

TOPICS COVERED:

- Explanations of Memory
- Different Types of Memory
- Explanations for Forgetting
- Factors affecting the Accuracy of Eye Witness Testimony
- Strategies to improve memory recall.

MEMORY

Paper 1

Lesson 1 – An Introduction to Memory:

Cognitive psychology is...

Memory can be defined as... _____

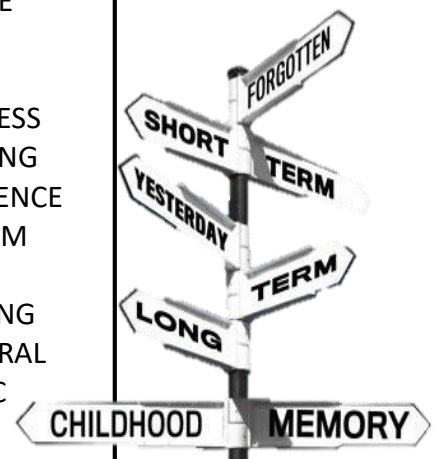
True or False Quiz:

1. There is no limit to the amount of information that you can remember.
2. Individuals have a limited amount that they can remember and it varies between people.
3. Memorising over and over helps you to boost your memory.
4. Learning something new physically changes your brain.
5. Remembering too many things can clutter your brain.
6. We can remember things that didn't happen.
7. Memories start forming in the womb.
8. You can train your brain to never forget things.
9. Emotional intensity prioritises how memories are stored.
10. People only use 10% of their brains.

E	J	V	K	G	P	T	G	A	P	I	C	E	U	M
N	V	H	Z	E	Q	G	N	Q	E	U	C	D	M	U
D	B	C	I	D	O	S	I	P	E	N	L	G	B	D
W	N	S	E	I	D	U	T	S	E	S	A	C	H	L
J	M	G	C	X	M	R	T	R	E	S	R	O	F	O
N	I	L	O	N	G	T	E	R	M	E	U	C	W	P
T	S	J	G	O	I	F	G	Q	R	N	D	I	R	W
K	L	M	N	S	R	J	R	U	Z	T	E	T	D	N
D	E	R	I	E	C	Z	O	I	U	I	C	N	Q	R
E	A	Q	T	N	G	M	F	Z	S	W	O	A	U	W
G	D	N	I	S	H	O	R	T	T	E	R	M	D	F
X	I	I	V	O	M	E	M	O	R	Y	P	E	I	N
V	N	O	E	R	A	S	K	H	M	E	M	S	X	S
W	G	P	A	Y	T	E	I	X	N	A	J	A	V	J
J	J	G	Y	K	E	L	A	N	X	F	F	U	Z	M

Words to find:

ANXIETY
CASE STUDIES
COGNITIVE
CUES
EPISODIC
EYE WITNESS
FORGETTING
INTERFERENCE
LONG TERM
MEMORY
MISLEADING
PROCEDURAL
SEMANTIC
SENSORY
SHORT TERM



Lesson 2 – The Multi-store Model:

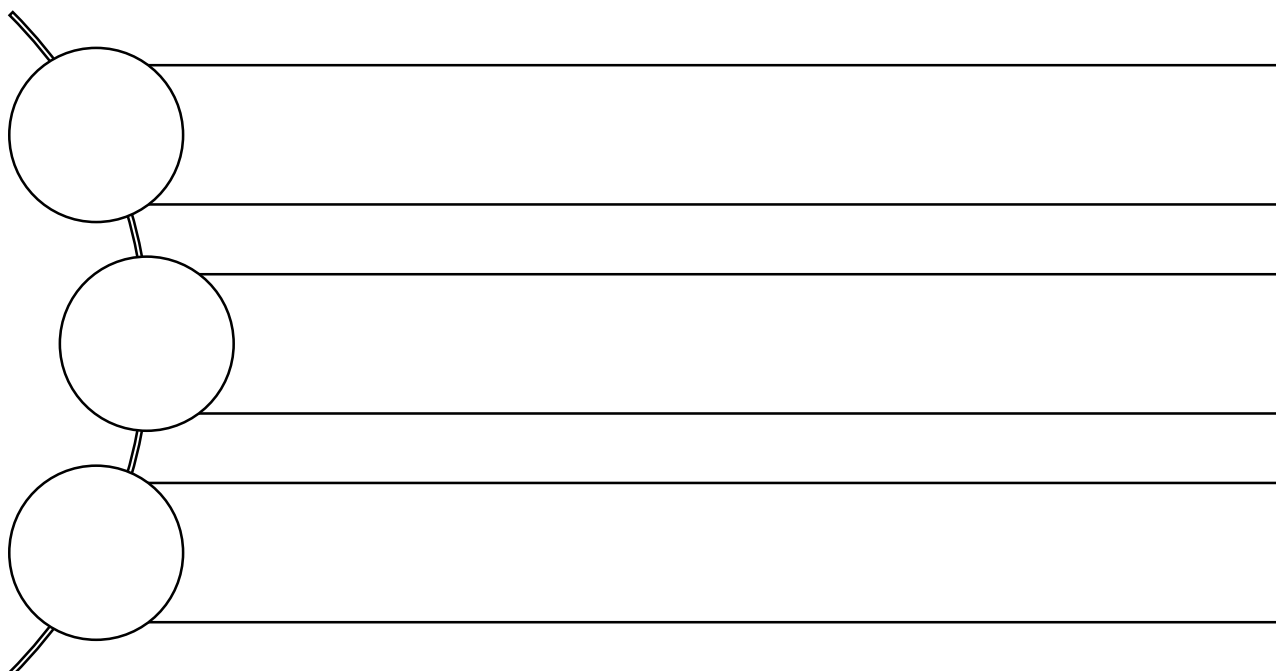
The multi-store model (MSM) was devised by Atkinson and Shiffrin (1968) as the first cognitive explanation of memory. Prior to this most explanations were biological. The model shows how _____ flows through a series of _____ systems.



Below draw a diagram to represent the model:

Each of these stores differs in terms of:

Task: Write down a definition for each of the above key terms and draw a picture to represent them. Once done, add the information to your diagram (you might like to colour code).



Three circles are arranged vertically, connected by a line. Each circle has a horizontal rectangular box to its right, intended for writing definitions and drawing pictures related to the stores of memory.

What is it?

Coding:

Duration:

Capacity:

Evaluation:

Evaluation:

Evaluation:

What is it?

Coding:

Duration:

Capacity:

Evaluation:

Evaluation:

Evaluation:

What is it?		
Coding:	Duration:	Capacity:
Evaluation:	Evaluation:	Evaluation:

Case Studies:



Clive Wearing:

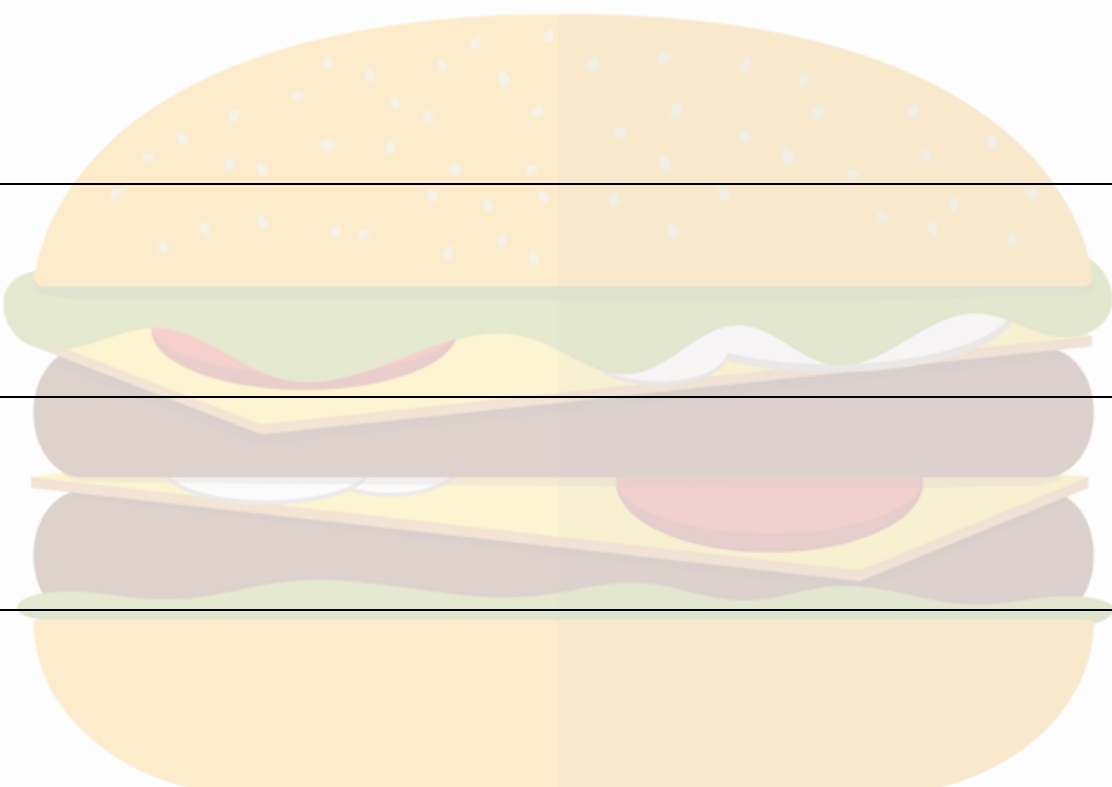
Henry Molaison:



It was the first cognitive explanation of memory, which inspired research and interest for the subject, leading to a greater understanding.	The model is over-simplified, assuming that LTM and STM memory are single stores.
Murdock (1962) discovered the serial position effect, the idea that words at the beginning and end of the lists were remembered better than the ones in the middle. Supporting the idea that there are ST and LT stores.	Cohen (1990) suggests memory capacity cannot be measured purely in amount of information, but rather by the nature of the information recalled. Some things are easier to recall, regardless of the amount to be learned.
The model is supported by case studies such as HM and CW. Which show that there are separate stores.	The MSM focuses mainly on structure, i.e. that there are separate stores, less is known about the processes that occur between these stores.

Evaluation of the MSM:

Task: Firstly identify a GRAVEE term for each statement. Then identify using colours, which statements could be put together to make a whopper (could be two positives/negatives or a positive and a negative). Now write the whopper out below.

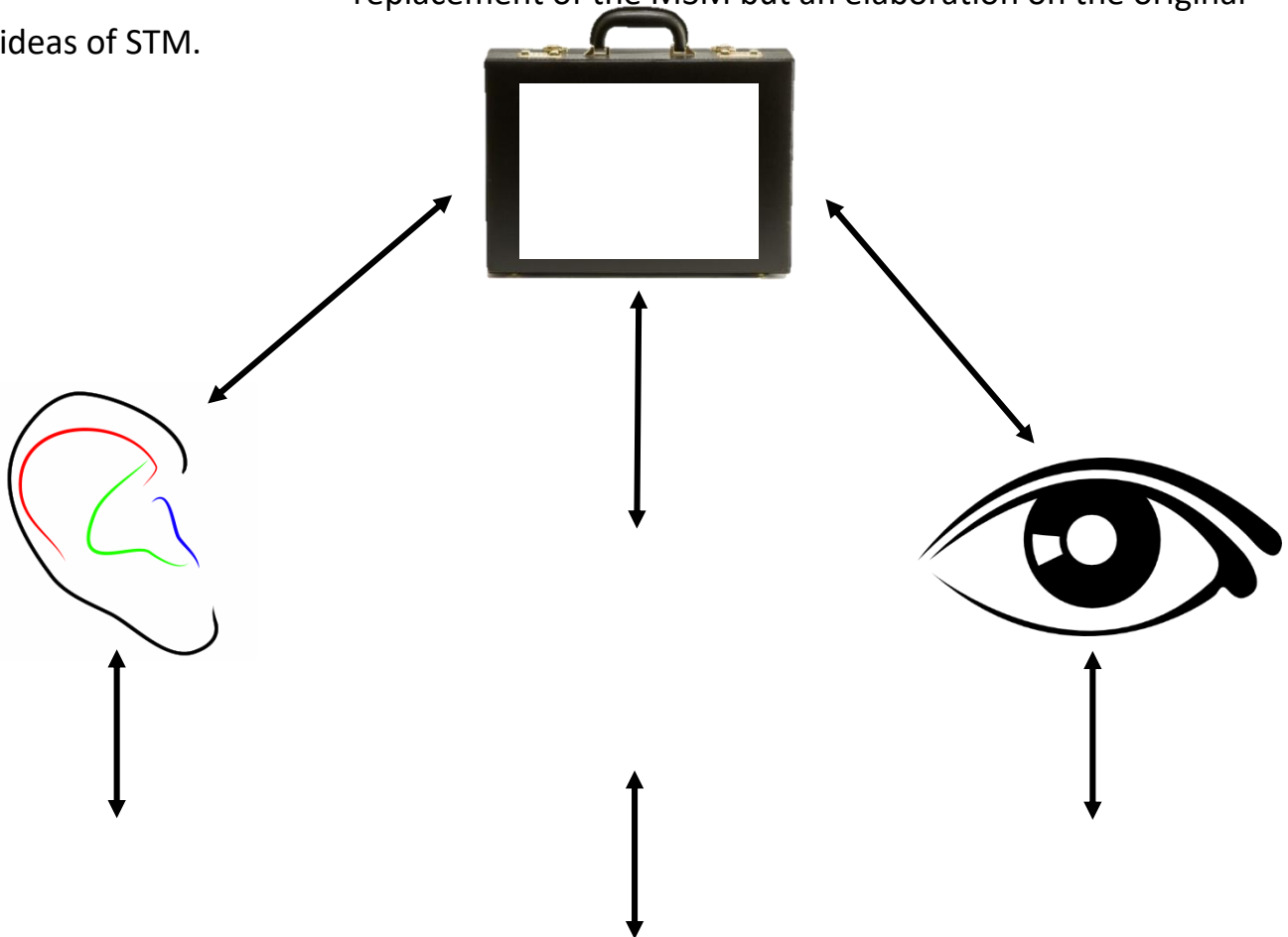
Top Bun	
Meat	
Extra Filling	
Bottom Bun	



Lesson 3 – The Working Memory Model:

Baddley and Hitch (1974) believed there was more than one single STM store. They believed it was an active store holding several pieces of information at once. Working Memory can be defined as “the focus of consciousness” - holding information currently important. This model is not a replacement of the MSM but an elaboration on the original

ideas of STM.



To replace the single STM store of the MSM, they suggested that short-term memory has lots of components. There are three main components: _____, _____ and the _____. The Episodic buffer was added in 2000 to explain some shortcomings of the theory.



Challenge Question: Walter is able to draw a picture of his friend whilst simultaneously adding up numbers spoken aloud to him by his friends. Thinking he must be very talented, Walter was disappointed to find that he could not draw a picture of his friend whilst at the same time tracing a moving dot of light. Refer to the WMM to explain why some tasks he cannot do together. **(4 Marks)**

What is its role? _____

Research to support:



Phonological Loop (PL):

What is its role? _____



Research to support:

Challenge Questions:

A cognitive psychologist presented one group of participants with a list of short words to learn e.g. torch, ear, and sun. Other participants were given longer words to learn such as caravan, elephant, and celery. She found that participants in the first group were able to recall more words than those in the second group.

1. Write a suitable hypothesis for the experiment (2 marks)
2. Is your hypothesis directional or non-directional? (1 Mark)
3. Use your knowledge of working memory to explain the findings from this study (2 Marks)



Visuo-spatial Sketchpad:

What is its role? _____



Research to support:

The Episodic Buffer:

What is its role? _____

Research to support:

Challenge Questions:

Think about performing the following two tasks, at the same time. You have to repeat a phone number over and over to yourself (maintenance rehearsal) while also answering a true-false quiz in a magazine.

It turns out most people can do this quite successfully. The multi-store model cannot explain this, but the working memory model can.

1. How can you use the WMM to explain what is happening? **(3 Marks)**
2. Write a suitable null hypothesis for this experiment. **(1 Mark)**



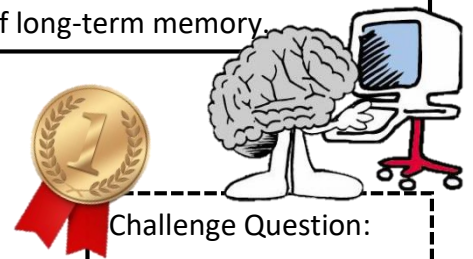
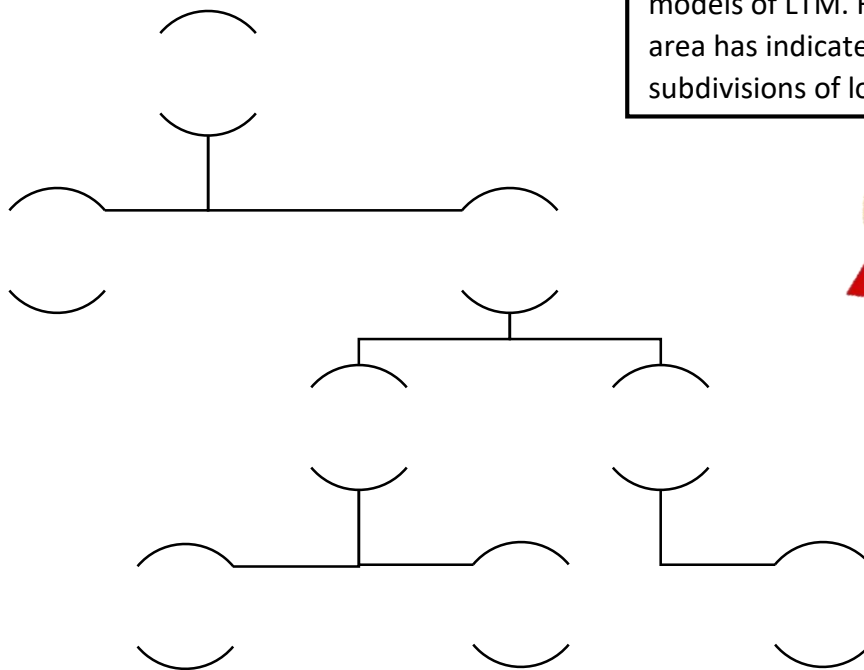
Evaluation of the WMM:

Area of the model:	Top bun:	Meat:	Bottom Bun:
Central Executive	One weakness of this store is...	Evidence for this comes from the fact that this part is often used to explain attention and therefore it has multiple functions.	This matters because...
Phonological Loop + Visuo-spatial Sketchpad.	One strength of this store is that it is supported by research.	Evidence shows that most of the dual tasks performed in experiments are not like those encountered in everyday life.	This matters because...
Visuo-spatial Sketch Pad	One strength of this area is that there is support from PET scans.	Alkhalifa (2009) reported that patients with severely damaged LTM's who demonstrated a high level of STM capacity – up to 25 prose per item, far beyond the capabilities of the PL and VSS.	This matters because it suggests that the tasks lacks mundane realism and therefore cannot be applied to how we might usually store our memories, there might be a separate store for these sorts of tasks.
Episodic Buffer	One weakness of this store is that its role is unclear.	Scans show that different areas of the brain are activated when doing verbal and visual tasks.	This matters because...

Other evidence comes from Shallice and Warrington's (1970) case study on patient KF who suffered brain damage who had poor STM ability for verbal information but could process visual information normally. Read the article here: <https://thepsychologist.bps.org.uk/volume-28/april-2015/looking-back-how-it-all-began>



The WMM and MSM are both over-simplified models of LTM. Further research into this area has indicated that there are more subdivisions of long-term memory.



1. Explain one difference between semantic and procedural memory. (2 marks)

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Evaluation:

Meat	
op Bun	

Bun	
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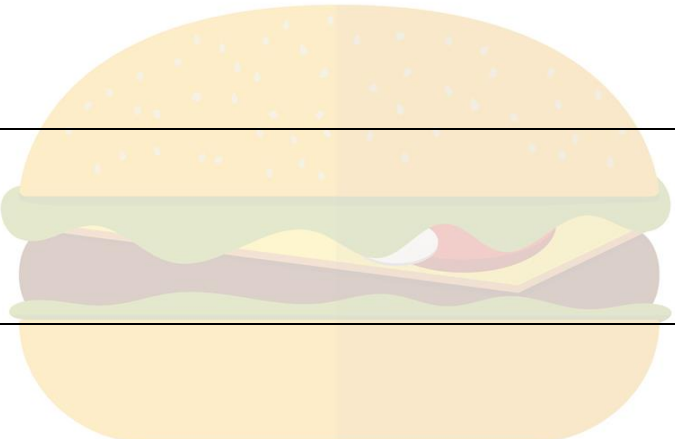
Semantic Memory:

Research to support:


Evaluation:

Procedural Memory:

Research to support:

Top Bun	
Meat	
Bottom Bun	

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Meat	
Bottom Bun	

Evaluation:

Lesson 5 - Explanations of

Forgetting:

Forgetting can be defined as...



Proactive:

Retroactive:

Interference Theory (IT):

Research – Schmidt et al. (2000):

Evaluation on IT:

The main criticism of interference is that it only really explains forgetting when two sets of information are similar. For example _____

This matters because _____

Additionally, one weakness of interference is that most experiments are completed under lab conditions. For example, most tasks involve learning l



This matters because...

Definition:

Cue-dependent Forgetting (CDF)/ Retrieval Failure Theory:

There are two main forms of CDF which are:

- _____
- _____

This is...

Godden and Baddeley (1975):

*What GRAVEE term can you use to evaluate this study?

Context-Dependent Failure:

State-dependent Failure:

Evaluation on CDF:

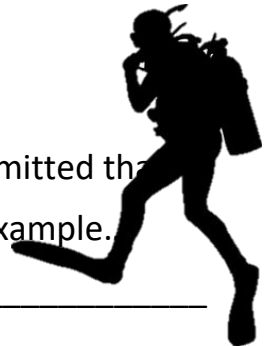
One weakness of context-dependent failure is that Baddeley (1997) admitted that context effects are actually not very strong, especially in real life. For example.

This matters because... _____

This is...

Overton (1972):

*GRAVEE term?



Lesson 6 – Misleading Information in Eye-Witness Testimony (EWT):

EWT is the evidence provided by those recalling an event who were present when the event took place. For example..._____.

However, there are lots of issues with the information that these people provide.



*Thinking back to the cognitive approach, how might **schema's** influence memory?*

Misleading Information – Leading Questions:

Definition: _____

Loftus and Palmer (1974):

<u>Aim:</u>	<u>Method:</u>	<u>Results:</u>	<u>Conclusion:</u>

Answer:	Smashed:	Hit:	Control:
Yes			

No			
----	--	--	--

Verb:	Mean estimate of speed
What is it?	

--	--

participants to each group in Loftus' study?
(2 marks)

Post-event Discussion:

Gabbert et al. (2003):

Aim:

Method:

Results:

Conclusion:

Challenge Question:

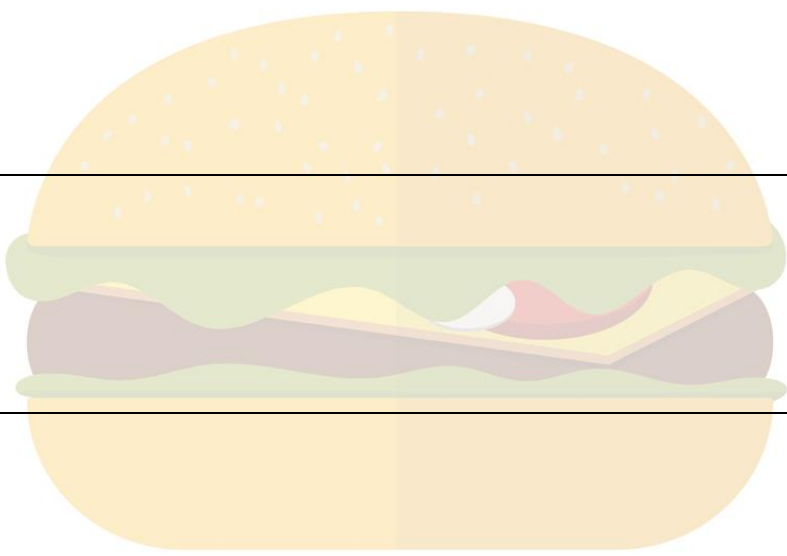
Bodner et al. (2009) found that the effects of post-event discussion can be reduced if p's are warned of the effects. Recall was more accurate for p's who were warned that what they hear from the co-witness is hearsay and that they should forget it and recall their own memory of the event. If a warning can negate the effects of post-event discussion, does this show that memory conforming is occurring? (2 Marks)

Evaluation of Misleading Information:

- Useful - real world application
- The tasks are artificial
- Methodology of studies?


Challenge Question: Foster et al. (1994) points out that inaccurate EWT can have a massive implication in real life, this is not true for research. What implication will this have? **(2 Marks)**



Top Bun	
Meat	
Bottom Bun	

Brainstorm some ideas for strengths and weaknesses of the theory below (there are some ideas to get you started):

Top Bun	
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Meat	
Bottom Bun	

Lesson 7 – The Effects of Anxiety in Eye-Witness Testimony (EWT):

Anxiety is a state of.... _____
_____.

This effects EWT by... _____
_____.

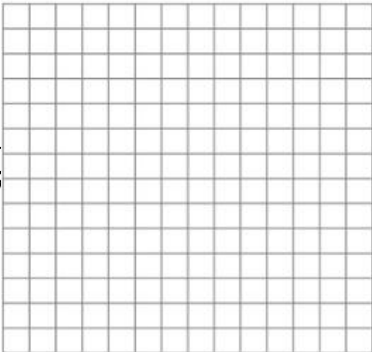
Anxiety has been argued to have both a positive and negative effect on recall:

Positive Effects:

The fight-or-flight response:	Reduction in attention:
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Negative Effects:

Explaining the contradictory findings:

 F	Research to support:
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Why is it important to study EWT?

Research to support:

Evaluation of the Effects of Anxiety on EWT:

Task: fill in the gaps and identify which part of EWT the burgers are supporting.

Top Bun	One strength of the explanation of anxiety is that there is evidence to support it.
Meat	Evidence for this comes from...
Extra Filling	However, field studies such as the experiment by _____ sometimes lack control as...
Bottom Bun	This matters because it means _____ variables may be responsible for the accuracy of EWT. Therefore,

Top Bun	One weakness of _____ experiment is that it might test surprise rather than anxiety.
Meat	The reason participants focused on the _____ might be because they were surprised rather than _____.
Extra Filling	Pickel (1998) conducted an experiment using scissors, a handgun, a wallet or a raw chicken as the hand-held item in a hairdressing salon video. EWT was significantly poorer in the highly unusual conditions (the chicken and the handgun).

Bottom Bun	This matters because...
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Challenge Question: The inverted-U explanation can also be argued to be too simplistic as anxiety is very difficult to measure. Why does this make it hard to measure?

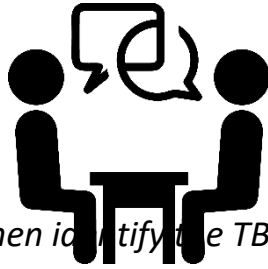
Lesson 8 – Improving the Accuracy of EWT: The Cognitive Interview:

Fisher and Geiselman (1992) argued that EWT could be improved if the police use better techniques when interviewing witnesses, based on research into memory improvement. This is what they came up with:



The Enhanced Cognitive Interview (ECI):

The CI was based off Tulving and Thompson's **Encoding Specificity Theory** which suggests...



Evaluation of the CI:

*Task: Answer the questions and then identify the TB, M & BB making sure you have included some GRAVEE terms. **Extension:** are there any that could be whoppers?*

Memon et al. (2010) conducted a meta-analysis of studies into the effectiveness of the technique.

What is a meta-analysis and why are they useful?

How many studies did they use?

What was the main finding from the study?

Research to support the cognitive interview comes from Fisher et al. (1989). What was their main finding?

Why might this research not be valid?

There is a major practical problem with the CI, what is it?

Why is this not useful?

What implications does this have for the accuracy of EWT?



Challenge Question: A police officer trained in using the CI is helping a witness recall information about a mugging. She gives the witness the following instructions: "please tell me as much as you can remember about what you saw, please do not leave anything out, even if you think they are unimportant small details". 1. Which technique is he using?

2. Write down a statement he could use for one of the other three techniques.

The Nando's way...

Extra Hot

Hot

Mild

Lemon & Herb or Mango & Lime

Churrasco BBQ

Plain...ish



Memory

Paper 1



Essay Questions (16 Marks):

Q1: Discuss the multi-store model.

Q2: Describe and evaluate research into the influence of misleading information on the accuracy of EWT.

Apply it question (8 Marks):

An experiment was carried out to investigate the duration of STM. Two groups of participants were given a list of words to learn. Both groups were given 30 seconds to do this. One group then had to recall as many words as they could after a 6-second delay. The other group was given a 20-second delay.

Q3: Identify the independent and dependent variables in this study (2 marks).

Q4: Identify the experimental design used in this study (1 mark).

Q5: Explain one limitation of this type of design (2 marks).

Q6: The researchers found that the 20-second group recalled fewer words, does this support the MSM? Explain why or why not. (3 Marks)

6 Marks:

Q7: Explain what is meant by the terms episodic memory, semantic memory and procedural memory.

Q8: Describe one study in which interference as an explanation of forgetting was investigated. Indicate in your answer the method and results obtained.

Q9: Give **at least one** example of a leading question and explain how this might affect the accuracy of EWT.

Q10: Evaluate how EWT can be affected by anxiety.

4 Marks:

Imagine you are learning to drive a car in the UK, then you fly to Spain for your holidays and hire a car. Driving out the airport you narrowly avoid causing an accident because you failed to drive on the right side of the road.

* You return to the UK and driving out of the car park you end up in the right hand lane.

Q11: Can you identify which type of interferences each of these are and explain why you made your choice.

Paul drove his friends out to eat one day. Just as they got to the restaurant car park he realised he had forgotten his wallet. "I keep my wallet and jacket in different places but always pick them up together but because it was a lovely evening I decided not to bother with the jacket."

Q12: Explain how Paul forgetting his jacket, also meant that he forgot his wallet?

(Explanations of forgetting)

3 Marks:

Q13: The retrieval failure theory has practical applications. Identify one application that it has and explain why this matters.

1 & 2 Mark Questions:

2 Marks:

Q14: In the context of EWT explain what is meant by the term anxiety.

Q15: One problem with the CI is that it is time consuming. Explain why this is a problem.

Q16: What is meant by the term post-event discussion?

Q17: Briefly explain the compromise for the variety of findings found in the effects of anxiety on EWT.

1 Mark:

Q18: The term coding refers to what?

Q19: According to the MSM, what is LTM?

Q20: Name on case study which shows damage to STM.

Q21: What store is this statement referring to? "Brings all the information into a single memory".

Q22: Peterson and Peterson investigated?

