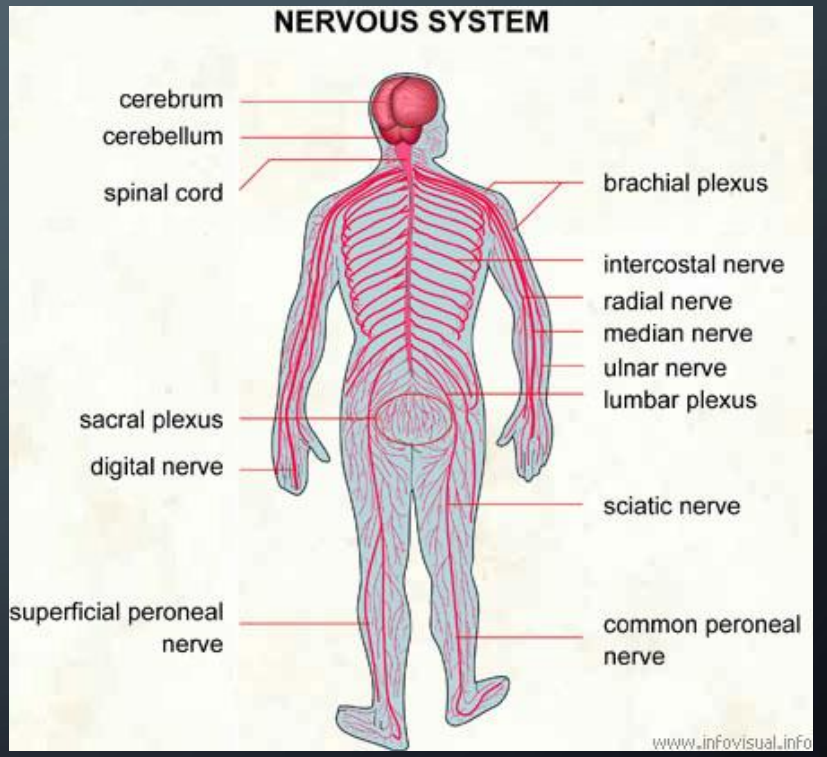
What is the nervous system?

What is the function of the nervous system?

THREE FUNCTIONS OF THE NERVOUS SYSTEM

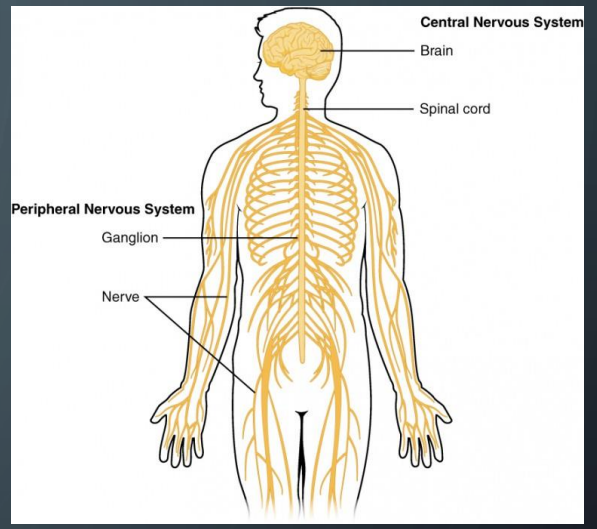
1. Transmit sensory information
   - Electrical impulses from your senses and body
2. Interpretation of sensory information
3. Transmits motor information

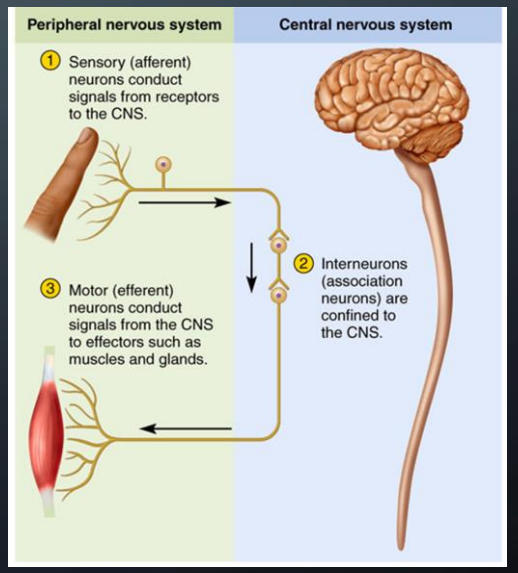


What are the two parts of the nervous system?

TWO PARTS OF THE NERVOUS SYSTEM

- Central Nervous System (CNS)
  - The brain and the spinal cord
  - Command center of the body
- Peripheral Nervous System (PNS)
  - Nerves that connect the CNS to everything else
  - Sends and receives info from the CNS

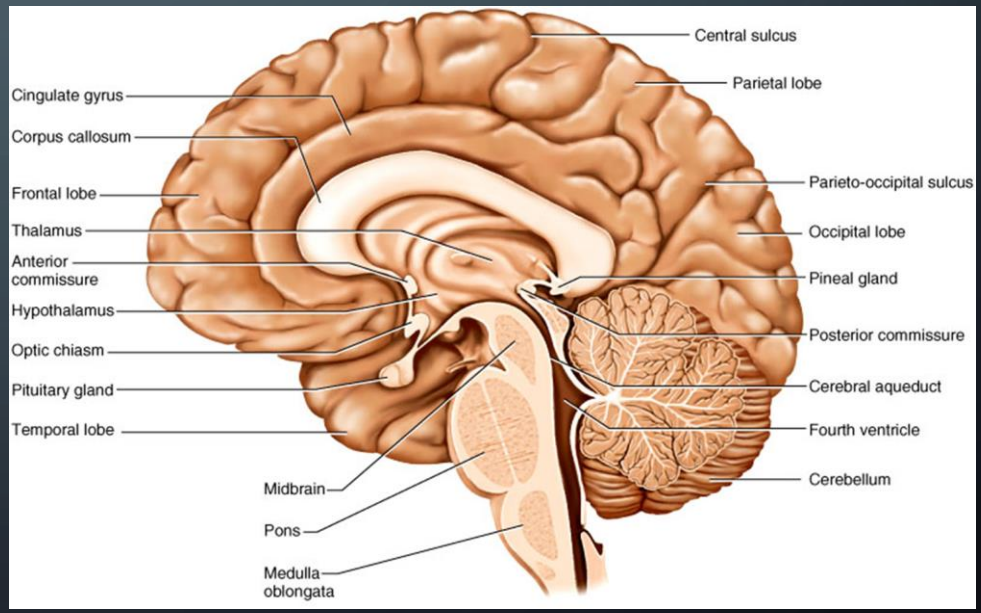




What are the structures of the nervous system?

1. THE BRAIN

- Responsible for reasoning, thought, memory, body functions, senses, balance…
- Controls everything in the body



5 PARTS OF THE BRAIN

- Cerebrum: thinking
- Cerebellum: balance, movement, & coordination
- Brain Stem: keeps you breathing
- Pituitary Gland: controls growth
- Hypothalamus: controls temperature

BRAIN MYTHS

- You only use about 10% of your brain
- Alcohol kills brain cells every time you drink
- Adults can't grow new brain cells
- Some people are left-brained (logical) and some are right-brained (creative)
- Doing crossword puzzles improves memory

TRUE BRAIN FACTS

- Your brain generates nearly 25 watts of power while you're awake, which is enough to light up a light bulb.
- Every time you have a new thought, or recall a memory, a new brain connection is made.
- A living brain is so soft you could cut it with a table knife.
- The human brain contains around 400 miles of blood vessels and consumes 20% of the body's oxygen supply.
- There is no sense of pain within the brain itself.
- The left side of your brain controls the right side of your body; and, the right side of your brain controls the left side of your body.
- Your cerebral cortex grows thicker as you learn more.
- You will lose consciousness in 10 seconds after the loss of blood supply to the brain.
- Differences in brain weight and size do not equal differences in mental ability.
- There are about 100 billion neurons in the human brain.

Good website with answers about the brain
http://www.disabled-world.com/artman/publish/brain-facts.shtml

BRAIN RESEARCH

- Repetition – When the brain stops practicing new things, it will physically prune away the connecting cells that formed a neural pathway

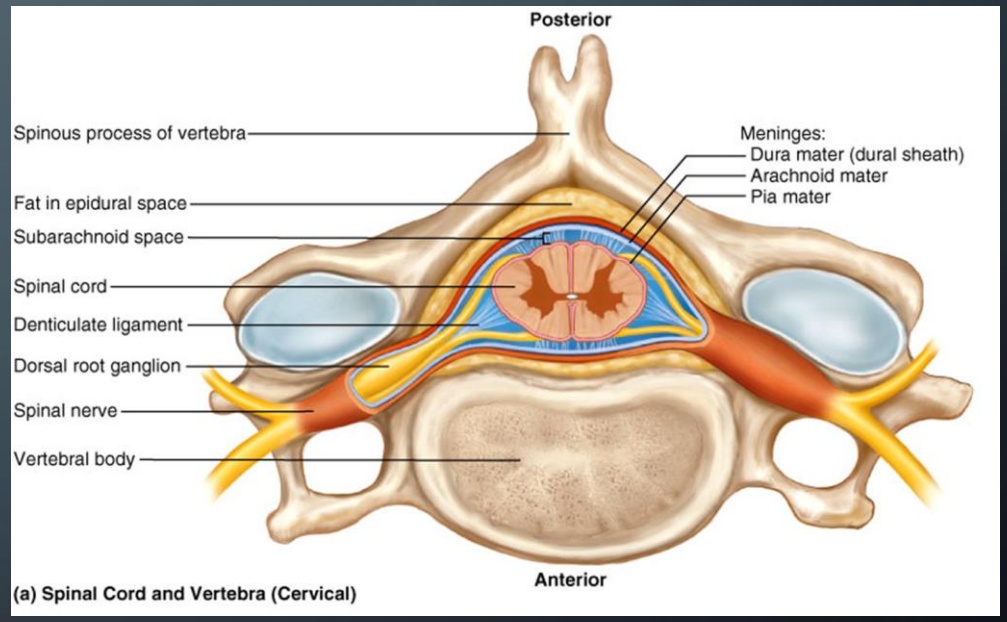
- Active Learning – Learning by doing is energizing, promotes persistence, enhances memory, makes information easier to retrieve, and increases confidence

- Images – The brain responds best to visual content because 80% to 90% of information absorbed is visual so when studying, pair concepts with meaningful images such as graphics, diagrams, videos, etc.

- Curiosity – When the brain sees something new dopamine levels increase, which stimulates expectation of reward. In addition, curious minds showed increased activity in the hippocampus part of the brain, which is involved in the creation of memories.

2. SPINAL CORD

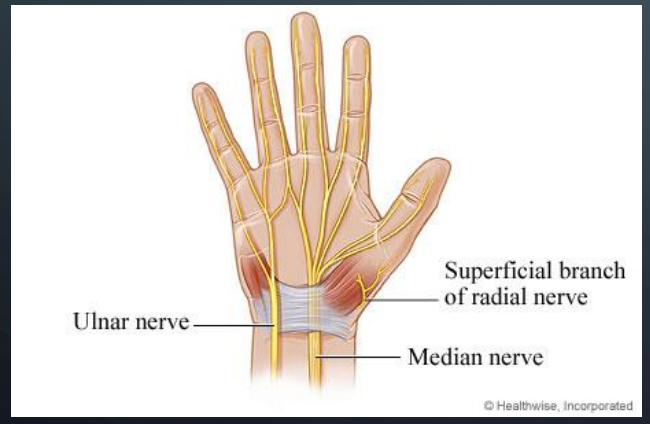
- Attached to the brain
  and extends to the lower back
- Sends sensory and motor information to and from the brain
- Protected by vertebrae
- Responsible for reflexes



3. NERVES AND NEURONS

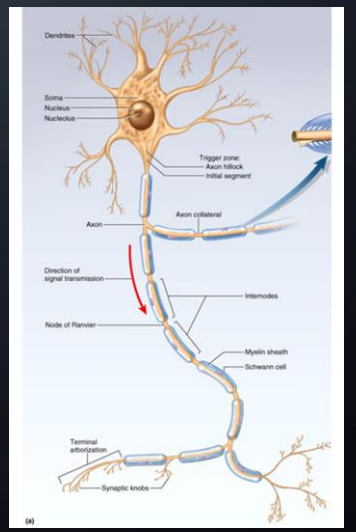
Nerves

- In the PNS
- Carries messages between the CNS and the body



Neurons

- In the CNS
- Also called nerve cells
- Allows for short response times to changes in the body



A Video on the Nervous System

WHEN THINGS GO WRONG WITH THE SYSTEM

- Parkinson's disease
- Multiple sclerosis (MS)
- Amyotrophic lateral sclerosis (ALS)
- Alzheimer's disease
- Huntington's disease
- Peripheral neuropathies
- Dementia

WHEN YOUR SYSTEM IS DISTURBED

Pain and how it affects the brain

https://ed.ted.com/lessons/how-does-your-brain-respond-to-pain-karen-d-davis#watch