AQA A LEVEL PSYCHOLOGY

tutor2u

TOPIC WORKSHEETS

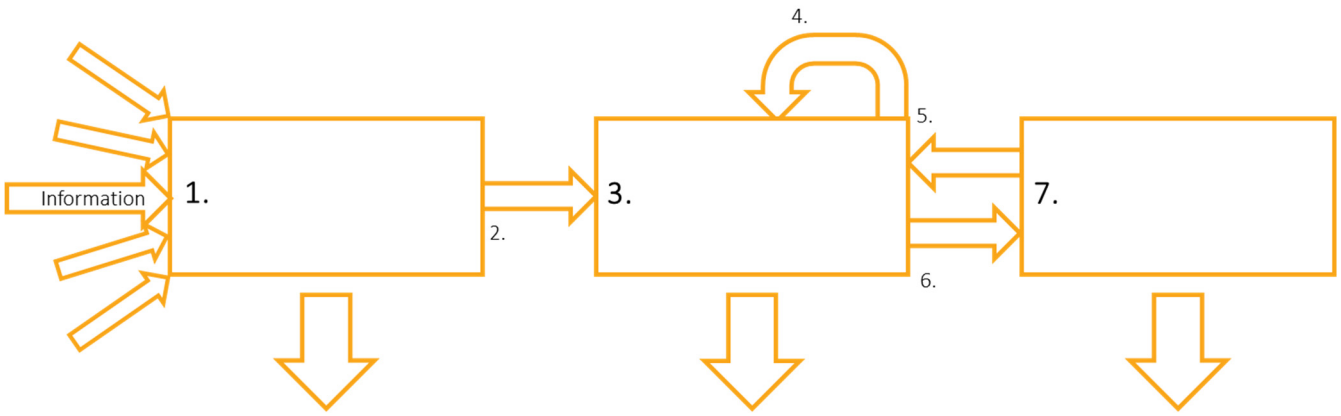
Memory

www.tutor2u.net/psychology

THE MULTI-STORE MODEL

Specification: The multi-store model of memory: sensory register, short-term memory and long-term memory. Features of each store: coding, capacity and duration.

Q1	Complete the diagram using the key terms below



Key terms: **Short-term memory, Long-term memory, Transfer, Retrieval, Rehearsal, Sensory register, Attention**

Q2	Which of the following components of the multi-store model has a duration of 1–2 seconds?	
A	The sensory register	
B	The short-term memory store	
C	The long-term memory store	
E	The rehearsal loop	

Q3	Match the key terms below to the following statements	
A	The store which has a capacity of 7 items (plus or minus 2)	
B	The length of time that information is held for	
C	The amount/quantity of information that can be stored	
D	The process of repeating information to transfer it from STM to LTM	
E	The way in which information is changed and stored	
Key terms: **STM, Duration, Capacity, Encoding, Rehearsal**		

Q4	Which memory store?	
For each of the following scenarios decide which memory store of the multi-store model is being described.		
A	This store holds information in relation to meaning	
B	This store's duration was investigated by Peterson and Peterson	
C	This store codes raw/unprocessed information	
D	This store has a duration of approximately 20 seconds	
E	This store has a capacity of a lifetime (allegedly)	

Q5	Spot the mistakes

The following outline of Peterson and Peterson's study contains seven mistakes. Can you identify all seven mistakes and say why they are wrong?

Peterson and Peterson studied the capacity of short-term memory. They asked participants to recall a series of trigrams (a sequence of four letters without vowels) after differing periods of time, to see how the participants' memories deteriorated. To prevent rehearsal, the participants had to count backwards in sevens from a specified number.

This independent groups design ensured that the results were not affected by participant variables.

Peterson and Peterson found that the longer the interval, the less accurate the recall. At 3 seconds, around 50% of the trigrams were correctly recalled, whereas at 50 seconds only 10% were correctly recalled.

The study was carried out with undergraduate psychology students, meaning that there was a lack of ecological validity. As a result, we are unable to generalise the results of this study to non-psychology students.

Q6	Apply your knowledge

Jessica conducted some research into the duration of memory. In one condition, she gave participants a sheet of paper with 20 objects pictured and gave them one minute to learn as many as they could. The participants were given a short distractor task and then asked to write down as many of the items as they could in one minute. The mean number of pictures correctly recalled was nine.

In condition two, she gave a different group of participants the same sheet of paper with 20 objects pictured and gave them ten minutes to learn the items. However, this time she tested the participants a day later. Jessica found that the mean number of pictures correctly recalled in condition two was 14.

Using your knowledge of the multi-store model of memory, explain why the participants could remember many more items in the second condition. (4 marks)

EYEWITNESS TESTIMONY: MISLEADING INFORMATION

Specification: Factors affecting the accuracy of eyewitness testimony: misleading information, including leading questions and post-event discussion; anxiety.

Q1 Drawing a conclusion

In Loftus and Palmer's second study they used a different sample of 150 American students, who were divided into three evenly sized groups. All of the students watched a one-minute video depicting a car accident and were then given a questionnaire to complete. One group was asked: "How fast were the cars going when they smashed into each other?" Another group was asked: "How fast were the cars going when they hit each other?" The final group (control) was not asked about the speed of the vehicles. One week later the participants returned and were asked a series of questions about the accident. The critical question was: "Did you see any broken glass?" There was no broken glass in the video clip.

What can you conclude from the table in relation to the effect of misleading information? (4 marks)

Experiment 2
Response to the question
"Did you see any broken glass?"

Response	Smashed	Hit	Control
Yes	16	7	6
No	34	43	44

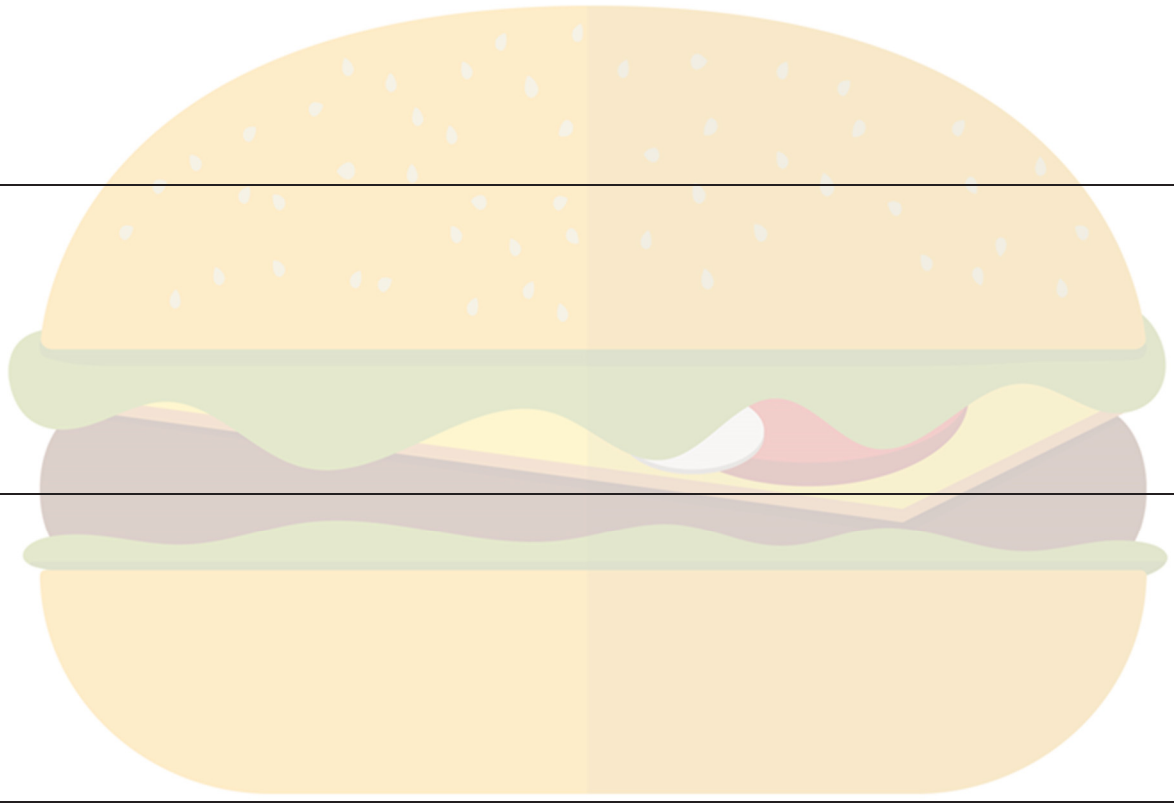
Q2 Drawing a graph

Draw and label an appropriate graph to display the information in the above table. (4 marks)

Q3	Evaluation elaboration
For each of the evaluation points described below elaborate the point to explain why the issue is a strength or limitation of Loftus and Palmer's study.	
Loftus and Palmer's research has questionable **ecological validity.**	
Loftus and Palmer's research lacks **population validity.**	
However, Loftus and Palmer's research was **highly controlled.**	

Q5	Complete the burger paragraph
Now write a fully developed evaluation paragraph for the Gabbert *et al.* (2003) study that investigated the effect of post-event discussion on the accuracy of EWT.	

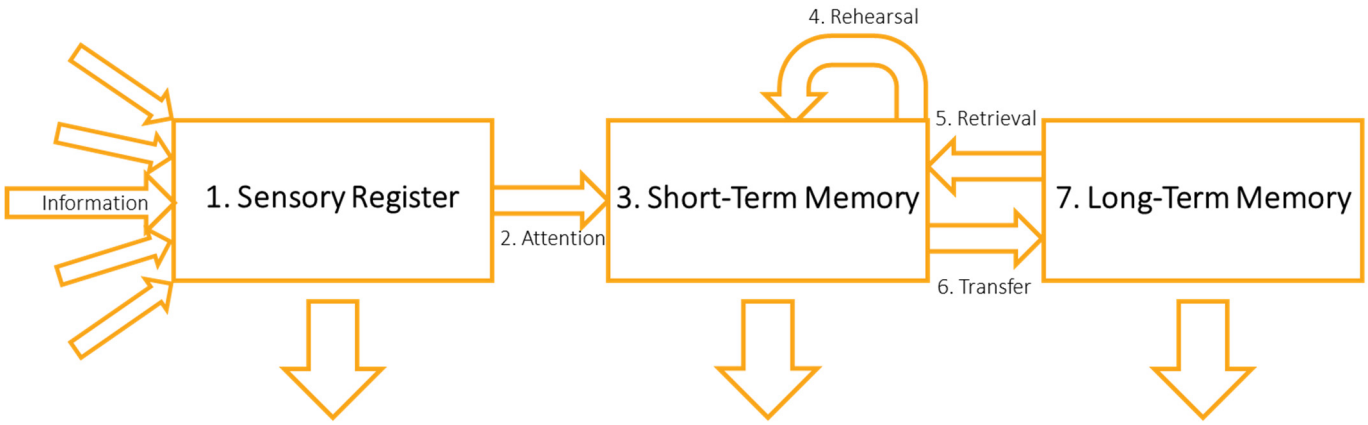
Top Bun Point	
Meat Evidence or Example	
Bottom Bun Explain	



THE MULTI-STORE MODEL

Specification: The multi-store model of memory: sensory register, short-term memory and long-term memory. Features of each store: coding, capacity and duration.

Q1	Complete the diagram using the key terms below



Key terms: **Short-term memory, Long-term memory, Transfer, Retrieval, Rehearsal, Sensory register, Attention**

Q2	Which of the following components of the multi-store model has a duration of 1–2 seconds?	
A	The sensory register	✓
B	The short-term memory store	
C	The long-term memory store	
E	The rehearsal loop	

Q3	Match the key terms below to the following statements	
A	The store which has a capacity of 7 items (plus or minus 2)	**STM**
B	The length of time that information is held for	**Duration**
C	The amount/quantity of information that can be stored	**Capacity**
D	The process of repeating information to transfer it from STM to LTM	**Rehearsal**
E	The way in which information is changed and stored	**Encoding**
Key terms: **STM, Duration, Capacity, Encoding, Rehearsal**		

Q4	Which memory store?	
For each of the following scenarios decide which memory store of the multi-store model is being described.		
A	This store holds information in relation to meaning	**LTM**
B	This store's duration was investigated by Peterson and Peterson	**STM**
C	This store codes raw/unprocessed information	**Sensory**
D	This store has a duration of approximately 20 seconds	**STM**
E	This store has a capacity of a lifetime (allegedly)	**LTM**

Q5	Spot the mistakes

The following outline of Peterson and Peterson's study contains seven mistakes. Can you identify all seven mistakes and say why they are wrong?

Peterson and Peterson studied the **capacity duration** of short-term memory. They asked participants to recall a series of trigrams (a sequence of **four three** letters without vowels) after differing periods of time, to see how the participants' memories deteriorated. To prevent rehearsal, the participants had to count backwards in **sevens threes** from a specified number.

This **independent groups repeated measures** design ensured that the results were not affected by participant variables.

Peterson and Peterson found that the longer the interval, the less accurate the recall. At 3 seconds, around **50% 80%** of the trigrams were correctly recalled, whereas at **50 18** seconds only 10% were correctly recalled.

The study was carried out with undergraduate psychology students, meaning that there was a lack of **ecological population** validity. As a result, we are unable to generalise the results of this study to non-psychology students.

Q6	Apply your knowledge

Jessica conducted some research into the duration of memory. In one condition, she gave participants a sheet of paper with 20 objects pictured and gave them one minute to learn as many as they could. The participants were given a short distractor task and then asked to write down as many of the items as they could in one minute. The mean number of pictures correctly recalled was nine.

In condition two, she gave a different group of participants the same sheet of paper with 20 objects pictured and gave them ten minutes to learn the items. However, this time she tested the participants a day later. Jessica found that the mean number of pictures correctly recalled in condition two was 14.

Using your knowledge of the multi-store model of memory, explain why the participants could remember many more items in the second condition. (4 marks)

In the first condition, the participants have only had a minute to rehearse the items, so most of them will not have entered LTM. Therefore, the number of items remembered is likely to be at the very top end of the STM capacity, which is seven items (plus or minus two). This can explain why the mean recall was nine items in condition one, as this condition was testing the capacity of STM.

On the other hand, in the second condition, the participants had ten minutes to revise the items, and this gave the participants enough time to rehearse the information and transfer the pictures to their LTM. As the capacity of LTM is supposedly unlimited and the duration is a lifetime, this can explain why the participants were able to recall an average of 14 items the following day, as the information had successfully transferred to LTM.

EYEWITNESS TESTIMONY: MISLEADING INFORMATION

Specification: Factors affecting the accuracy of eyewitness testimony: misleading information, including leading questions and post-event discussion; anxiety.

Q1 Drawing a conclusion

In Loftus and Palmer's second study they used a different sample of 150 American students, who were divided into three evenly sized groups. All of the students watched a one-minute video depicting a car accident and were then given a questionnaire to complete. One group was asked: "How fast were the cars going when they smashed into each other?" Another group was asked: "How fast were the cars going when they hit each other?" The final group (control) was not asked about the speed of the vehicles. One week later the participants returned and were asked a series of questions about the accident. The critical question was: "Did you see any broken glass?" There was no broken glass in the video clip.

What can you conclude from the table in relation to the effect of misleading information? (4 marks)

Experiment 2
Response to the question
"Did you see any broken glass?"

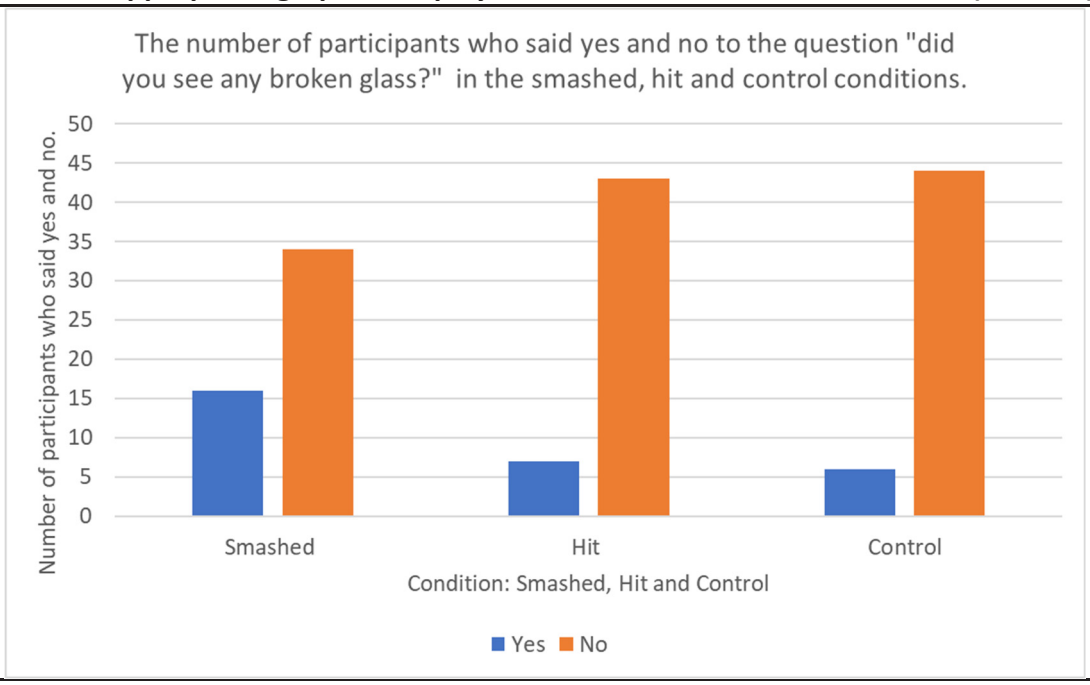
Response	Smashed	Hit	Control
Yes	16	7	6
No	34	43	44

The results highlight that more people in the 'smashed' condition reported seeing broken glass (16) in comparison to the hit (7) and control (6) group. This suggests that the word smashed mislead the participants into believing that there was broken glass when there in fact wasn't. This is because the word smashed has connotations of faster speeds and a more serious accident, where broken glass might be expected.

The results also highlight that more people in the control condition said 'no' to seeing any broken glass (6) in comparison to the smashed (16) and hit (7) group. That being said, the difference between the control and hit group is small. This suggests that when the participants are not misled, or provided with a more neutral verb (hit), they are more likely to answer accurately.

Q2 Drawing a graph

Draw and label an appropriate graph to display the information in the above table. (4 marks)



Q3	Evaluation elaboration
For each of the evaluation points described below elaborate the point to explain why the issue is a strength or limitation of Loftus and Palmer's study.	
Loftus and Palmer's research has questionable **ecological validity.**	**On the one hand, questioning participants about everyday events like a car crash appears to be a genuine measure of eyewitness testimony. However, the participants watched a video of a car crash and witnessed the events unfold from start to finish. In everyday reports of car accidents, witnesses rarely see the whole event; they either are involved in the event directly or they see a small part of the event happen in their peripheral vision.**
Loftus and Palmer's research lacks **population validity.**	**Their two experiments consisted of 45 and 150 students from the University of Washington. It is reasonable to argue that the students in their experiment were less experienced drivers, who may be less accurate at estimating speeds.**
However, Loftus and Palmer's research was **highly controlled.**	**However, Loftus and Palmer's research took place in a university laboratory and was therefore highly controlled. This high degree of control reduces the chance of extraneous variables, increasing the validity of the results. Furthermore, it is easy for psychologists to replicate their research, to see if the same results are achieved with a different population.**

Q5	Complete the burger paragraph
Now write a fully developed evaluation paragraph for the Gabbert *et al.* (2003) study that investigated the effect of post-event discussion on the accuracy of EWT.	
Top Bun Point	**The results of Gabbert *et al.* also have questionable ecological validity.**
Meat Evidence or Example	**The participants in the co-witness condition witnessed different perspectives of the same crime, as would typically be the case in real-life crimes. However, as in Loftus and Palmer's research, these witnesses knew they were taking part in an experiment and were more likely to have paid close attention to the details of the video clip.**
Bottom Bun Explain	**Therefore, these results do not reflect everyday examples of crime, where witnesses may be exposed to less information.**

More Psychology revision and support at:

www.tutor2u.net/psychology

 @tutor2uPsych

 ALevelPsychStudentGroup

 tutor2uPsych