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# How the brain works

Mr Khan



## DID YOU KNOW?



FB/UsefulInfo100

**The structure of your  
brain changes every time  
you learn something new.**



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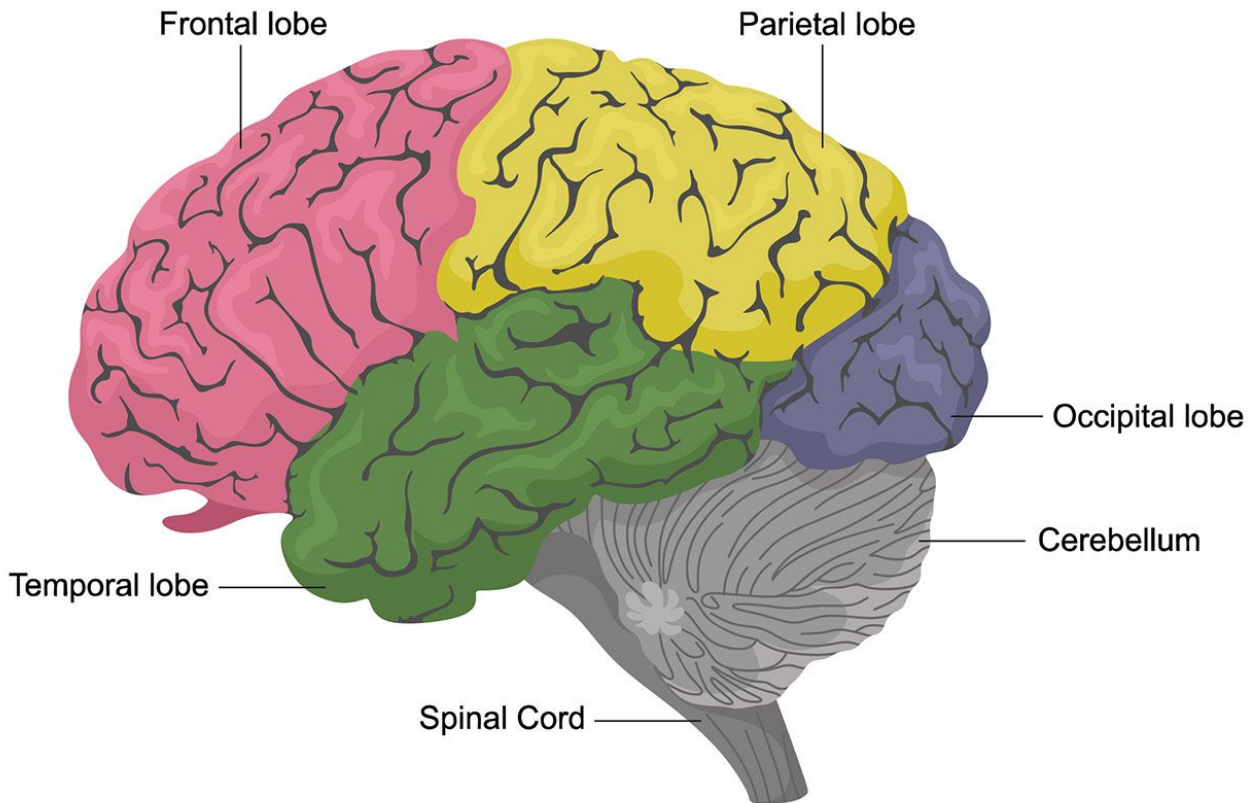
What is i  
**LEARN***ing*?



# What is Learning?

The process of acquiring new understanding, knowledge, behaviours, skills, values, attitudes, and preferences.

# Human Brain Anatomy



PREFRONTAL  
CORTEX

HYPOTHALAMUS

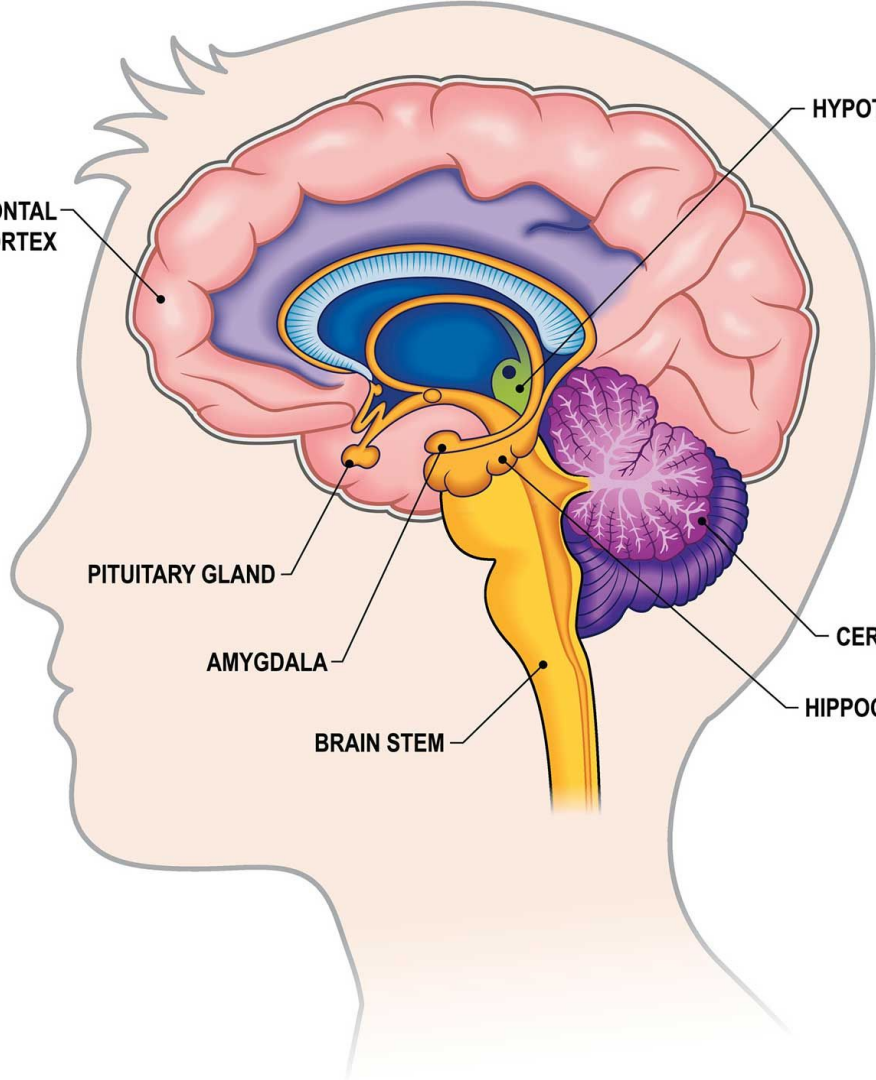
PITUITARY GLAND

AMYGDALA

BRAIN STEM

CEREBELLUM

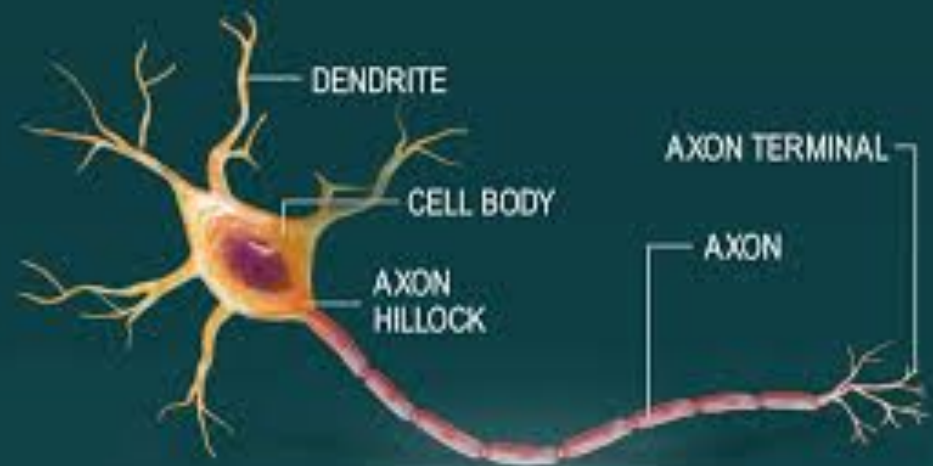
HIPPOCAMPUS





## Hippocampus

A curved seahorse-shaped organ on the underside of each temporal lobe, the hippocampus is part of a larger structure called the hippocampal formation. It supports memory, learning, navigation and perception of space. It receives information from the cerebral cortex.



## NEURON STRUCTURE





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# Neuroscience of Learning

## Attention & Memory



**EVER TRIED.  
EVER FAILED.  
NO MATTER.  
TRY AGAIN.  
FAIL AGAIN.  
FAIL BETTER.**

**SAMUEL BECKETT**



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**MOTIVATION,  
FAILURE &  
LEARNING**



# Conditions of Learning

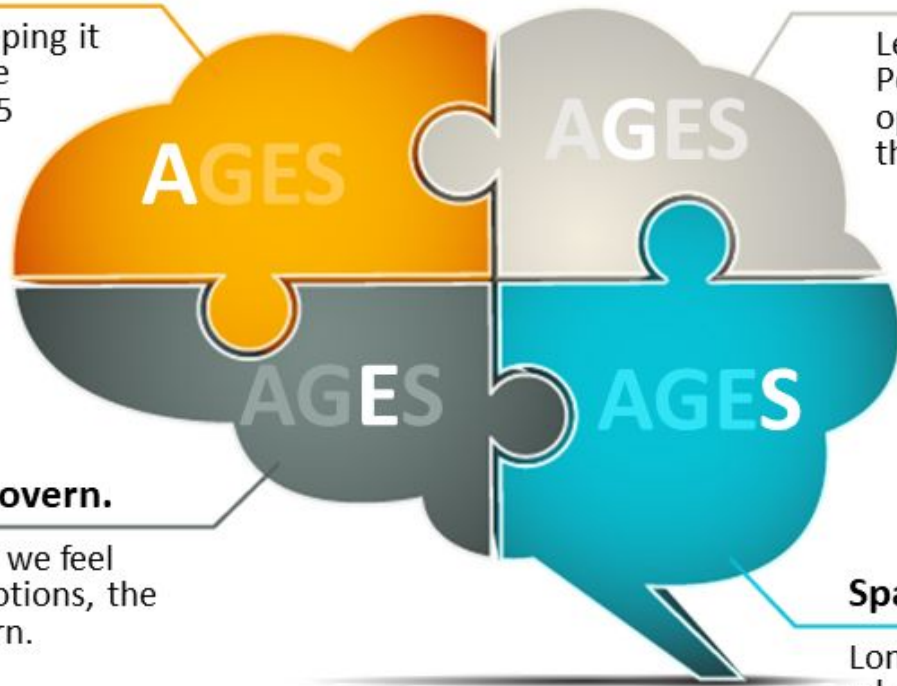
1. Physical
2. Cognitive
3. Emotional

### Attention is critical.

Getting it and keeping it  
When the average  
attention span is 5  
seconds.

### Generating insights takes time.

Learning is a journey.  
People need time and  
opportunities to make  
their own meaning.




### Emotions govern.

The stronger we feel  
the right emotions, the  
more we learn.

### Spaced learning sticks.

Longer term recall is best  
when we learn over  
several sittings.

The background of the image is a dark, grayscale photograph of a page from Leonardo da Vinci's notebooks. The page is filled with his characteristic cursive handwriting, which is mostly illegible due to the low contrast and blurring. A diagonal line, possibly a fold or a crease in the paper, runs from the top left towards the center. The overall tone is somber and intellectual.

Learning never  
exhausts the mind.

Leonardo da Vinci





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THANK YOU