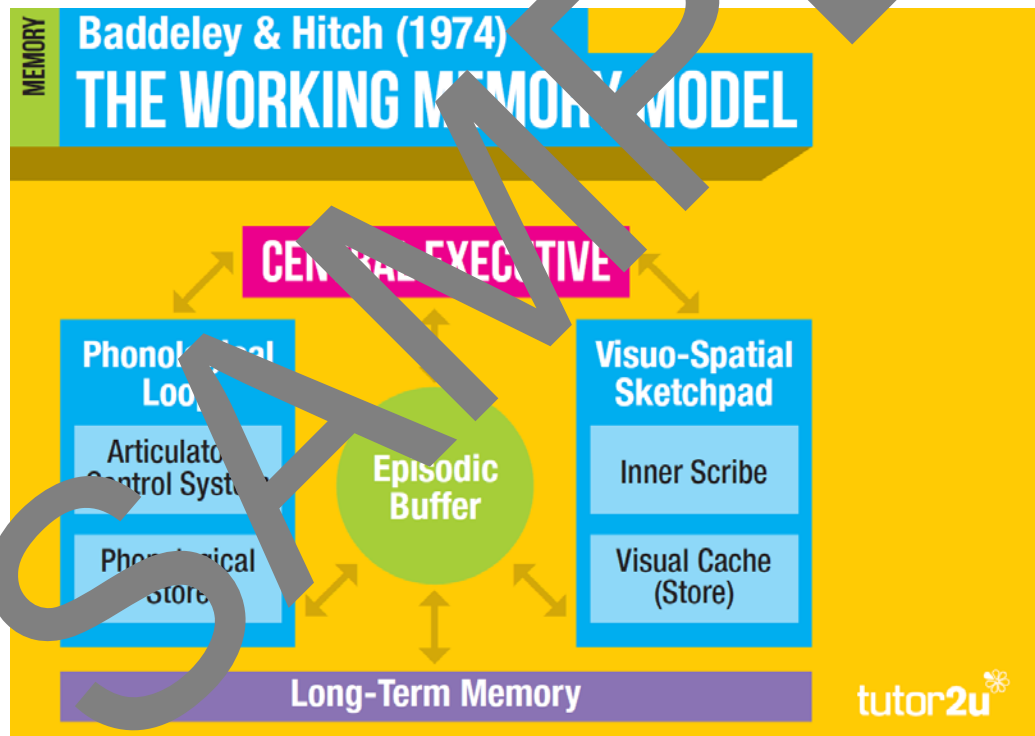


# Memory

## The Working Memory Model



# tutor2u Full Lesson PowerPoint

## Jenness (1932)

- **Jenness (1932)** was one of the first psychologists to study conformity. His experiment used an **ambiguous situation** involving a glass bottle filled with beans. He asked participants individually to estimate how many beans the bottle contained.
- Jenness then put the group in a room with the bottle, and asked them to provide a group estimate through discussion.
- **Question: What do you think Jenness (1932) found?**
- **Task: Answer questions 1 and 2 on the handout provided.**



[www.tutor2u.net/psychology](http://www.tutor2u.net/psychology)

tutor2u

## Full Lesson PowerPoint Key

- **Green = Key Word or Researcher**
- **Blue = Question / Discussion**
- **Purple = Task / Activity**

*This tutor2u Full Lesson PowerPoint is **copyrighted** and may not be reproduced or shared without permission from the author. All images are sourced under licence from **Shutterstock** and may not be reused or republished.*

# Essay

- Last lesson you were told to prepare the following essay question:

## **Outline and evaluate the multi-store model of memory. (12 marks)**

- At the start of the lesson you will have 15 minutes to complete this question.



15 Minutes

*If I'm feeling nice I might let you use a plan which I've prepared on the next slide.*

# Essay

- Last lesson you were told to prepare the following essay question:

15 Minutes

## Outline and evaluate the multi-store model of memory. (12 marks)

### Outline (A01)

#### Outline:

- Sensory Register (Capacity, Duration, Coding)
- Short-Term Memory (Capacity, Duration, Coding)
- Long-Term Memory (Capacity, Duration, Coding)

The processes involved (e.g. attention, rehearsal etc. and how information flows through the model)

### Evaluation (A03)

#### Strengths:

- Clive Wearing
- Laboratory Evidence
  - Miller/Jacobs or Bahrick

#### Weaknesses:

- Patient KF

Be clear on why the above points are either strengths or limitations.

# Sample Essay – Spot the Mistakes

- Task: Read the essay on your handout and highlight the knowledge (A01) and evaluation (AO3). Also, circle and correct any mistakes.

5 Minutes

Task: Read the following essay and highlight the knowledge (A01) and evaluation (AO3) in different colours. Also, circle and correct any mistakes.

## Outline and evaluate the multi-store model. (12 marks)

This model of memory states that our memory is made up of three separate stores; sensory memory, short-term memory (STM) and long-term memory (LTM). Each store has a different capacity and duration. Information from the environment first enters our STM. If we pay attention to this information, it will be passed onto the Sensory Memory. Information that is rehearsed in this store gets passed onto our LTM, and the flow of information through the three stores is sequential.

An important aspect of this model is that it distinguishes between STM and LTM, it does not believe our memory is just one unitary store. Evidence in support of this comes from a man who suffered brain damage – Clive Wearing. After contracting a virus, Clive a highly educated man was left with major memory disruption. However, Clive's LTM was intact as he could remember his wife, and he remembered how to eat drink, but he was not able to make new memories which suggest his STM was disrupted. It seemed that Clive was not able to pass information from his STM to his LTM. Also many have criticised the model for being oversimplified.

### Outline and evaluate the multi-store model. (12 marks)

This model of memory states that our memory is made up of three separate stores; sensory memory, short-term memory (STM) and long term memory (LTM). Each store has a different capacity and duration. Information from the environment first enters our STM. If we pay attention to this information, it will be passed onto the Sensory memory. Information that is rehearsed in this store gets passed onto our LTM, and the flow of information through the three stores is sequential.

An important aspect of this model is that it distinguishes between STM and LTM, it does not believe our memory is just one unitary store. Evidence in support of this comes from a man who suffered brain damage – Clive Wearing. After contracting a virus, Clive a highly educated man was left with major memory disruption. However, Clive's LTM was intact as he could remember his wife and he remembered how to eat and drink, but he was not able to make new memories which suggest his STM was disrupted. It seemed that Clive was unable to pass information from his STM to his LTM. Also many have criticised the model for being oversimplified.

### Outline and evaluate the multi-store model. (12 marks)

This model of memory states that our memory is made up of three separate stores; sensory memory, short-term memory (STM) and long-term memory (LTM). Each store has a different capacity and duration. Information from the environment first enters our STM. If we pay attention to this information, it will be passed onto the Sensory memory. Information that is rehearsed in this store gets passed onto our LTM, and the flow of information through the three stores is sequential.

What about  
coding?

An important aspect of this model is that it distinguishes between STM and LTM, it does not believe our memory is just one unitary store. Evidence in support of this comes from a man who suffered brain damage – Clive Wearing. After contracting a virus, Clive a highly educated man was left with major memory disruption. However, Clive's LTM was intact as he could remember his wife, and he remembered how to eat and drink, but he was not able to make new memories which suggest his STM was disrupted. It seemed that Clive was unable to pass information from his STM to his LTM. Also many have criticised the model for being oversimplified.



# Holistic Marking

- Task: You will now work in pairs to assess this essay using the peer marking grid. Before you attempt to assess this essay, we will watch a short video which explores holistic marking.

**AQA A-LEVEL PSYCHOLOGY** **PEER MARKING GRID** **tutor2u**

Names of peer-markers: \_\_\_\_\_

Essay: \_\_\_\_\_

Level	A* Level 10-12	A Level 9-12	Knowledge	Accuracy	Evaluation	Focus	Specialist terminology
3	7-8	9-12	<b>Well-detailed</b>	<b>Accurate</b>	<b>Thorough and effective</b>	<b>Clear, coherent and focussed</b>	<b>Used effectively</b>
	4-6	5-8	<b>Evident</b> (reasonably detailed)	<b>Occasional inaccuracies</b>	<b>Mostly effective</b>	<b>Mostly clear and organised</b>	<b>Mostly used effectively</b>
1	1-3	1-4	<b>Present</b> (lacks detail)	<b>Numerous inaccuracies</b>	<b>Partly effective</b>	<b>Lacks clarity, accuracy and organisation</b>	<b>Used inappropriately on occasions</b>
0	0	0	<b>Limited</b> (limited/absent knowledge)	<b>Highly inaccurate</b>	<b>Limited, not effective or absent</b>	<b>Lacks clarity, many inaccuracies and poorly organised</b>	<b>Either absent or inappropriately used</b>
			<b>None</b>	<b>None</b>	<b>None</b>	<b>None</b>	<b>None</b>

Overall Mark Band: \_\_\_\_\_ Mark Awarded: \_\_\_\_\_ /12 or 16 EBI (Even better if): \_\_\_\_\_

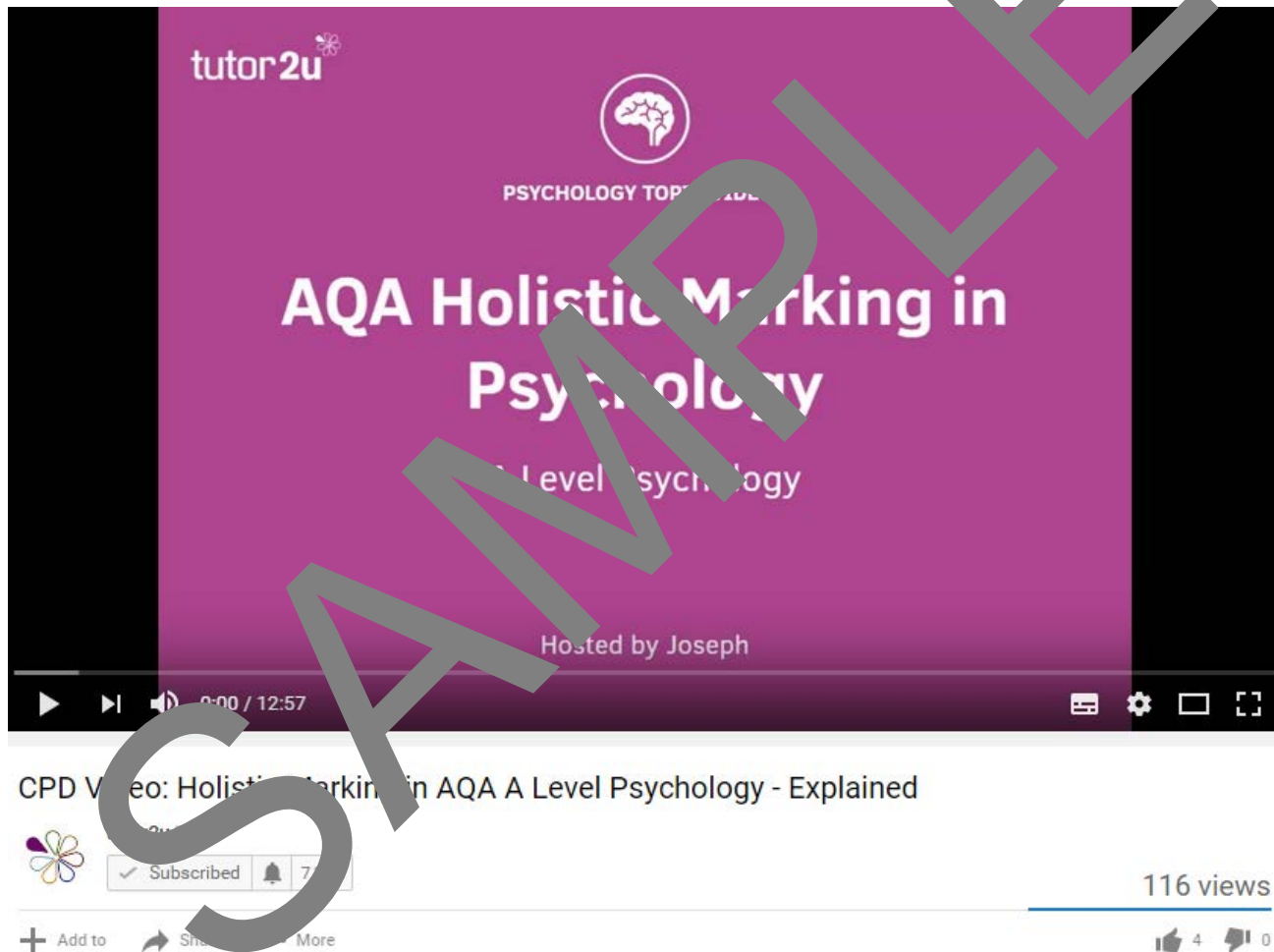
WWW (What went well): \_\_\_\_\_

\*Words in marking grid in bold font are key words used in the mark scheme, whereas those in non-bold font are inferred.

[www.tutor2u.net/psychology](http://www.tutor2u.net/psychology) @tutor2upsyh



# Peer Assessment



# Peer Assessment

- **Task:** Read the essay in pairs. Once you have read the essay, decide which mark band the essay fits into for the five different columns. Once you have done this, decide on an overall mark band and mark.
- The most important aspect of this task is the feedback you provide.
- Write one or two EBIs (even better if targets) explaining how the person can move up to the next mark band. Remember to be specific!

**AQA A-LEVEL PSYCHOLOGY** **PEER MARKING SHEET** **tutor2u**

Name of student: \_\_\_\_\_ Names of peer-markers: \_\_\_\_\_

Essay: \_\_\_\_\_

Level	A* Level 17-20	A Level 13-16	Knowledge	Accuracy	Evaluation	Focus	Specialist terminology
3	10-12	9-12	<b>Well-detailed</b>	<b>Accurate</b>	<b>Thorough and effective</b>	<b>Clear, coherent and focussed</b>	<b>Used effectively</b>
	7-9	7-9	<b>Evident</b> (reasonably detailed)	<b>Occasional inaccuracies</b>	<b>Mostly effective</b>	<b>Mostly clear and organised</b>	<b>Mostly used effectively</b>
1	4-6	5-8	<b>Present</b> (lacks detail)	<b>Numerous inaccuracies</b>	<b>Partly effective</b>	<b>Lacks clarity, accuracy and organisation</b>	<b>Used inappropriately on occasions</b>
	1-3	1-4	<b>Limited</b> (limited/absent knowledge)	<b>Highly inaccurate</b>	<b>Limited, not effective or absent</b>	<b>Lacks clarity, many inaccuracies and poorly organised</b>	<b>Either absent or inappropriately used</b>
0	0	0	<b>None</b>	<b>None</b>	<b>None</b>	<b>None</b>	<b>None</b>

Overall Mark Band: \_\_\_\_\_ Mark Awarded: \_\_\_\_\_ /12 or 16 EBI (Even better if): \_\_\_\_\_

WWW (What went well): \_\_\_\_\_

\*Words in marking grid in bold font are key words used in the mark scheme, whereas those in non-bold font are inferred. [www.tutor2u.net/psychology](http://www.tutor2u.net/psychology) @tutor2upsy

# AQA A-LEVEL PSYCHOLOGY

## PEER MARKING GRID

Name on essay:

Names of peer-markers:

Essay title:

Level	AS Level	A Level	Knowledge	Accuracy	Evaluation	Focus	Specialist terminology
4	10-12	13-16	<b>Well-detailed</b>	<b>Accurate</b>	<b>Thorough and effective</b>	<b>Clear, coherent and focussed</b>	<b>Used effectively</b>
3	7-9	9-12	<b>Evident</b> (reasonably detailed)	<b>Occasional inaccuracies</b>	<b>Mostly effective</b>	<b>Mostly clear and organised</b>	<b>Mostly used effectively</b>
2	4-6	5-8	<b>Present</b> (lacks detail)	<b>Numerous inaccuracies</b>	<b>Partly effective</b>	<b>Lacks clarity, accuracy and organisation</b>	<b>Used inappropriately on occasions</b>
1	1-3	1-4	<b>Limited</b> (limited/absent knowledge)	<b>Highly inaccurate</b>	<b>Limited, not effective or absent</b>	<b>Lacks clarity, many inaccuracies and poorly organised</b>	<b>Either absent or inappropriately used</b>
0	0	0	<b>None</b>	<b>None</b>	<b>None</b>	<b>None</b>	<b>None</b>

Overall Mark Band: **2**

Mark awarded: **4** /12 of

EBI (Even better if):

WWW (What went well):

**Question: What was good about this essay?**

**Question: What would the author of this essay need to do in order to achieve a mark band three?**

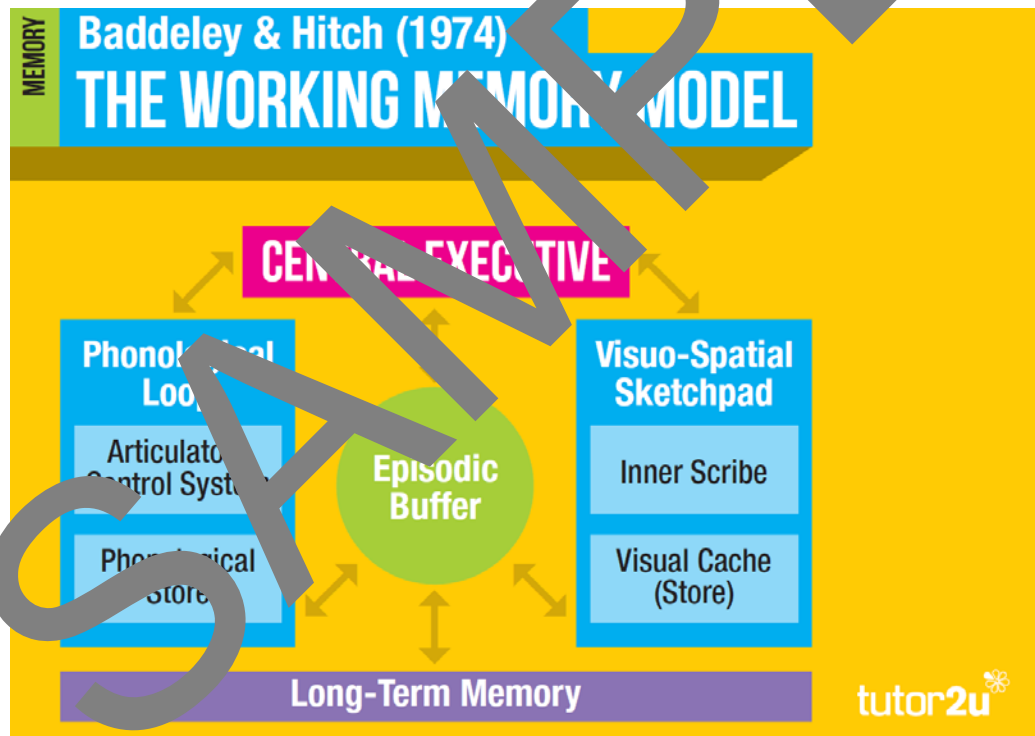
\*Words in marking grid in bold font are key words in the mark scheme, whereas those in non-bold font are inferred.

[www.tutor2u.net/psychology](http://www.tutor2u.net/psychology)

[@tutor2upsych](https://twitter.com/tutor2upsych)

# Memory

## The Working Memory Model



# Multi-Store Model

Last lesson, we examined Patient KF, who posed a problem for the multi-store model.

## Questions:

- What type of memory was impaired for Patient KF?
- What does this suggest about the nature of STM?
- How might we overcome this limitation?



# Working Memory Model

---

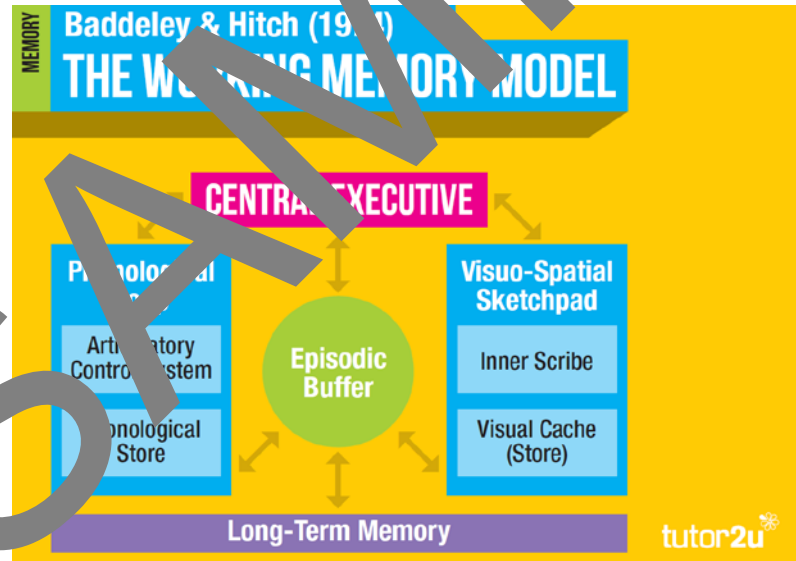
## Lesson Objectives:

- To **outline** the structure of the Working Memory Model.
- To **describe** each of the components of the Working Memory Model.

SAMPLE

# Working Memory Model

- As a result of the issues with the Multi-Store Model, Baddeley and Hitch proposed the Working Memory Model.
- **Task:** You will be provided with an overview of the model. You don't need to make any notes or write anything down, just listen.





# CENTRAL EXECUTIVE

## Phonological Loop

Articulatory Control System

Phonological Store

## Visuo-Spatial Sketchpad

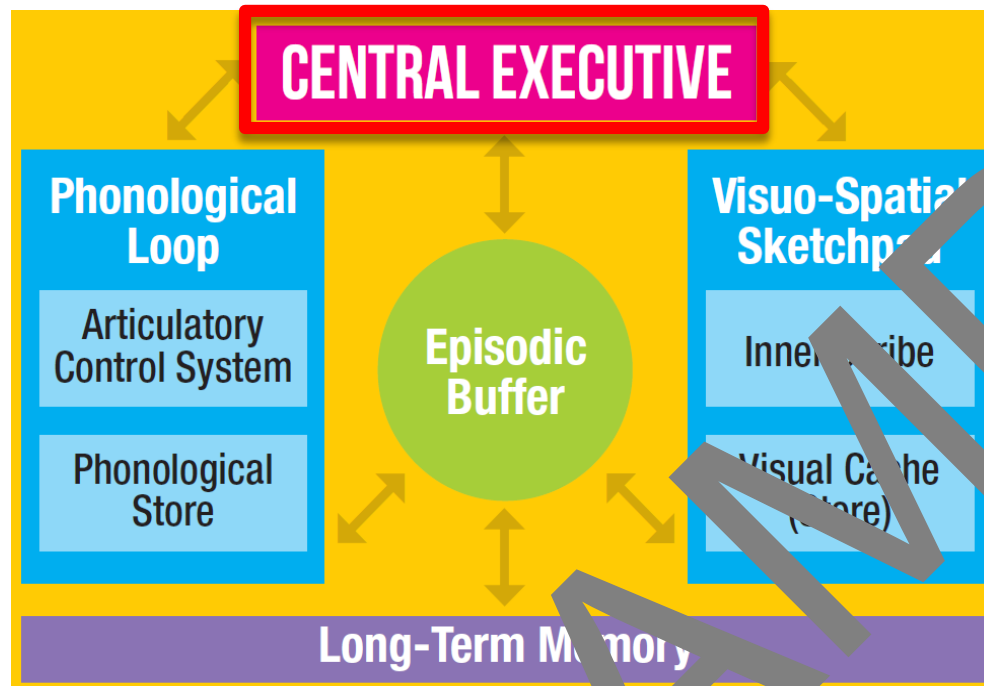
Inner Scribe

Visual Cache (Store)

Episodic Buffer

Long-Term Memory

# Central Executive

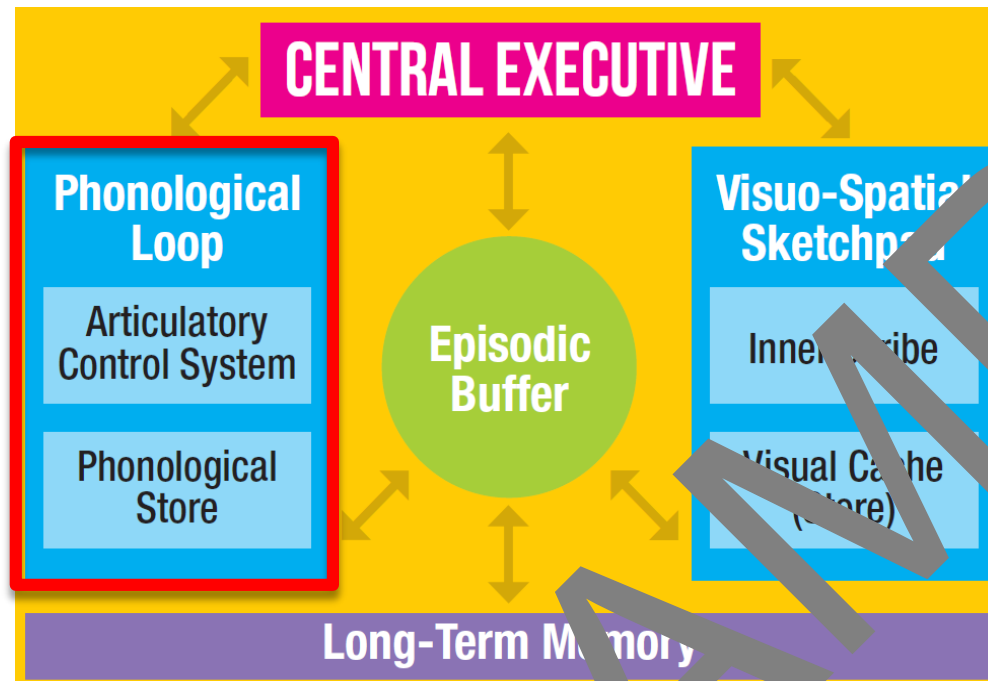


- The Central Executive is sometimes known as the 'boss' of the working memory model.

It controls attention and directs information to the two slave systems.

- It has a very limited capacity.

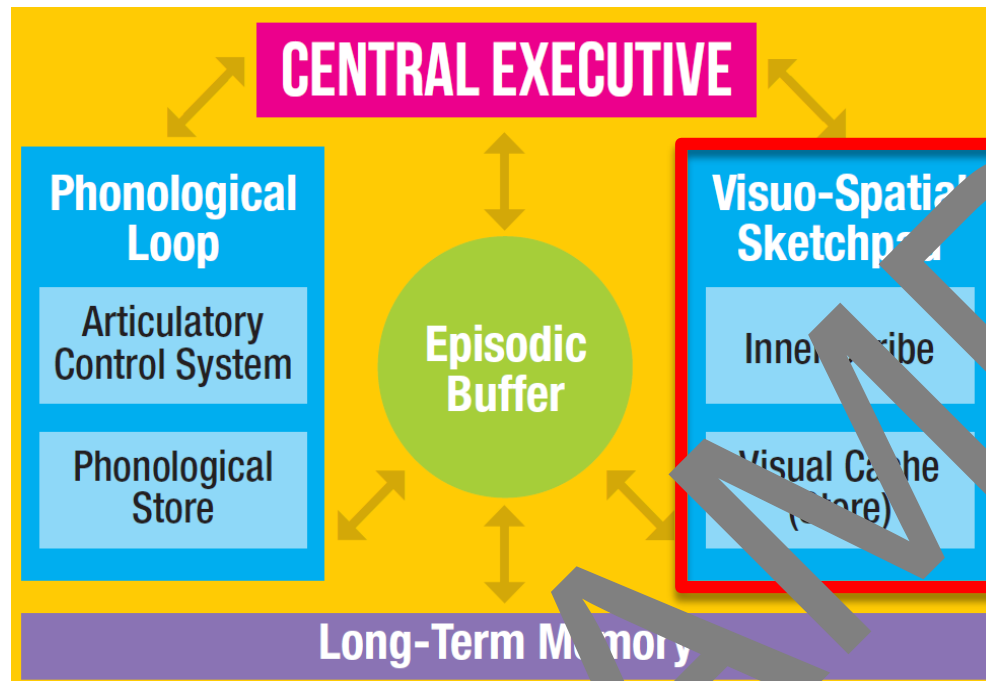
# Phonological Loop



The phonological loop deals with auditory information and has two sub-components:

- **Articulatory Control Process (Inner Voice)**
  - Allows for sub-vocal repetition of items in the phonological store, otherwise known as maintenance rehearsal.
- **Phonological Store (Inner Ear)**
  - Stores acoustic items (speech based sounds) for a short period of time.

# Visuo-Spatial Sketchpad



The visuo-spatial sketchpad deals with visual and spatial tasks (like planning a journey to school in your head). It also consists of two sub-components:

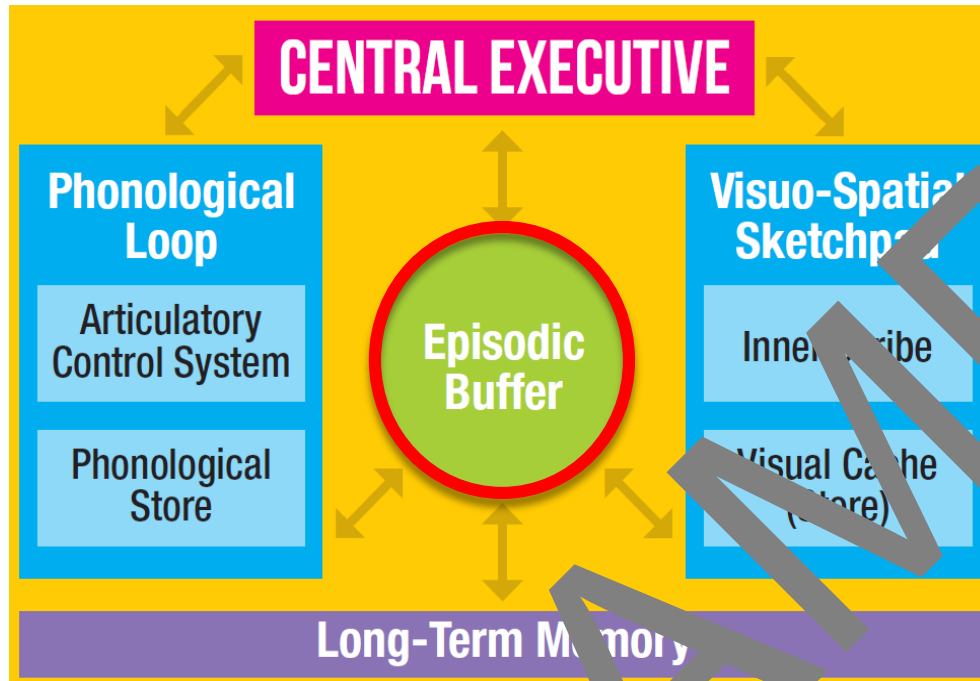
## Inner Scribe

- Deals with the spatial relationship between objects.

## Visual Cache

- Stores visual information (e.g. form, shape and colour).

# Episodic Buffer

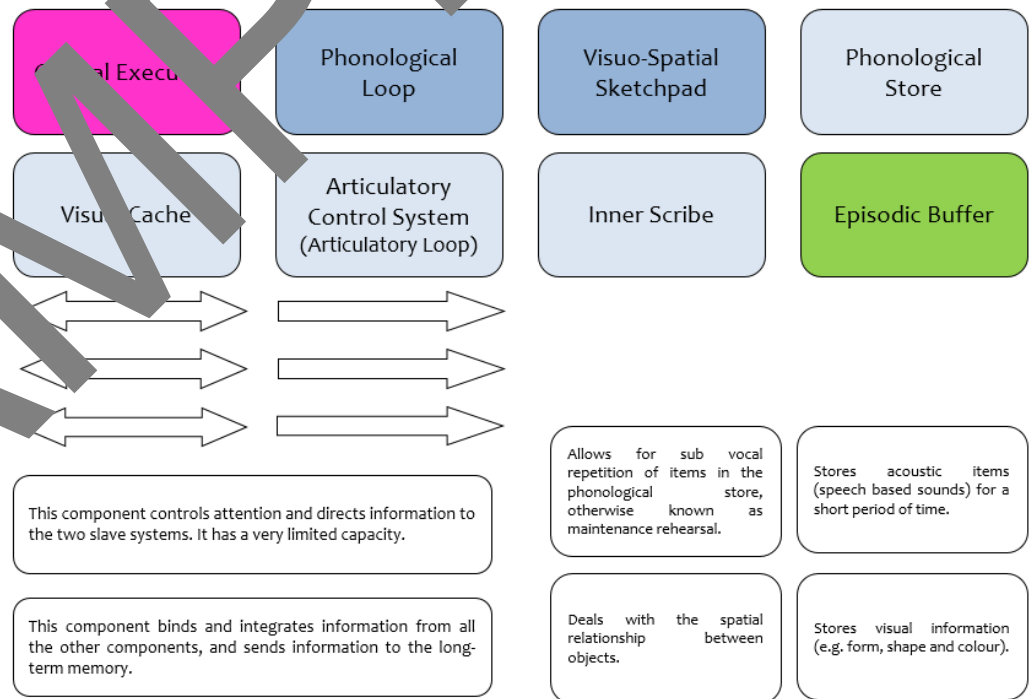


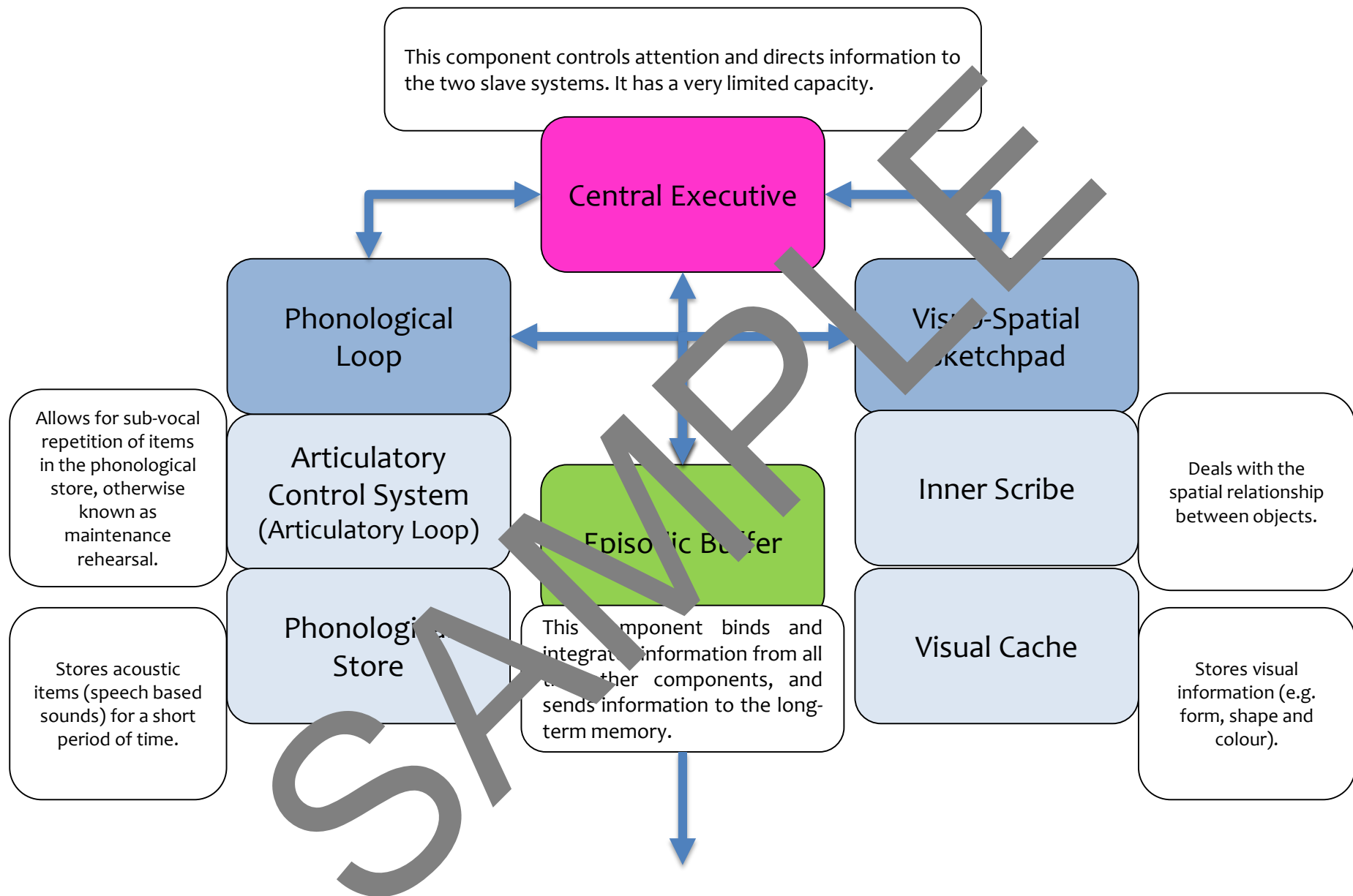
The episodic buffer binds and integrates information from all of the other components, and sends information to the long-term memory store.

*Baddeley added this component later as he realised that the model had no general storage facility.*

# The Working Memory Model.

- Task: Cut out all of the Working Memory Model labels and arrange them to recreate the Working Memory Model. Once you have checked your answers, stick the information onto your handout.







# The Working Memory Model

**Task: Complete the fill-in-the-blanks exercise, using the key words below:**

- 1) *Phonological loop*
- 2) *Acoustic*
- 3) *Articulatory Control System*
- 4) *Multi-Store Model*
- 5) *Working Memory Model*
- 6) *Baddeley & Hitch*
- 7) *Central Executive*
- 8) *Visuo-Spatial*
- 9) *Multi-Component*
- 10) *Manipulates*

## The Working Memory Model

Complete the following exercise, using the keywords on the whiteboard.

The \_\_\_\_\_ was proposed by \_\_\_\_\_ as a way of explaining some of the research findings that could not be accounted for by the \_\_\_\_\_.

Working memory is essentially a \_\_\_\_\_ short-term memory system. It consists of a \_\_\_\_\_, which is a supervisory system in overall control, and two slave systems called the phonological loop and the \_\_\_\_\_ sketchpad.

The \_\_\_\_\_ is made up of two subcomponents; the phonological store, that stores \_\_\_\_\_ information and the \_\_\_\_\_, which allows for sub vocal repetition.

The visuo-spatial sketchpad stores visual information and \_\_\_\_\_ mental images.

## The Working Memory Model

Task: Complete the fill in the blanks exercise, using the keywords on the whiteboard.

The Working Memory Model was proposed by Baddeley & Hitch as a way of explaining some of the research findings that could not be accounted for by the Multi-Store Model.

Working memory is essentially a Multi-component short-term memory system. It consists of a Central Executive, which is a supervisory system in overall control, and two slave systems called the phonological loop and the Visuo-Spatial sketchpad.

The Phonological Loop is made up of two subcomponents; the phonological store, that stores Acoustic information and the Articulatory Control System, which allows for sub vocal repetition.

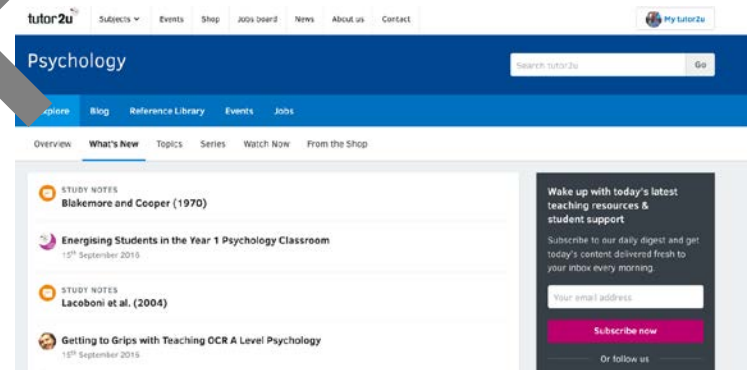
The Visuo-Spatial sketchpad stores visual information and Manipulates mental images.

# A Level Psychology Support from tutor2u

tutor2u is the leading provider of support for A Level Psychology Teachers and Students. Join our resource-sharing communities on Facebook and make full use of our resources on the free tutor2u Psychology Channel.

## Facebook Groups:

- [AQA Psychology Teachers](#)
- [Edexcel Psychology Teachers](#)
- [OCR Psychology Teachers](#)
- [A Level Psychology Students](#)



[Visit the tutor2u A Level Psychology Channel](#)

## The Multi-Store Model

**Task: Read the following essay and highlight the knowledge (A01) and evaluation (A03) in different colours. Also, circle and correct any mistakes.**

### Outline and evaluate the multi-store model. (12 marks)

This model of memory states that our memory is made up of three separate stores; sensory memory, short-term memory (STM) and long-term memory (LTM). Each store has a different capacity and duration. Information from the environment first enters our STM. If we pay attention to this information, it will be passed onto the Sensory Memory. Information that is rehearsed in this store gets passed onto our LTM, and the flow of information through the three stores is sequential.

An important aspect of this model is that it distinguishes between STM and LTM; it does not believe our memory is just one unitary store. Evidence in support of this comes from a man who suffered brain damage called Clive Wearing. After contracting a virus, Clive, a highly educated man, was left with a major memory disruption. However, Clive's LTM was intact as he could remember his wife, and he remembered how to eat and drink, but he was not able to make new memories which suggests his STM was disrupted. It seemed Clive was not able to pass information from his STM to his LTM. Also many have criticised the model for being oversimplified.

**Task: In pairs use the peer marking grid to assess this essay.**

AQA A-LEVEL PSYCHOLOGY PEER MARKING GRID			tutor2u					
Name on essay:			Names of peer-markers:					
Essay title:								
Mark	AS Level	A Level	Knowledge	Accuracy	Evaluation	Focus	Specialist terminology	
4	10-12	13-16	Detailed	Accurate	Thorough and effective	Clear, coherent and focussed	Used effectively	
3		9-12	Present (reasonably detailed)	Occasional inaccuracies	Mostly effective	Mostly clear and organised	Mostly used effectively	
2	4-6	5-8	Present (lacks detail)	Numerous inaccuracies	Partly effective	Lacks clarity, accuracy and organisation	Used inappropriately on occasions	
1	1-3		Limited (limited/absent knowledge)	Highly inaccurate	Limited, not effective or absent	Lacks clarity, many inaccuracies and poorly organised	Either absent or inappropriately used	
0	0	0	None	None	None	None	None	
Overall Mark Band:			Mark Awarded: /12 or 16		EBI (Even better if):			
WWW (What went well):								

## The Working Memory Model

Task: Cut out all of the Working Memory Model labels and arrange them to recreate the Working Memory Model. Once you have checked your answers, stick the information onto your handout.





