires students to look again at the facilities provided by the operating system. They need to better understand what a system restore is, why it's used but also why this isn't always the best solution when retrieving data. ▪ Task E is an accelerated writing activity to encourage students to go into more detail and demonstrate a deeper understanding of certain concepts. This could be converted into a bingo card and each box they complete they get a reward, works well with low ability students who need some extra motivation. o Worksheet 3: Defragmentation ▪ Task A ensures students know what is meant by fragmentation. There is a huge emphasis on them understanding the defragmentation but it's important they know what constitutes a fragmented file. ▪ Task B is an interactive activity where students will re-arrange files and group them together, just like how defragmentation software would work. *Acknowledgement: © 2018 John-Lee Langford* ▪ Task C is aimed to put into context what they've learnt. It's designed to get students to understand how fragmentation can impact the everyday operations of a business. ▪ Task D get students to consider what if they upgraded to solid-state? Why would defragmentation not become an issue any more? ▪ Task E encourages students to think about additional steps individuals and businesses could take when it comes to defragmentation. ▪ Task F is an accelerated writing activity to encourage students to go into more detail and demonstrate a deeper understanding of certain concepts. This could be converted into a bingo card and each box they complete they get a reward, works well with low ability students who need some extra motivation. o Worksheet 4: Encryption ▪ Task A, B and C will get students to have a go at encrypting and decrypting message user a Caesar cipher. ▪ Task D encourage students to think about the use of symmetric and asymmetric encryption. There won't be any direct questions about this in the exam, but its recommended students are taught this so they have a

		much deeper understanding of encryption. They can find an image of the internet to find one to draw out themselves. ▪ Task E is an accelerated writing activity to encourage students to go into more detail and demonstrate a deeper understanding of certain concepts. This could be converted into a bingo card and each box they complete they get a reward, works well with low ability students who need some extra motivation. o Worksheet 5: Firewall ▪ Task A will get students to think about firewall will use different methods to monitor traffic coming into the network. The three terms are not part of the specification but will give students a better understanding on how traffic is managed. ▪ Task B students will identify the pros and cons associated with the use of firewall software. ▪ Task C is an accelerated writing activity to encourage students to go into more detail and demonstrate a deeper understanding of certain concepts. This could be converted into a bingo card and each box they complete they get a reward, works well with low ability students who need some extra motivation. • Self-checker tool o A quiz in Microsoft Forms have been provided. Teachers can create a duplicate copy so they can pass it on to students. o Knowledge capture acts as a skills audit in which students can check their level of understanding and test it against exam-style questions. • Knowledge capture Three questions based on today's learning (answers provided).
7	Software	• Starter activity on retrieval practice. • Students practise an exam-style question based on last week's learning. The mark scheme has been provided with some guidance on better understanding the command words used. • In-class activities on Slides 8-11 with supporting videos. • This lesson consists of three activities: • Activity 1 o Task 1: Define/describe what is meant by applications software. o Task 2: Students are expected to identify different types of application software and their main purpose. This allows students to have a more rounded view on what application software is used for, especially specific packages such as Adobe Web Premium and Microsoft Office. • Activity 2 o Task 1: Define/describe what is meant by bespoke software. o Task 2: Students expected to identify the pros and cons of using bespoke software. This will help to weight up whether bespoke or application software is best suited for a given scenario. • Activity 3: o Task 1: To help students differentiate between a feedback system and closed loop system by using real-life examples. Good way to get students to justifiy their choices to further reinforce their understanding.

		○ Task 2: Identify pros and cons of each system. ○ Task 3: This is probably going off on a slight tangent as this relates to embedded systems. However, this is closely linked to process control. However, you might decide to ignore this if you feel it's a little beyond the specification. ○ Task 4: Focus on real-life feedback systems and how they operate. • Self-checker tool ○ Knowledge capture acts as a skills audit in which students can check their level of understanding and test it against exam-style questions. • Knowledge organisers ○ One organiser provided and this could be expanded as cloud services are discussed further down the specification. For example, it could lead to the addition of scalability. (e.g. vertical and horizontal scaling) • Revision workbook ○ This will be added to a future workbook when more content on cloud computing has been covered.
8	Systems Development Life Cycle	• Starter activity on retrieval practice. • Students practise an exam-style question based on last week's learning. The mark scheme has been provided with some guidance on better understanding the command words used. • In-class activities on Slides 7-14 with supporting videos. This could easily go over two hours. • This lesson consists of four activities: • Activity 1 ○ Task 1: Will get students to understand the model itself and how it's put together. It's worth mentioning that you will come across many different representations of the model that may cause confusion. I've tried in the main to stick to what is on the specification. ○ Task 2: Focuses on the investigation phase which looks the purpose of a feasibility report and what must be considered when implementing a new system. ○ Task 3: Students will need to be able to identify different ways in which a system analyst can investigate the current system and what works well and what doesn't. • Activity 2 ○ Task 1: Explain how a data flow diagram works and the second part will allow students to put that into practice, an example of a current system has been provided to give them further guidance. ○ Task 2: Explain the purpose of a decision table and similar to the previous task, students undertake an activity in which they put this concept into practice. ○ Task 3: Explain the purpose of a data dictionary and the same process repeated as with Task 1 and 2. ○ The in-class discussions and videos provided in the slides should give them additional support. • Activity 3: ○ Task 1: Focuses on the design phase the requirements such as hardware, software etc..

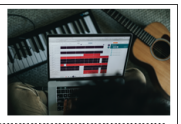
		○ Task 2: Students need to understand how to test and why it is important. This task shows students how to set up a test plan and examples of test data. It hasn't been made clear in the specification what the test data will be, but if something arises that I haven't done then I will update the slides accordingly. ○ Task 3: Students need to know four different implementation methods: Direct (big bang), Phased, Parallel and Pilot. They will need to know thw advantages and disadvantages to using each one. This also appears later on in the specification. • Activity 4: ○ Task 1: Students need to be aware of different ways an IT system can be maintained, whether that is low-level (staff using paper manuals or on-screen documentation) or a bigger problem that can only been fixed by technical staff. ○ Task 2: This focuses on different types of maintenance, there is no mention of this explicitly in the specification so you may choose to ignore this if you feel it isn't appropriate. ○ Task 3: Students understand what happens in the evaluation phase. • Self-checker tool ○ Knowledge capture acts as a skills audit in which students can check their level of understanding and test it against exam-style questions. • Knowledge organisers ○ One organiser provided and this could be expanded as cloud services are discussed further down the specification. For example, it could lead to the addition of scalability. (e.g. vertical and horizontal scaling) • Revision workbook This will be added to a future workbook when more content on cloud computing has been covered.

Resources

Exam starter

Exam prep!
The revision starts here!!

Look at the bitmap image (shown right)



State what is meant by the following terms:

a) The size of an image.

.....

.....

b) The resolution of an image.

.....

.....

[2]

State means to…

Give a specific name, value or other brief answer without explanation or calculation.

In this question, you get one mark for stating what is meant by the size of an image and one for resolution.

Use your answer slip from the booklet provided to write your answer.

Exam prep! – Mark scheme (including model answer)
The revision starts here!!

Look at the bitmap image (shown right)

State what is meant by the following terms:

a) The size of an image.

This refers to the height and width of the image which is measured in pixels.

b) The resolution of an image.

This refers to the number of pixels that can be stored per inch for example.

[2]

Size of an image:

- The height and width. ✓
- The height and width in pixels.

Resolution:

- Number of pixels per unit area of the display (per inch) ✓

Knowledge retrieval starter

Knowledge retrieval
How many points can you score?

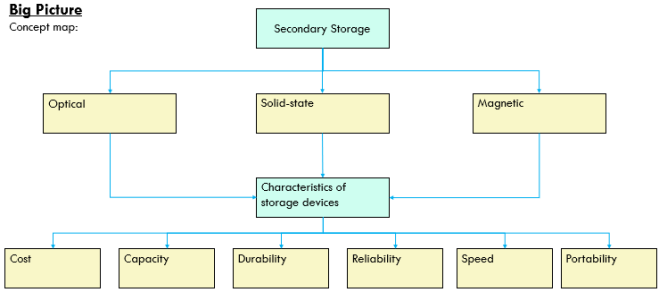
Question	Points	Answer
What is a bitmap image made up of?	3	
What is meant by resolution?	3	
What is a vector graphic made up of?	3	
Name two types of compression.	3	
What data is in the form of sound waves?	2	
What process is used to record analogue sound at regular intervals so it can be converted to digital?	2	
What format is digital data?	2	
Name two types of primary storage	1	
What type of storage is used to store files for long-term use?	1	
What term is used to describe data that is lost when the computer is switched off?	1	

Knowledge retrieval
How many points can you score?

Question	Points	Answer
What is a bitmap image made up of?	3	Pixel
What is meant by resolution?	3	Number of pixels stored per inch
What is a vector graphic made up of?	3	Lines and curves
Name two types of compression.	3	Lossy and Lossless
What data is in the form of sound waves?	2	Analogue
What process is used to record analogue sound at regular intervals so it can be converted to digital?	2	Sampling
What format is digital data?	2	Digital
Name two types of primary storage	1	RAM and ROM
What type of storage is used to store files for long-term use?	1	Secondary Storage
What term is used to describe data that is lost when the computer is switched off?	1	Volatile memory/data

Concept map

Big Picture
Concept map:



Keywords

Key terms

Important terms:
- Storage
- Optical
- Laser
- Characteristics

Key words	
Secondary storage	A type of non-volatile storage that allows data to be stored for long-term/later use.
Cost	How expensive per byte does it cost for the device?
Capacity	The amount of space available on the storage device.
Portability	How easy it is to transport from one place to another.
Durability	How resistant it is to external factors such as being dropped, scratched and how it responds to being in extreme conditions.
Speed	How quickly the data can be read and transferred from the storage device.
Reliability	This refers to longevity – how well does it maintain performance over time?

New information

Magnetic storage

Video
Click here

Magnetic storage has been one of the most reliable types of storage for decades, starting off as magnetic tapes up to hard drives.

Question:

1. How does magnetic storage work?
2. Identify some pros and cons to using magnetic storage.

Answer:

1. It consists of spinning magnetic platters on which data is stored a tiny head at the end of an actuator arm moves about to read and write data to different areas of the disk.
2. Pros: *Cost* per GB is low which gives you value for money.. Cons: *Speed*: it also consumes a fair amount of power and is not always as fast as you would like. *Durability*: the platter and mechanical mechanisms are also somewhat fragile and easily damaged

Activity

Activity 3

Below is a 3-bit bitmap image.

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	2	1	0	0	0
0	0	0	0	0	0	0	0	0	4	3	2	1	0	0
0	0	0	0	0	0	0	0	4	4	3	3	2	1	0
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Key:

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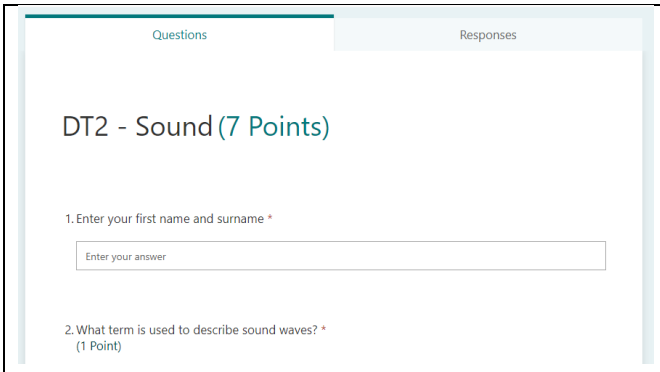
7		

Self-checker tool

End of block assessment



Questions | Responses

DT2 - Sound (7 Points)

1. Enter your first name and surname *

Enter your answer

2. What term is used to describe sound waves? *
(1 Point)

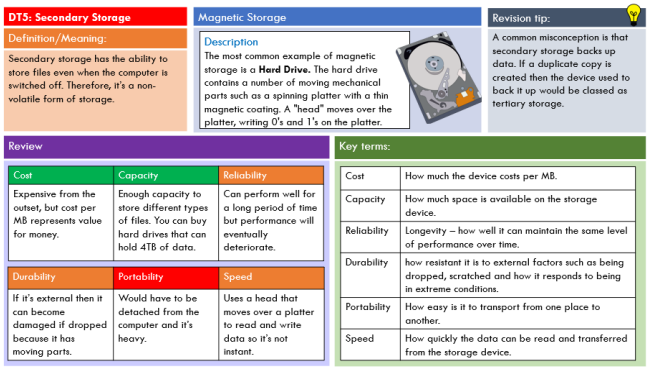
Candidate name	Centre number	Candidate number

GCSE DIGITAL TECHNOLOGY
UNIT 1 THE DIGITAL WORLD
BLOCK 1: DATA
45 Minutes

INSTRUCTIONS FOR CANDIDATES
Answer ALL questions.

This paper consists of three section: Section A: Images, Section B: Sound and Section C: Measuring and storing data

Knowledge organiser



DT5: Secondary Storage

Definition/Meaning:
Secondary storage has the ability to store files even when the computer is switched off. Therefore, it's a non-volatile form of storage.

Magnetic Storage

Description
The most common example of magnetic storage is a **Hard Drive.** The hard drive contains a number of moving mechanical parts such as a spinning platter with a thin magnetic coating. A "head" moves over the platter, writing 0's and 1's on the platter.

Revision tip:
A common misconception is that secondary storage backs up data. If a duplicate copy is created then the device used to back it up would be classed as tertiary storage.

Review

Cost	Capacity	Reliability
Expensive from the outset, but cost per MB represents value for money.	Enough capacity to store different types of files. You can buy hard drives that can hold 4TB of data.	Can perform well for a long period of time but performance will eventually deteriorate.
Durability	**Portability**	**Speed**
If it's external then it can become damaged if dropped because it has moving parts.	Would have to be detached from the computer and it's heavy.	Uses a head that moves over a platter to read and write data so it's not instant.

Key terms:

Cost	How much the device costs per MB.
Capacity	How much space is available on the storage device.
Reliability	Longevity – how well it can maintain the same level of performance over time.
Durability	how resistant it is to external factors such as being dropped, scratched and how it responds to being in extreme conditions.
Portability	How easy is it to transport from one place to another.
Speed	How quickly the data can be read and transferred from the storage device.

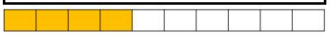
Revision workbook

Optical storage

Key Questions:
Use the bars below to rank optical storage against the different storage characteristics. You must justify your answer.

10 = Good 1 = Bad

Capacity



Justification
In comparison to other types of storage, the capacity isn't enough store a range of files. Although Blu-ray can store up to 50GB, it's still far less than what a USB flash drive can store.

Cost

Justification
Although the capacity of these devices is relatively low, the cost per GB gives you excellent value for money. It can cost less than £1 for one blank 25GB Blu-ray disc.

Knowledge capture

WJEC Digital Technology
DT3: Knowledge Capture

Specification points:

1.1b Measuring and storing data
• be able to describe the relationship between binary data storage units

Skills audit:

Criteria			
I can order digital units of data from smallest to largest			
I can convert from one digital unit to another.			
I can identify primary, secondary and tertiary storage devices.			

Teacher feedback:

Knowledge capture

WJEC Digital Technology
DT3: Knowledge Capture

Exam-style questions

1. Emily is creating a film for a school project using a digital video camera and will transfer the videos to a computer for editing.

   The computer 2GB of storage free.

   Calculate the number of videos that could be stored on the computer if each video was 200MB in size. You must show your working.

   [2]

2. A file size has a size of 72,000,000,000 bits.

   Calculate the file size in megabytes and gigabytes. You must show your working.

   Megabytes: