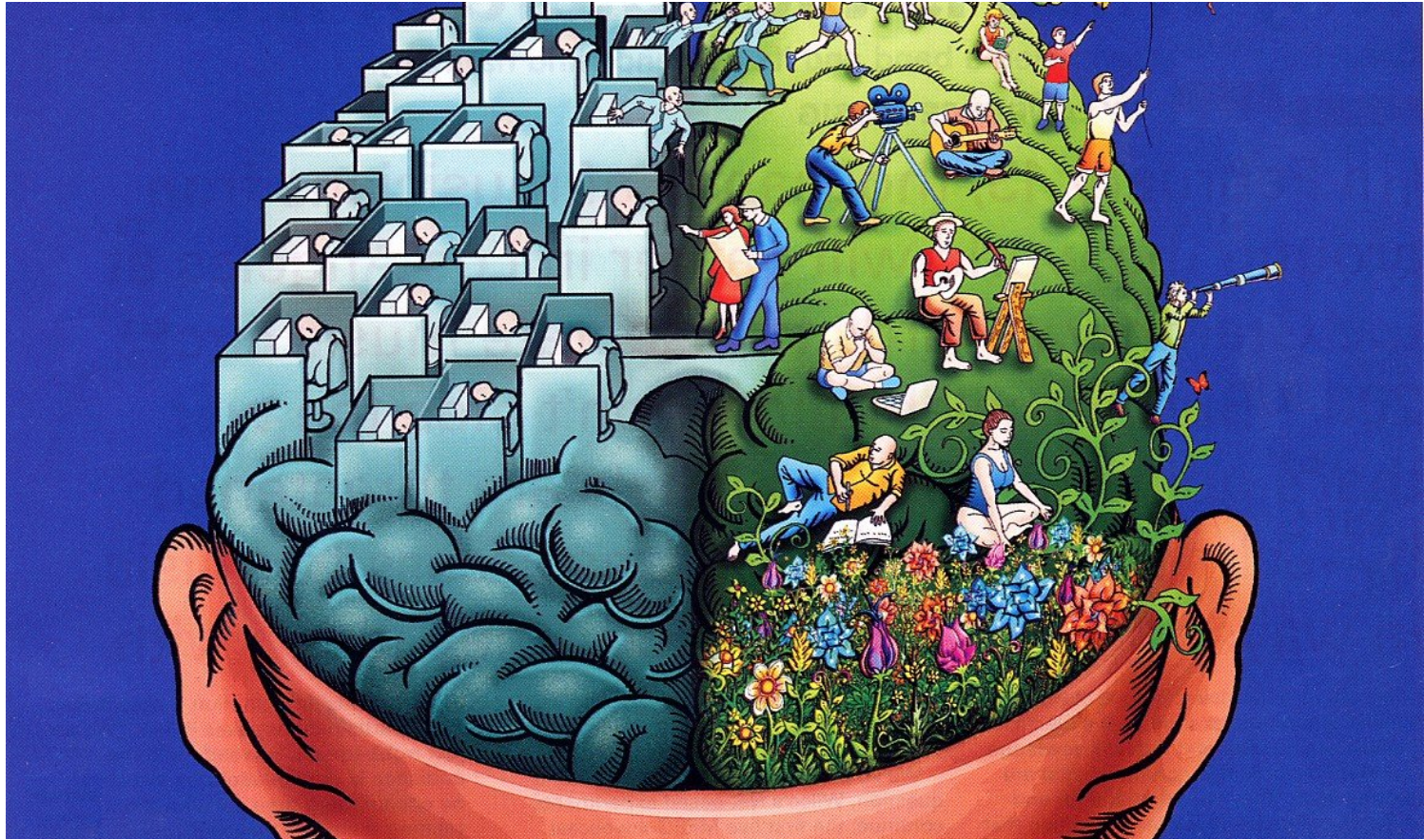
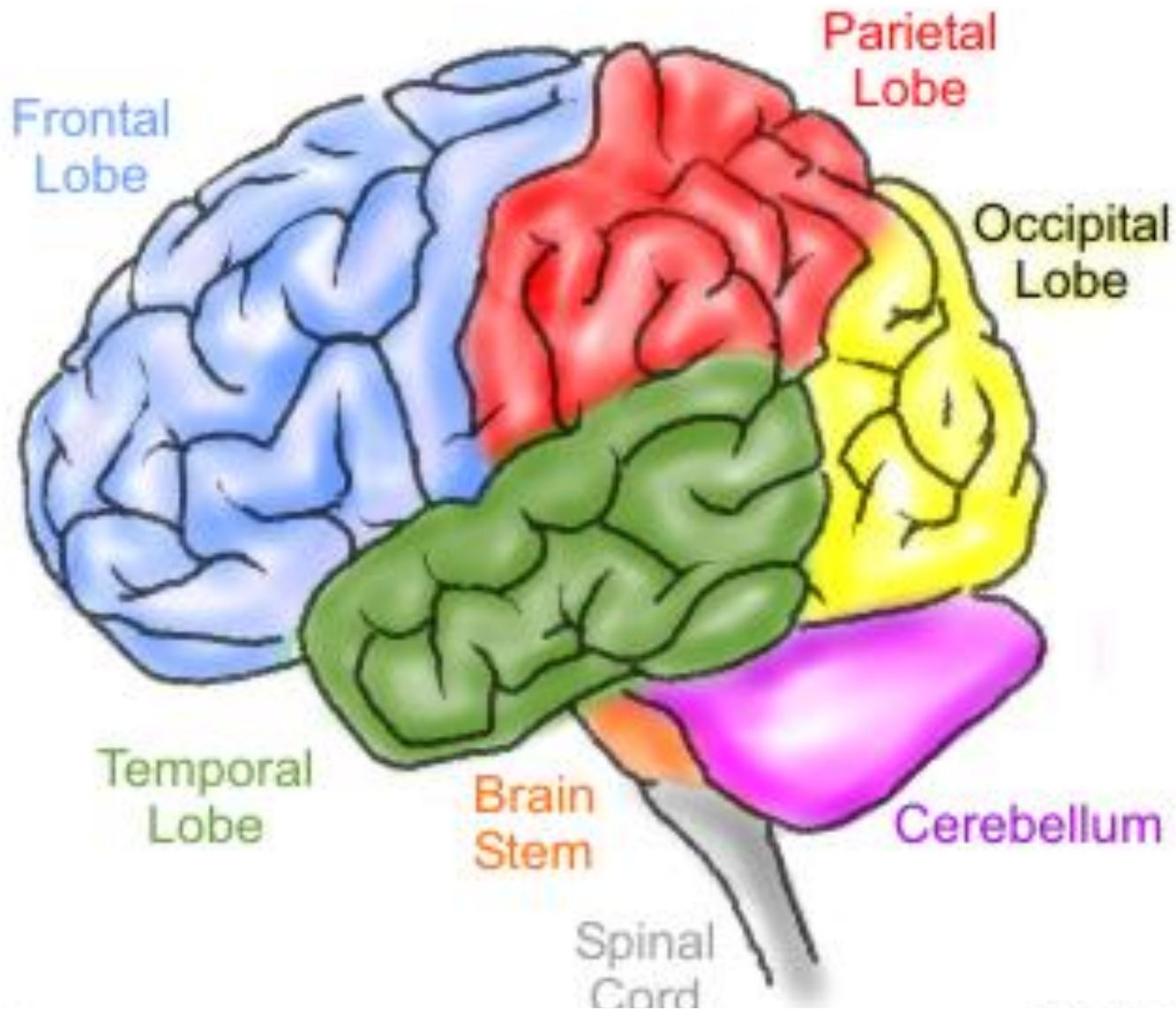


# \* The Brain





\* Understanding The Brain



- neuroscientist someone who specializes in study of the human brain
- an EEG measures electrical activity in brain using electrodes which are placed on the scalp. Used to detect how much brain activity is occurring
- an fMRI measures blood flow to certain areas of the brain. An increased blood flow to a certain part means oxygen is being brought to it, since the area is being used (experience patient to music, have patient do math, read etc.)

## \* Understanding the brain

- \* brain is made of **neurons** which store info and communicate using electrical impulses
- \* the **cerebral cortex** covers all of the brain (grey matter)
- \* the **cerebrum** is the largest and most developed portion of brain, responsible for controlling memory, understanding, logic
- \* cerebrum divided into 2 parts called hemispheres: left and right
- \* **left** deals with math, logic, language, communication
- \* **right** deals with spatial awareness, facial recognition, visual imagery
- \* **each hemisphere controls the muscle movements on the opposite side of body**

## \* Components of the Brain

- \* **hippocampus** responsible for short and long term memory, and the emotional system—*explains why you remember people who have affected you in some way* (transfers info into memory, stores names of people/ things)
- \* **frontal lobe** controls speech and planning actions
- \* **corpus callosum** connects the right and left hemispheres
- \* **temporal lobe** analyzes sound to make sense of speech
- \* **amygdala**—two almond shaped clusters regulating how emotion can affect memory and creating “fight or flight” response

## \* Components of the Brain

- <https://www.youtube.com/watch?v=hlo6ck75EZc> - Parts and Functions of the Brain - Note\*

\* Parts and Functions of The  
Brain

- \* **perception is a person's selecting, organizing, and interpreting of our senses**
- \* filling in the gaps—mind assumes missing info when the info given to brain isn't complete
- \* **perceptual constancy**—even though our view of an object changes as we move, the brain recognizes it as unchanged (as you move closer to object, becomes bigger but brain knows it's same size)
- \* **perceptual sets**— the tendency to perceive one thing and not another. Perceptual sets are influenced by our experiences and expectations, affecting how we view the world and certain things
  - \* (pink tends to be female— so we're surprised to see baby boy in pink)

## \* Perception

- \* brain doesn't stop developing at adulthood—brain never stop developing
- \* diet, exercise, meditation, smoking etc. changes brain on daily basis
- \* brain **rewires** itself
- \* PTS, brain damage patients have hope
- \* ex.: lady lost sense of balance due to drug side effects, but after therapy regained it
- \* **Meditation-**
- \* the focus required from meditation alters several parts of the brain (which can *produce rare brain waves*)
- \* ***meditation made people more happy and gave them a better immune system***
- \* allowed Alzheimer's patients to improve memory—**the focus required allowed blood flow to parts of brains** dealing with memory
- \* **Yoga** - increased hormones in brain which made them more happy and less anxiety

## \* Ever Changing Brain



- studies show brain is quite flexible with learning languages—many parts of brain assist in learning languages
- so far no definite scientific explanation to how language is acquired and learned
- there is belief that speakers of different languages think and behave differently (Spanish language has to do with intention—purposely causing harm or good)

\* Learning language

- Pros
  - multitasking skills (conditioning)
  - allows brain to filter info and make quick decisions
- Cons
  - internet based on interruption—IM, changing webpage etc. causes our brains to be distracted

\* Internet & The Brain

- adolescent brain in “use it or lose it” stage—synapses of the brain not used will be eliminated from brain
- critical brain development: 10-25
- frontal and temporal lobe develop last—because they’re responsible for judgment, perhaps reason why teens make poor decisions
- Western culture influences causes trouble in adolescence—aren’t taught how to be like adults since they are around other teens all the time (unlike other nations—developing for example)

## \* Teen Brain

- Which are you-

\* Left Brain or Right Brain?