



THE PSYCHOLOGY OF MEMORY

Why we Forget and How to Improve Recall

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MEMORY

Memory is the cognitive process of encoding, storing and retrieving information. It is essential for learning, decision making and personal identity.

Types of memory

Sensory memory

It is the brief retention of sensory information.

Short term memory

Short term memory holds information for a short duration, typically around 20–30 seconds.

Long term memory

It can store information for an extended period (from hours to a lifetime)





MEMORY PROCESS

There are 3 stages of memory process

- **Encoding**

The process of converting sensory input into a form that can be stored in the brain.

- **Storage**

Holding onto encoded information for later retrieval.

- **Retrieval**

Accessing stored information when needed.

Memory and Behavior

Memory influences our actions, emotions, and interactions by allowing us to use past experiences to inform present decisions.

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THE MECHANISM BEHIND FORGETTING

- **Encoding Failures**

Sometimes, we simply don't pay enough attention to properly encode information, so it never enters long term memory.

For example

Forgetting someone's name shortly after being introduced.

- **Decay theory**

Information fades over time if it's not used or rehearsed, especially in short term memory.

For example

Forgetting a phone number you haven't dialed in years.

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- **Inference Theory**

New information can interfere with the retrieval of older information, or vice versa.

- **Proactive interference**

Older information interferes with recalling newer information.

- **Retroactive Interference**

Newer information interferes with recalling older information.

- **Motivated Forgetting**

Sometime we actively forget memories that are too painful or uncomfortable.

For example

Forgetting a traumatic experiences or details of a bad breakup.

THE ROLE OF THE BRAIN IN MEMORY

Hippocampus

Hippocampus play a vital role in the formation of new memories and converting short-term memory into long-term memory.

Prefrontal cortex

It is involved in the retrieval of memories and decision making.

Amygdala

It stores emotionally charged memories



THE ROLE OF SLEEP

Sleep consolidates memories, transferring information from short term to long term storage. Lack of sleep can impair memory.

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THE IMPACT OF STRESS AND EMOTION ON MEMORY

Stress and Memory

Chronic stress and high levels of cortisol can damage hippocampus, impairing the information of new memories.

For example

During stressful situations, people often have trouble remembering details of events.

Emotions and memory

Strong emotional experiences are more likely to be remembered, as emotions activate the amygdala, which strengthens memory encoding.

For example

Emotional events like wedding, births or accidents are more vividly remembered.

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COMMON MEMORY PROBLEMS

- Age- Related Memory Decline

- Memory disorders

1. Alzheimer's Disease
2. Amnesia
3. Anterograde amnesia
4. Retrograde amnesia

- False memories

The brain sometimes fills in gaps in memory with incorrect information, leading to false or distorted recollections. Eyewitness testimony is particularly susceptible to false memories.

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TECHNIQUES TO IMPROVE MEMORY AND RECALL

Repetition and Rehearsal

Repeating information over time helps strengthen neural connection and transfer data from short-term to long-term memory.

For example

Using spaced repetition for learning new facts.

Visualization

Creating vivid mental images can make information more memorable.

For example

Associating a historical events with a mental movie of the event helps recall.

Chunking

Breaking down large amounts of information into smaller, manageable units can improve memory.

For example

Remembering a phone number such as 325-673-9804

Mnemonics and Memory Aids

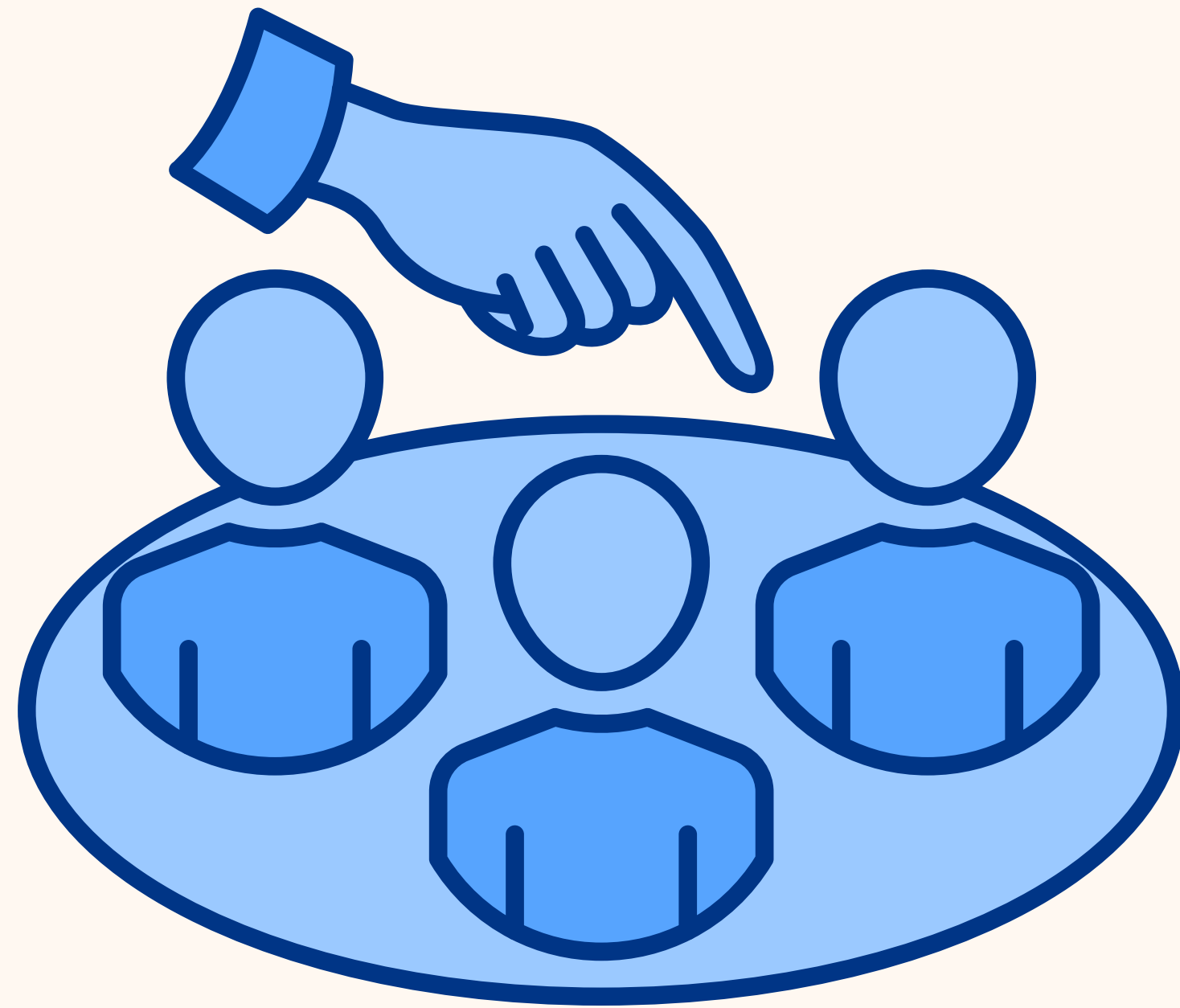
Using acronyms, rhymes or chunking information can help with recall

For example

"**PEMDAS**" helps remember the order of operations in mathematics.

Mindfulness and Focus

Being fully present and focused on the task at hand increases the likelihood of encoding information into long-term memory.



HEALTHY LIFESTYLE FOR MEMORY ENHANCEMENT

- Do regular physical exercise.
- Take a balanced diet
- Get sufficient sleep
- Get omega 3 fatty acids and antioxidants are particularly beneficial for cognitive functions

VISUALIZATION AND MEMORY



The Method of Loci

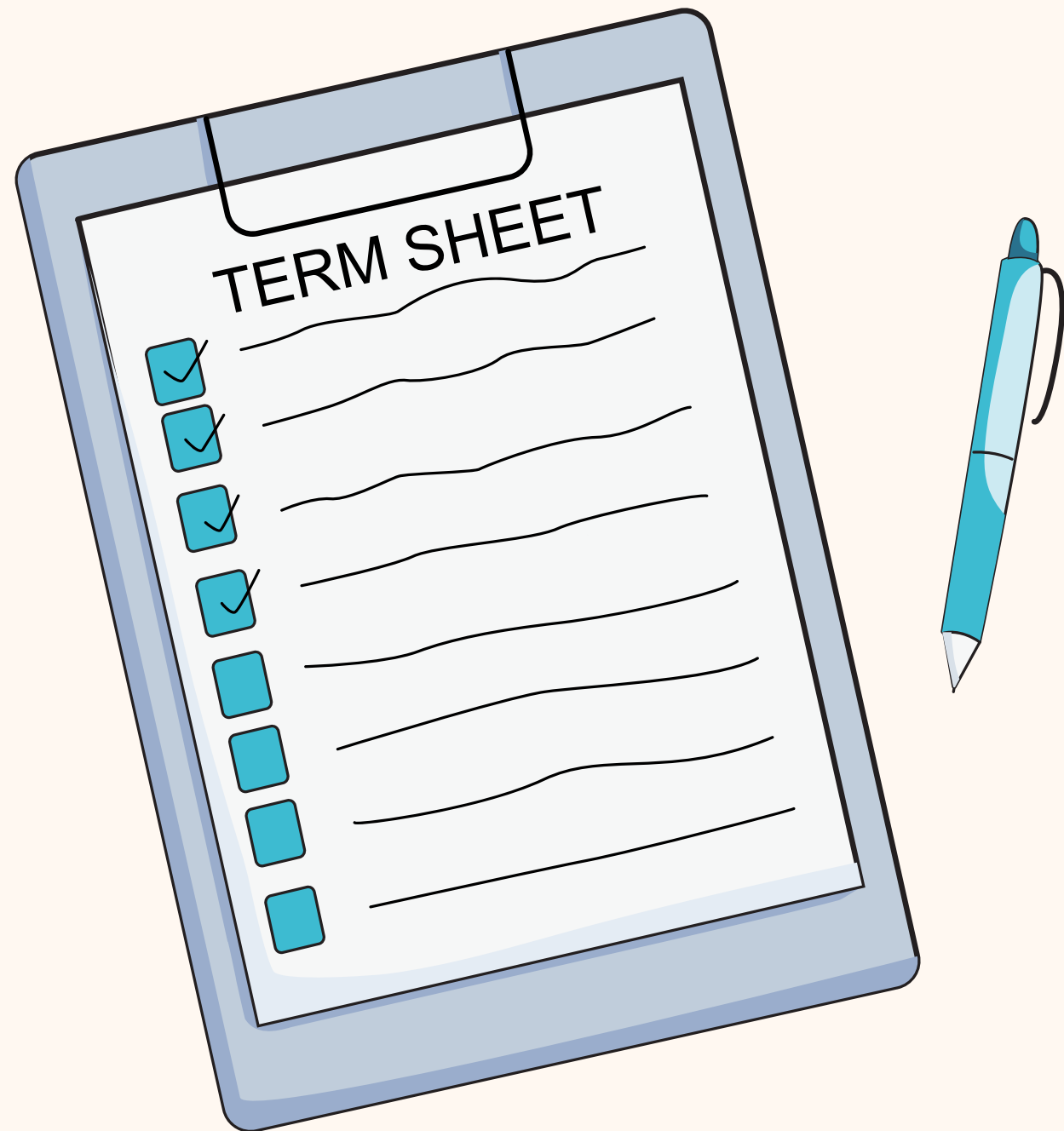
A powerful mnemonic device where you visualize a familiar space and associate items you want to remember with specific locations within that space.

For example

To remember a grocery list, mentally place each item in a room of your house.

Visualization for learning

Creating vivid mental images of abstract concepts or information helps encode and recall them better.



TECHNIQUES FOR ENHANCING LONG-TERM MEMORY

Active learning

Engage actively with the material by teaching someone else, discussing it, or applying it in real world situations.

Association

Link new information to existing knowledge or personal experiences to make it more meaningful.

For example

When learning a new language, associate words with images or familiar words in your native language.

Organization

Structuring and organizing information e.g categorizing items, creating lists makes it easier to recall.

For example

Organizing a shopping list into categories like fruits, dairy and vegetables for easier recall.

Memory Palace Techniques

Visualizing a familiar place and placing information in specific location within that place can help recall.

Example

When trying to remember a list of items, imagine placing them in rooms of your house.

PRACTICAL MEMORY TECHNIQUES FOR DAILY LIFE



- Taking notes using methods such as Cornell method or mind- mapping can help reinforce memory and understanding.
- Structuring information logically helps make it more memorable.
- Set specific, achievable goals for what you want to remember.



CONCLUSION

Memory is a complex process influenced by various factors, including brain activity, emotions, stress and lifestyles.

Forgetting happen naturally, but memory can be improved through practice, strategies and healthy habits.

By **applying** techniques and understanding the science of memory, we can strengthen our ability to learn, recall, and retain vital information for both personal and professional success.

THANK YOU



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