THE VERVOUS SYSTEM

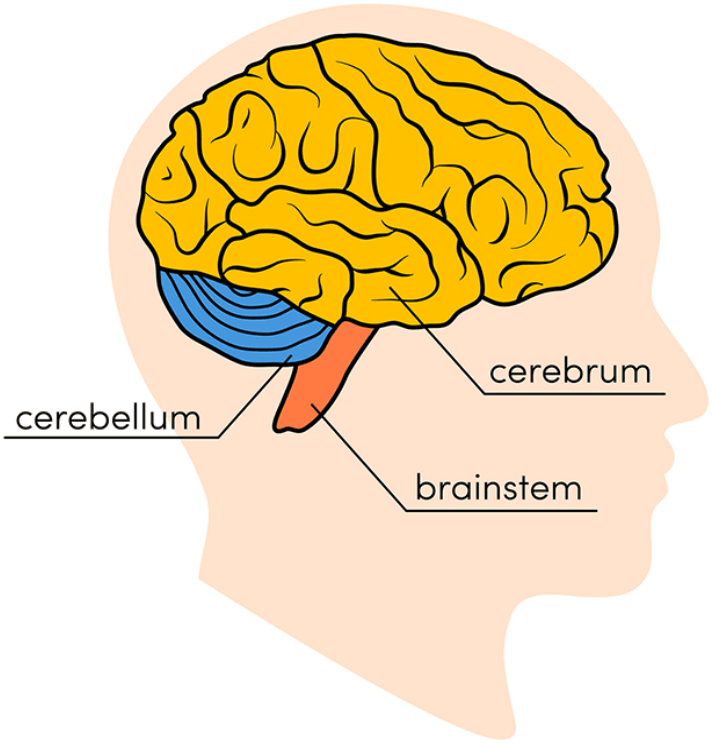
Brain

Brain: is a complex organ, it consists of the cerebrum, cerebellum and brainstem.

Functions: controls thought, memory, emotion, touch, motor skills, vision, breathing, temperature, hunger and every process that regulates our body.

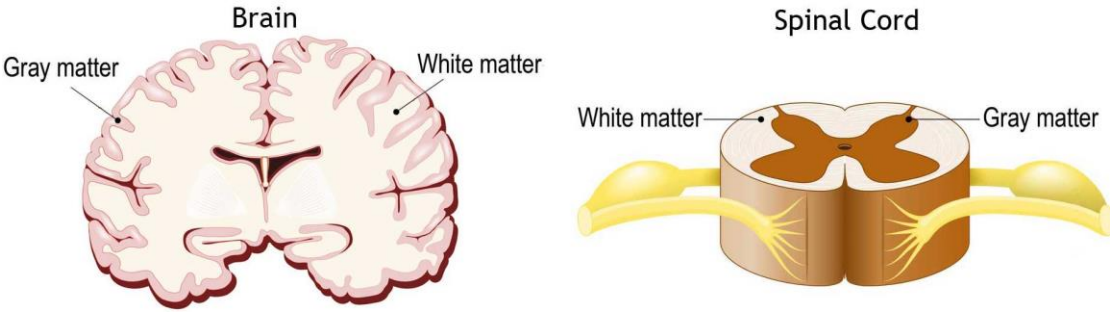
What is the brain made of?

Weighing about 3 pounds in the average adult, the brain is about 60% fat. The remaining 40% is a combination of water, protein, carbohydrates and salts. The brain itself is a not a muscle. It contains blood vessels and nerves, including neurons and glial cells.



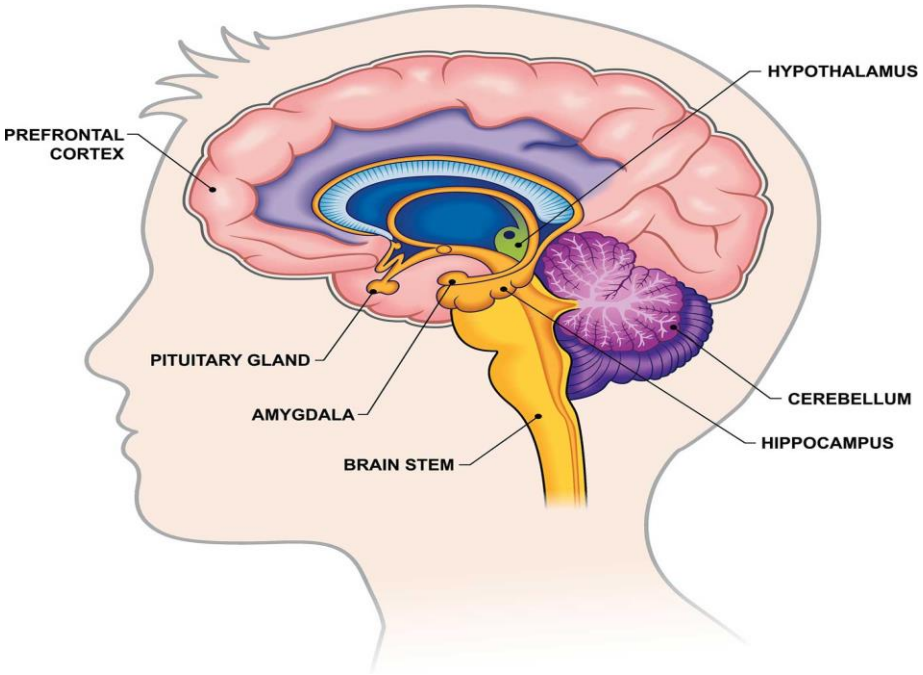
What is the gray matter and white matter?

Gray and white matter are two different regions of the central nervous system.



Gray matter	white matter
1- refers to the darker.	1- describes the lighter.
2- outer portion.	2- inner section underneath.
3- primarily composed of neuron.	3- mostly made of axons.
4- In the spinal cord sits within.	4-In the spinal cord the white matter is on the outside.

Longitudinal section of brain parts:



Spinal cord

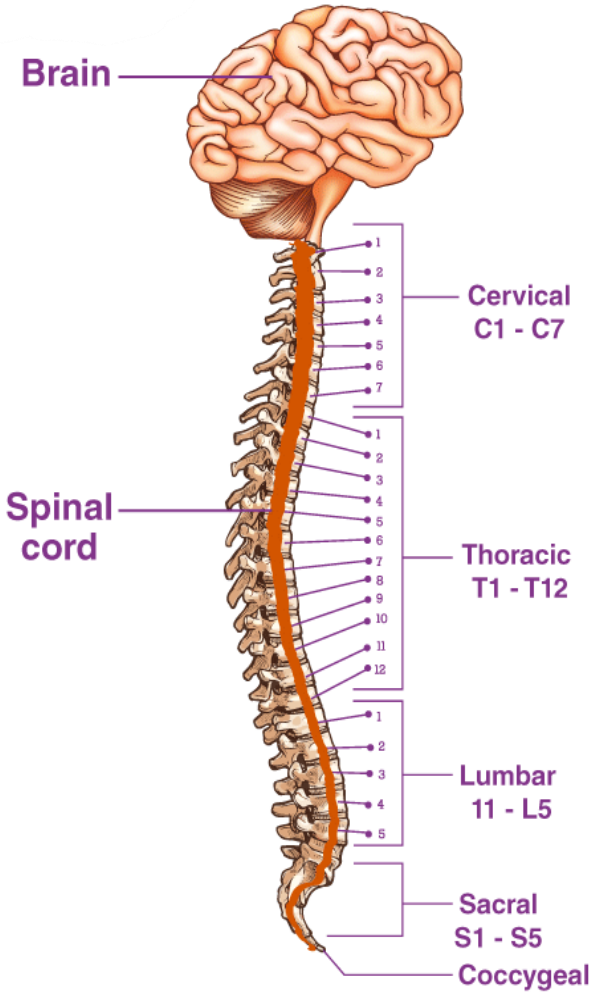
The spinal cord is a long, tube-like band of tissue. It connects your brain to your lower back. Your spinal cord carries nerve signals from your brain to your body and vice versa.

The Function of spinal cord:

1-Control body movements and functions.

2- Report senses to your brain**.**

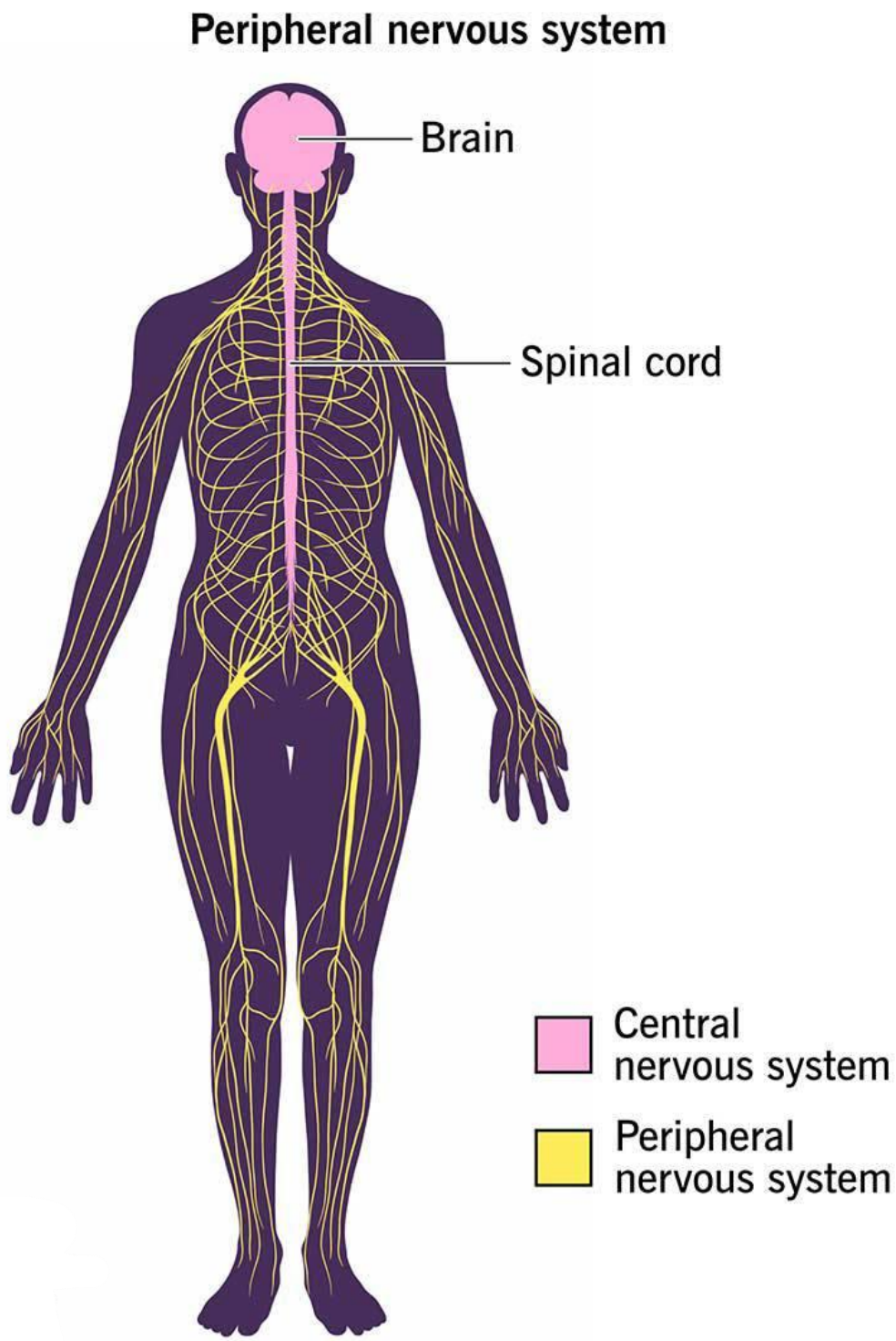
3- Manage your reflexes.



***Note: The spine protects the spinal cord, which has a very fragile structure.**

Peripheral nerves

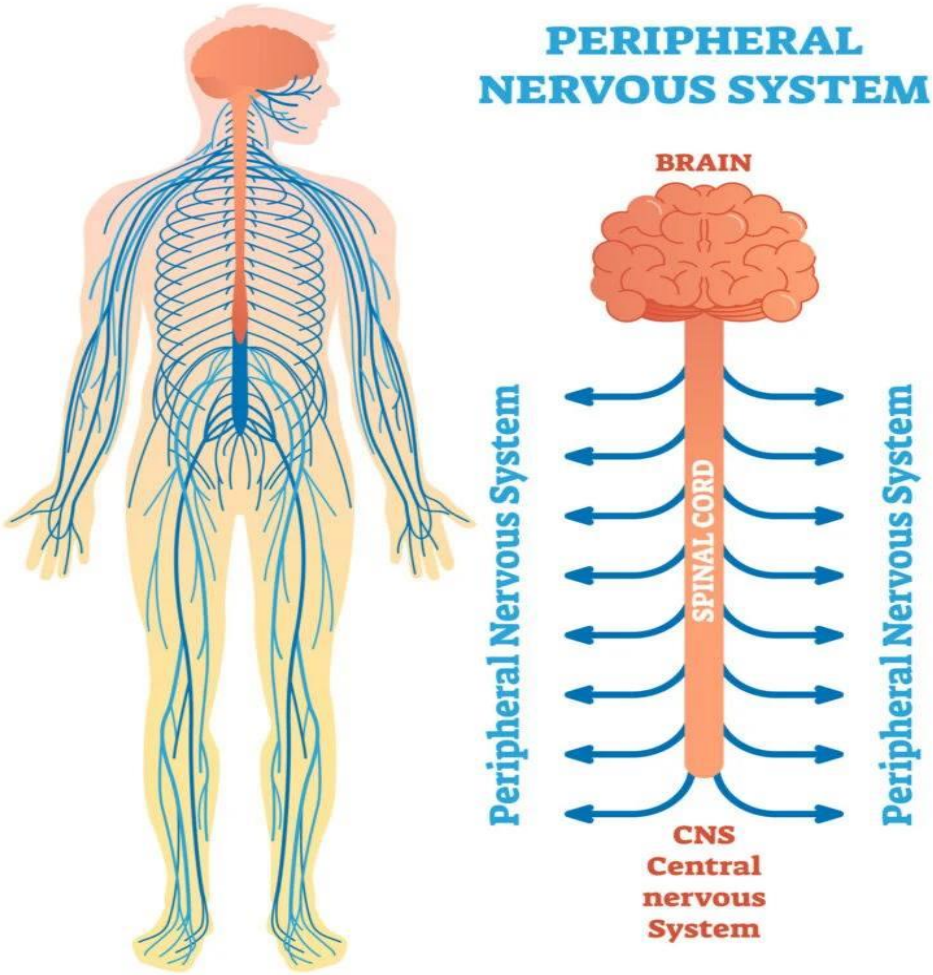
peripheral nervous system (PNS) is that part of your nervous system that lies outside your brain.



What does the peripheral nervous system do?

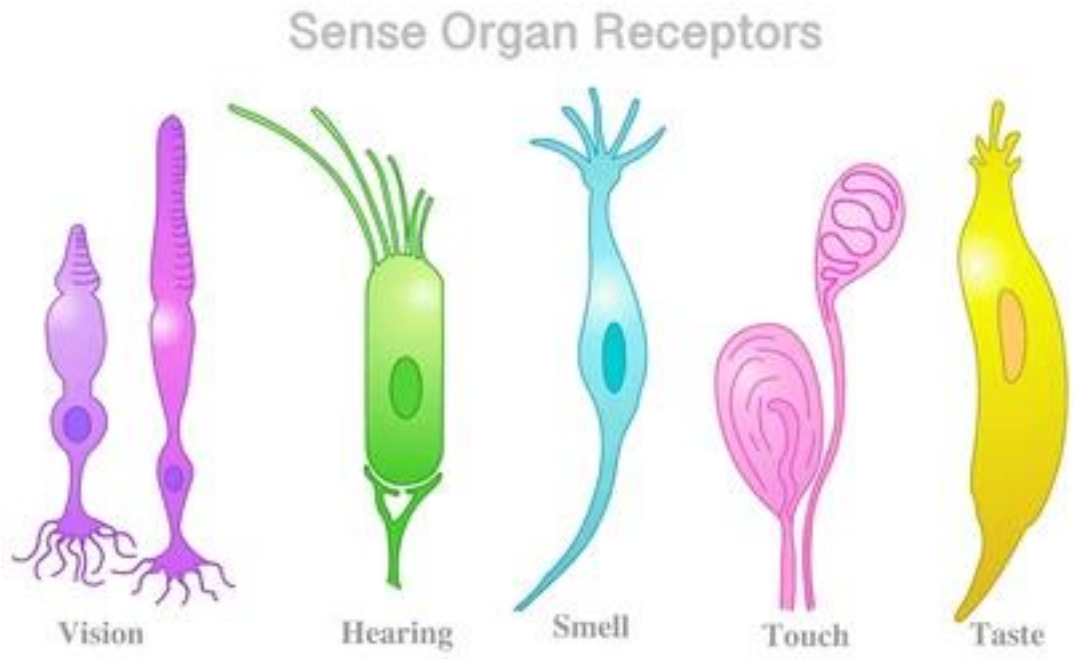
- **Autonomic**
- **Somatic**
- **Senses**
- **Movement**
- **Unconscious processes**

Some of those signals, like the ones to your heart and gut, are automatic. Others, like the ones that control movement, are under your control.



sense organ

bodily structure, every sense organ receives external stimuli and sends messages to the brain via the sensory nerve. The brain responds to messages, helps sense organs reciprocate to the stimuli, and connects humans to the external environment.



SENSE ORGAN	WHAT IT IS SENSITIVE TO	SENSE
SKIN	SENSITIVE TO PRESSURE, HEAT AND COLD (TEMPERATURE) AND PAIN.	TOUCH AND TEMPERATURE
TONGUE	SENSITIVE TO CHEMICALS IN FOOD AND DRINK	TASTE
NOSE	SENSITIVE TO CHEMICALS IN THE AIR	SMELL
EAR	SENSITIVE TO SOUND AND MOVEMENT	a) HEARING b) BALANCE
EYE	SENSITIVE TO LIGHT	SIGHT