



**“INGAT SIK”**  
*MEMORY AND FORGETTING*



**Fiesta FSKPM**  
**Auditorium PTAR UNIMAS**  
**14 March 2019 (Thursday)**



# HELLO!

I am Dr Kartini Abd Ghani  
Psychology Department  
FCSHD  
gkartini@unimas.my



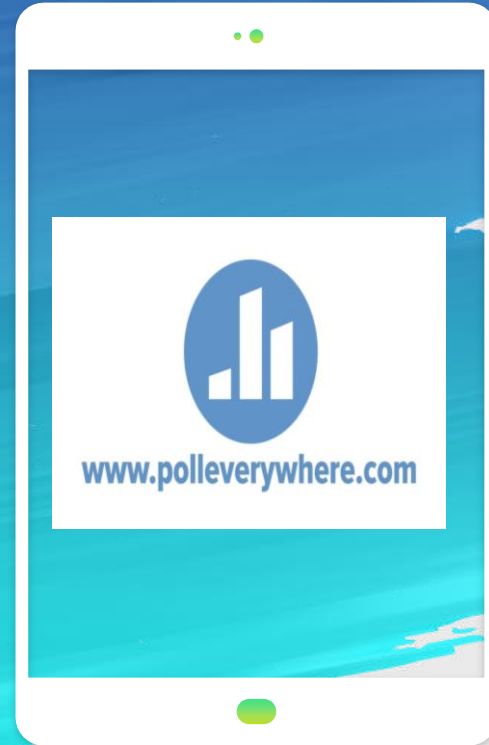
# MEMORY

What is memory?

What do you use memory for?

## MEMORY USE

Write down as many activities that you use memory for.



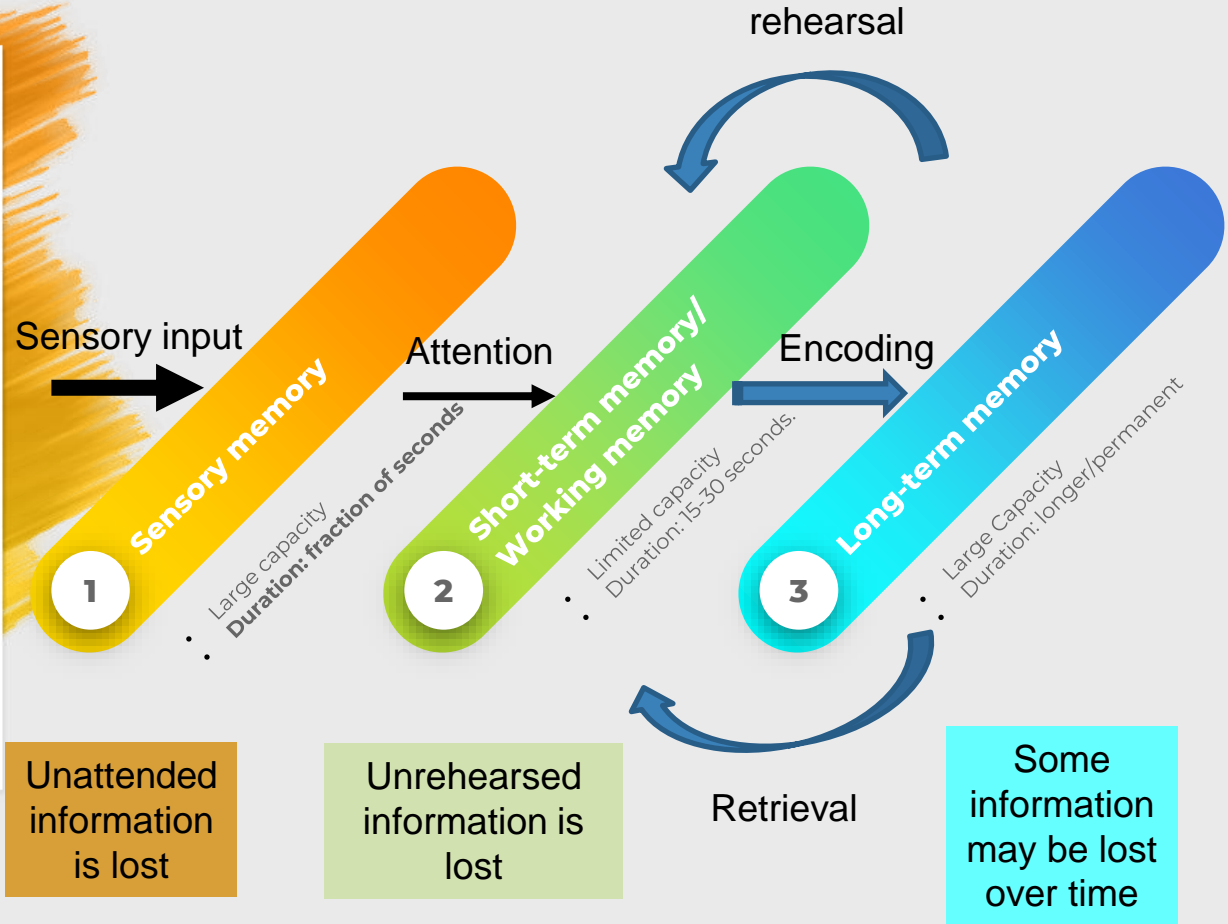


“

*Sometimes you will never know  
the value of a moment until it  
becomes a memory.*

*Dr Suess*

# Simple modal model of memory (Atkinson & Shiffrin, 1968)





# Short Term Memory Test



**Do we  
need to  
remember  
everything  
?**

- Our weakness is also our strength
- Focused and selective attention is not to overload our cognition





# FORGETTING

When the memory of past experiences is not activated!!

## Forgetting Curve

# THE FORGETTING CURVE



## Forgetting Curve

# THE FORGETTING CURVE



# Why do we forget?



## Retrieval Failure

- over time, these memory traces begin to fade and disappear.
- If the information is not retrieved and rehearsed, it will eventually be lost.

## Interference

- Proactive

**occurs when previously learned information makes it more difficult to form new memories**

- Retroactive

**newly acquired information interferes with old memories.**

# What do you have for dinner?

- Yesterday
- Two days ago
- A month ago



# Why do we forget?



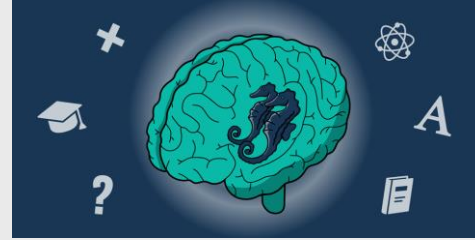
## Failure to Encode/Store

- Relevancy/importance of the memory

## Motivated Forgetting

- Suppression
- Repression

# 4 reasons why our brain easily forgets



Food

Fish

Bluberries

Dark Chocolate

Exercise

Helps to improve  
your  
hippocampus





# EXERCISE MAKES YOU SMART?

PHYSICAL ACTIVITY THAT CAN PUMP UP YOUR BRAIN



## HOW EXERCISE AFFECTS THE CLASSROOM:

HIGH SCHOOL GIRLS VS. BOYS  
DIFFERENCES IN LEARNING STYLES:



Physical activity



Sports team participation



Higher GPA



EXERCISE BEFORE SCHOOL HELPS  
READING/COMPREHENSION:

test score improvement of high school students  
over one semester:



IN A STUDY OF 300 SIXTH GRADERS  
DIVIDED INTO GROUPS BY FITNESS LEVEL

FITTEST STUDENTS:



LEAST FIT STUDENTS:



STUDENTS WHO PLAY VIGOROUS SPORTS:





## EVERYDAY BENEFITS FROM EXERCISE:

WALKING IMPROVES MEMORY AND ATTENTION



- Restful effect
- Easier for brain to process info

STUDY-  
COGNITION FOLLOWING  
ACUTE AEROBIC EXERCISE:



= 5 to 10%  
improvement in cognition

TIME NEEDED TO COMPLETE TASKS:



MODERATE RUNNING: = 30 min/day



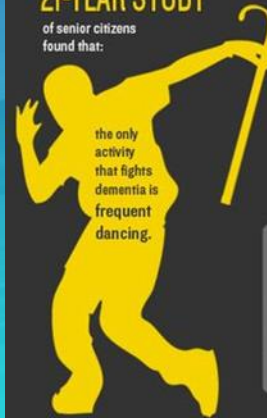
3x/week

- Improves decision-making
- Lengthens attention span

## EXERCISE AND LEARNING FOR LIFE:

### 21-YEAR STUDY

of senior citizens  
found that:



### LIFTING WEIGHTS

13% improvement in  
decision making abilities



### THE SENIOR BRAIN:

Aerobic exercise increases the size of the anterior hippocampus.



- Improvements in spatial memory
- Reverses age-related loss in volume by 1 to 2 years.

# 4 reasons why our brain easily forgets

## Sleep

We spend 1/3 of our lives sleeping



## Stress

### Anxiety-Stress-Cortisol Loop

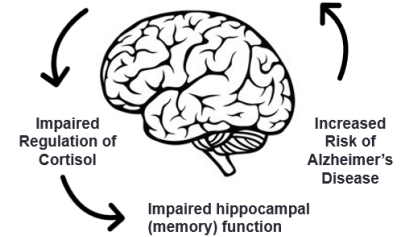
© www.mybraintest.org

#### Chronic Stress Signs

- Disrupted Sleep Pattern
- Emotional Distress
- Poor Eating Habits



Increase in glucocorticoids



#### Stress-Related Cognitive Problems With:

- Attention & Focus
- Learning & Recall
- Short Term Memory
- Word Finding

# HealthyCounts

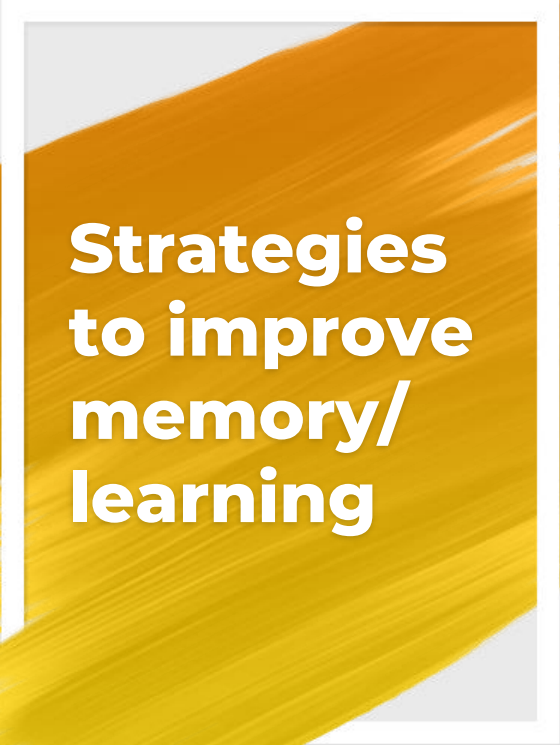
A health routine kids can count on.



Counting may be one of the best ways to help a child get in shape. HealthyCounts is a simple, step-by-step routine kids can follow—one that could add up to a lifetime of better health.



[helendeoschildrens.org/healthycounts](https://helendeoschildrens.org/healthycounts)

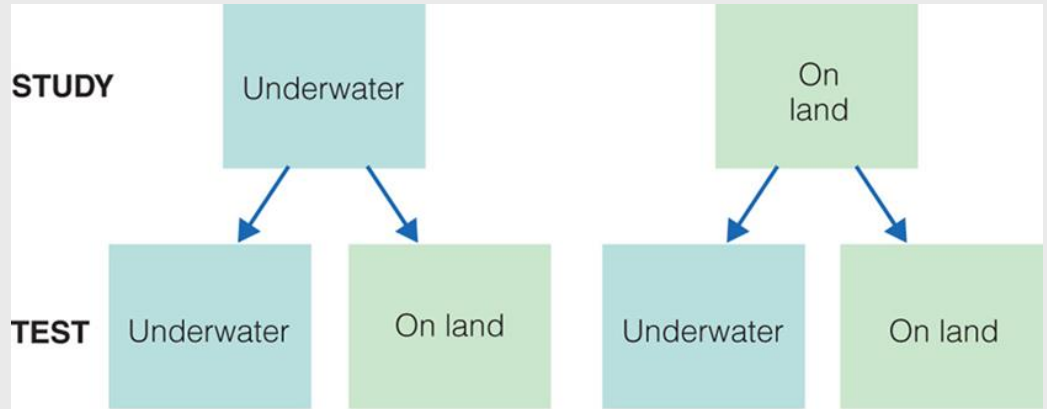


## **Strategies to improve memory/ learning**

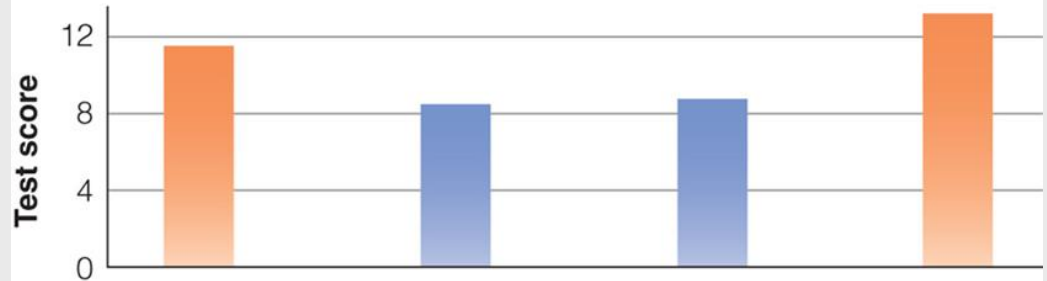
### Encoding Specificity

- Matching encoding and retrieval
- State dependent learning (Emotion)

# Encoding specificity



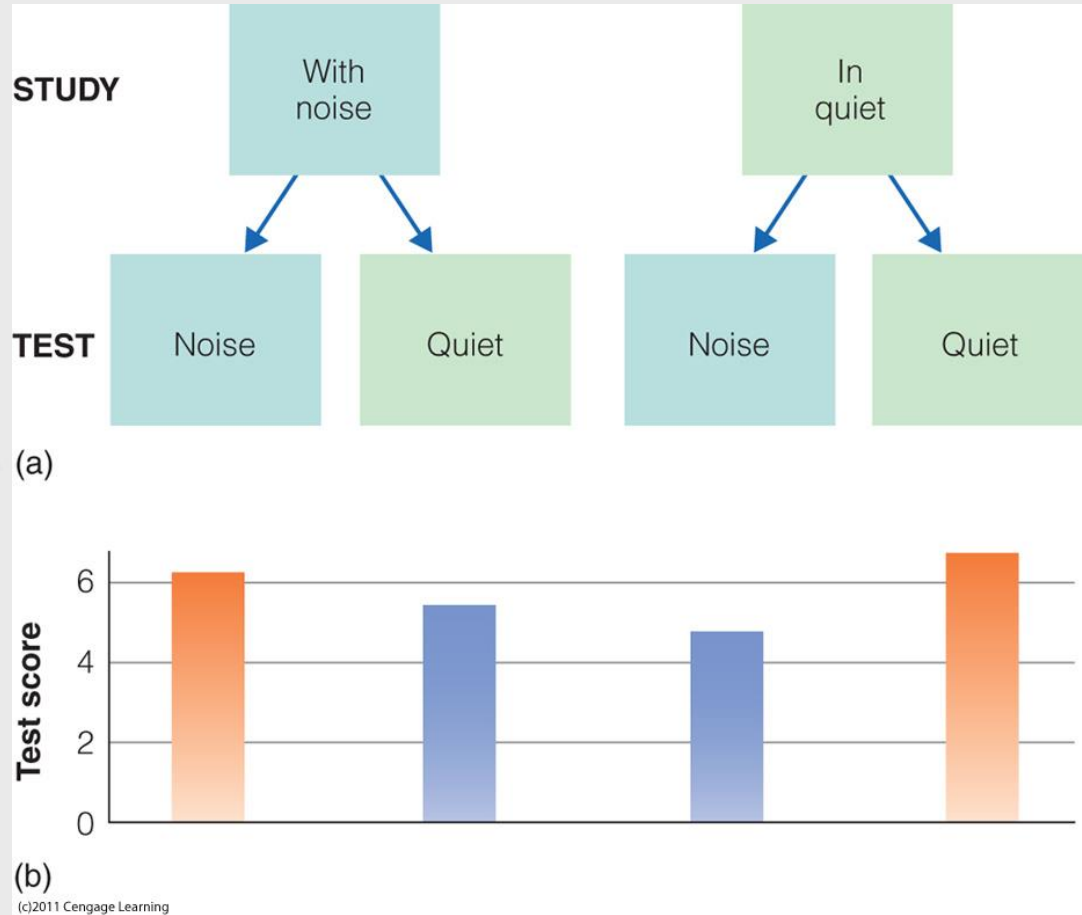
(a)



(b)

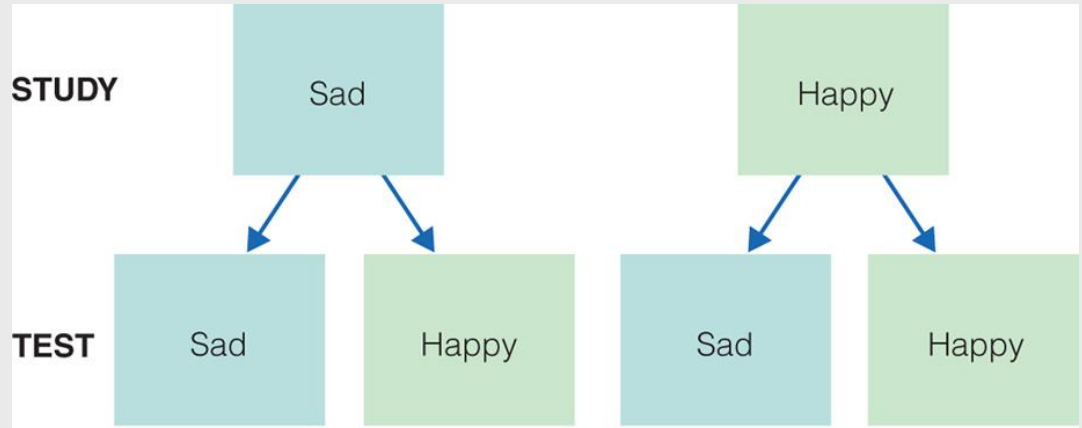
(c)2011 Cengage Learning

# Encoding specificity

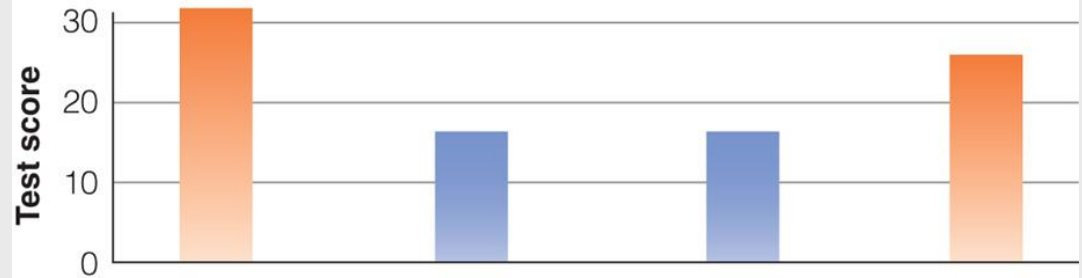




# State dependent learning



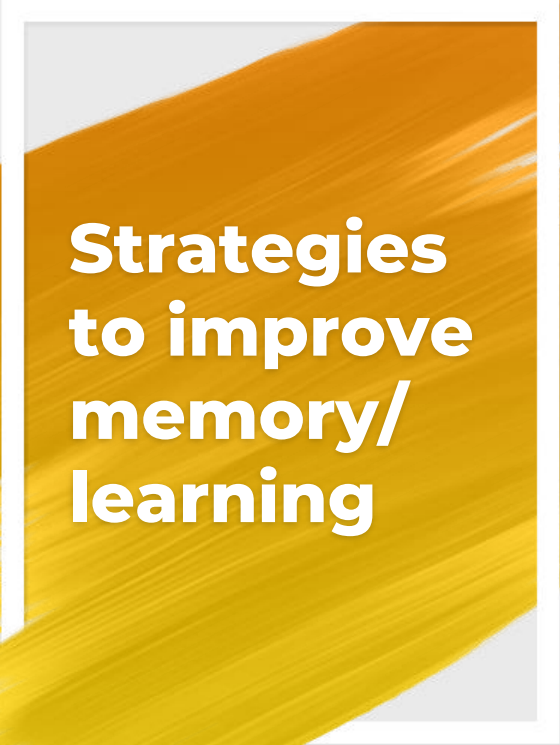
(a)



(b)







## **Strategies to improve memory/ learning**

### Organisation

- Chunking
- Cued-recall
- Test retesting
- Spacing/interleaving practice

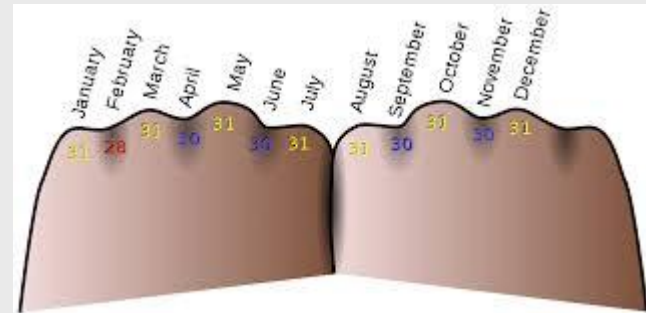


# Chunking

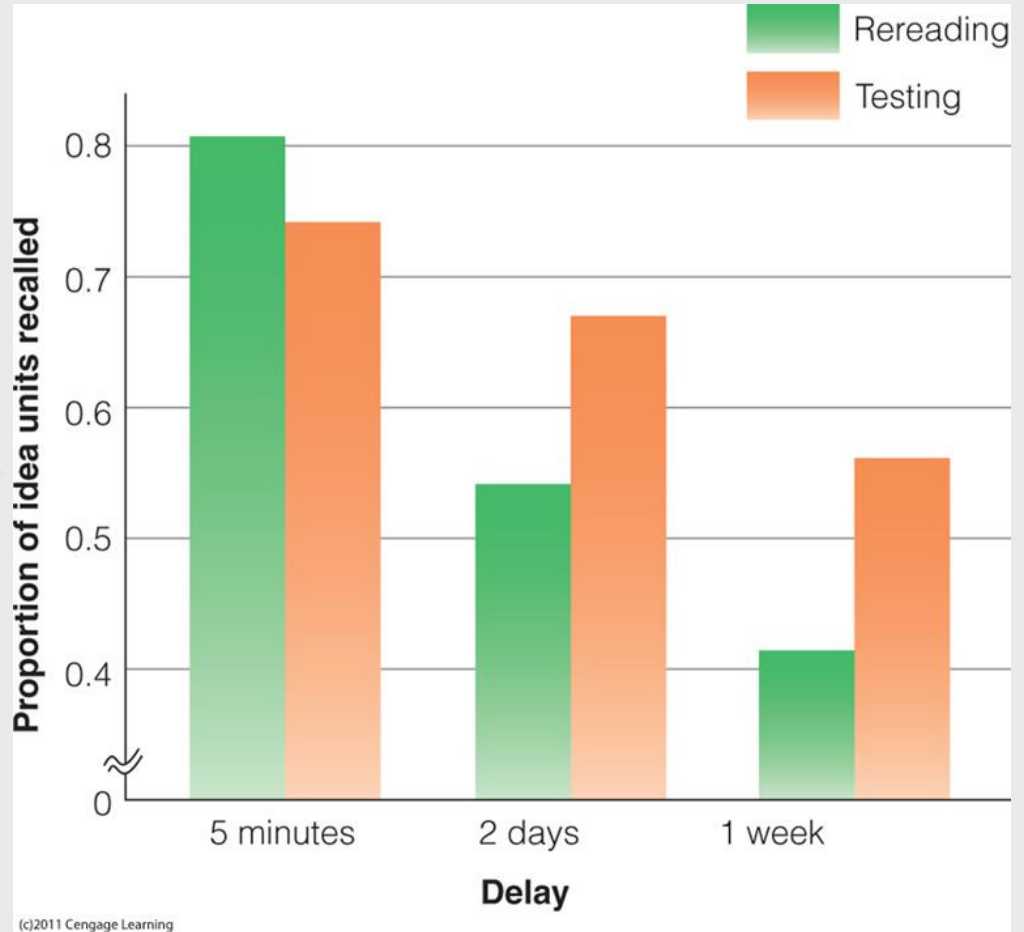
- Small units can be combined into larger meaningful units
  - Numbers
  - List

# Cued-recall

- Mnemonics
  - Acronyms (colors of rainbow)



# Testing effect





# Spacing/ Interleaving practice

- Distributed versus massed practice effect
- Difficult to maintain close attention throughout a long study session
- Studying after a break gives feedback about what you already know



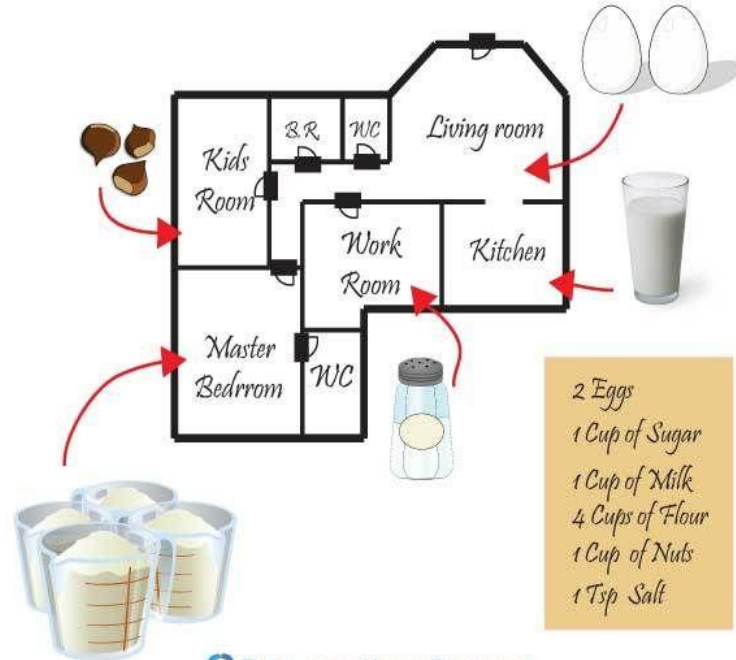
## **Strategies to improve memory/ learning**


### Visual Imagery

- Method of Loci
- Pegword Method

# Strategies to improve memory/learning

How to Memorize a Recipe ?  
Using the **Method of Loci** ?





## **Strategies to improve memory/ learning**

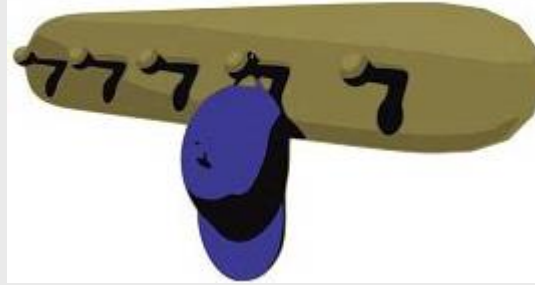
### Visual Imagery

- Method of Loci
- Pegword Method



# Strategies to improve memory/ learning

## Peg Memory System



One is a bun.



Two is a shoe.



Three is a tree.



Four is a door.



Five is a hive.



Six is a pile of sticks.



Seven is heaven.



Eight is a gate.



Nine is a line.



Ten is a hen.





**LET'S  
REVIEW/  
Recap**

List 4 reasons  
why we forget.

List 4  
reasons why  
our brains  
easily forgets

List Memory  
Strategies that  
can help aid  
your memory

**BE RESPONSIBLE, BE RESILIENT & GIVE RESPECT!  
YOU WILL BE AN EVEN BETTER PERSON THAN YESTERDAY**





**THANKS!**

Any questions?

You can email me at [gkartini@unimas.my](mailto:gkartini@unimas.my)



## CREDITS

Special thanks to all the people who made and released these awesome resources for free:

- Presentation template by [SlidesCarnival](#)
- Photographs by [Unsplash](#)



# Dementia

- [Dementia](#) causes problems with thinking, memory, and reasoning. It happens when the parts of the [brain](#) used for learning, memory, decision making, and language are damaged or diseased.





# Amnesia

- **Amnesia** is a deficit in memory caused by brain damage, disease, or psychological trauma.
- **Amnesia** can also be caused temporarily by the use of various sedatives and hypnotic drugs. The memory can be either wholly or partially lost due to the extent of damage that was caused.



# Six Strategies for Effective Learning

LEARNINGSOCIETISTS.ORG

All of these strategies have supporting evidence from cognitive psychology. For each strategy, we explain how to do it, some points to consider, and where to find more information.







# To show this poll

1

Install the app from  
[pollev.com/app](https://pollev.com/app)

2

Start the presentation

Still not working? Get help at [pollev.com/app/help](https://pollev.com/app/help)  
or

[Open poll in your web browser](#)

