

# **Social Sciences**

## **Home Learning Pack**

### **Year 8**

✓ **Computer Science**



# GCSE Computer Science

## Memory and Storage

**Working from home workbook**



Your Name:

Class:

Due to school closures, self-isolations etc. it is necessary for you to stay away from school and complete work at home. We have tried to make this as easy as possible for you and have provided you with this workbook.

This workbook is designed to be used to help you continue to revise and prepare for your GCSE Computer Science exams.





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## **Instructions:**

Work through as many sections as you can. We understand that some of you may be ill during this time or helping to look after others who may be ill, so we ask that you do as much as you can. Obviously the more you can complete, the better you will be prepared for your exams so it is in your own interest to work through as much as you can.

Watch the videos where prompted and complete the tasks that are asked. We have tried to cut down on the printing and paper costs by only including the links to the videos and the tasks and not taken up valuable space with information you can find elsewhere. If you do not have access to YouTube please feel free to use whatever other source of information you have such as textbooks, your own notes etc. to enable you to complete the tasks.

If you have any problems with completing any of the tasks or need any extra help then please contact your teacher however please understand that if they are ill or are looking after somebody else who is ill, they will not be able to give you immediate feedback and you may have to wait for a response.

When you return to school, please bring this workbook with you so your teacher can provide feedback.

We understand this is a difficult time for many but please remain patient and contact your school or teacher if you have any questions or need any additional help.





# Memory



<https://youtu.be/ZKcgzTYK Ws>



If you don't have access to YouTube, feel free to look up the information in a textbook or other source.

## Now answer these questions:

1. What is meant by volatile and what is meant by non-volatile?

2. Explain what ROM is used for.

3. Explain what RAM is used for.

4. Complete the table below to describe the difference between Dynamic RAM and Static RAM.

	DRAM	SRAM
Where is it commonly used? (Cache or RAM)		
Does the information need to be re-written every few seconds or will it stay until the power is switched off?		





# Storage



[https://youtu.be/EpQv\\_apilkw](https://youtu.be/EpQv_apilkw)



If you don't have access to YouTube, feel free to look up the information in a textbook or other source.

## Now answer these questions:

1. What is the difference between storage and memory?

2. Explain what is meant by the term "disk thrashing".

3. Complete this table:

	Magnetic	Optical	Solid State
Description			
Advantages			
Disadvantages			



# Recap Memory and Storage

You are going to create a memory and storage dictionary. Write descriptions for the following terms in your own words.

Word	Description (in your own words)
Cache	
Crash	
Disk thrashing	
DRAM	
GHz	
Magnetic Storage	
Non-volatile	
Optical Storage	
RAM	
ROM	
Secondary Storage	
SRAM	
Static Storage	
Virtual Memory	
Volatile	



# Practise Exam Questions

1) Explain the purpose of RAM in a computer system. [2 marks]

.....

.....

.....

2) When a user has lots of applications open that they are using, the computer may need to use virtual memory. Explain **how virtual memory works** and also explain one **disadvantage** to using virtual memory. [4 marks]

.....

.....

.....

.....

3) Timothy likes to go skiing and has a helmet mounted camera that he uses to record videos. Identify the type of storage media that is likely to be used in the camera and give two reasons why this is the best type of storage media for a helmet mounted camera. [3 marks]

Type: .....

Reason 1: .....

.....

.....

Reason 2: .....

.....

.....

4) Carl wants to back up the data on his computer once a week. Identify 1 advantage and 2 disadvantages of using an optical disk to do this. [3 marks]

Advantage 1: .....

.....

Disadvantage 1: .....

.....

Disadvantage 2: .....

.....



# Mark Your Exam Questions

Look back on your answers and mark them using the following criteria.

## 1) Explain the purpose of RAM in a computer system.

1 mark for any of the following bullet points (max 2 marks)

- RAM holds the programs that is currently in use
- It allows the CPU to access data much faster than from secondary storage

## 2) When a user has lots of applications open that they are using, the computer may need to use virtual memory. Explain how virtual memory works and also explain one disadvantage to using virtual memory.

1 mark for any of the following bullet points (max 2 marks for how it works and max 2 marks for the disadvantage)

### How it works

- An area of secondary storage that stores unused items presently in RAM
- Frees up space in RAM

### Disadvantage

- Can make a computer slow to respond...
- ... as it takes longer to get data from virtual memory than RAM.

## 3) Timothy likes to go skiing and has a helmet mounted camera that he uses to record videos. Identify the type of storage media that is likely to be used in the camera and give two reasons why this is the best type of storage media for a helmet mounted camera.

1 mark for any of the following bullet points (max 1 mark for type and max 2 marks for the reasons)

### Type

- Static storage

### Reasons

- More robust and withstand bumps and knocks
- Light weight
- Can be written and re-written many times

## 4) Carl wants to back up the data on his computer once a week. Identify 1 advantage and 2 disadvantages of using an optical disk to do this. [3 marks]

1 mark for any of the following bullet points (max 1 mark for an advantage and max 2 marks for the disadvantages)

### Advantage

- Cheap
- Highly portable
- Durable against water damage

### Disadvantage

- Slow to write to
- Need an optical drive to read and a write it
- Can be easily scratched
- Low capacity





## Assessment Revision- Overview of Key Terms

### Culture

- culture
- shared
- norms

Culture refers to the \_\_\_\_\_ way of life of a society. It includes \_\_\_\_\_, values, language, religion, arts and fashion. Norms are shared guidelines about how to behave in a particular \_\_\_\_\_.

### Norms

Norms are the expectations or unwritten formal rules that tell someone how they should behave in a certain situation.

In a church people are expected to be quiet and respectful, to stand, kneel and pray. *Write a sentence to explain the norms of behaviour in each of the situations below:*

- At the supermarket
- In the doctor's waiting room
- At a party

### Values

Values are the beliefs/what society sees as important and worth holding onto.

*Below are examples of values we might hold in the UK; add 3 more values people in our society also have:*

Educational Success, Freedom of Speech

