Chapter 4 Section 1 Nervous System

Parts of the Nervous System

1. **central nervous system (CNS)**-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **What does it do? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **peripheral nervous system (PNS)**-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **What does it do? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**-a nerve cell that is specialized to transfer messages in the form of fast-moving electrical energy. (electrical messages are called **impulses**)

**Neuron Structure**:

* **Cell body**-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**-branched extensions of the cell. Neurons receive information from other cells through their dendrites.
* A neuron can have \_\_\_\_\_\_\_\_\_\_\_\_\_ dendrites. This allows it to receive impulses from thousands of other cells.
* **\_\_\_\_\_\_\_\_\_\_\_\_\_**-carry impulses away from the cell. They can extend from your lower back to your toes. They vary in length.
* **axon terminal**- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 

 Neuron

* Some neurons are **\_\_\_\_\_\_\_\_\_\_\_\_\_\_ neurons**. They gather information about what is happening in and around your body.
* Sensory neurons have specialized nerve endings called **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.

**motor neurons**-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Response from muscles=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 For example, squinting when you are in bright light and sweating when you are hot.

**nerve**-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_is connected to the rest of your body by nerves.
* It connects your CNS to the rest of your body.

 **Peripheral Nervous System**

* It has 2 main parts:
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (collect information from your senses and send it back to the CNS)
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(carry out the CNS responses to the sensory information)

 **Motor part**

* 2 Parts
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
		- These neurons are under your conscious control.
		- They control voluntary movements like writing, talking, smiling, or jumping (skeletal movements).
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
		- It controls body functions that you do not think about like heart rate and digestion.
		- It’s main job is to keep all the body’s functions in balance.
		- It has 2 divisions:

-**sympathetic**

**-parasympathetic**

* These 2 work together to keep your internal environment stable. This stability or balance is called **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Central Nervous System-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**The Control Center**

* The largest organ in the nervous system is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* **brain**-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **involuntary**-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **voluntary**-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Cerebrum**-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* It is where you \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and where \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are stored.
* It controls your \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- movements and your sense of \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* It has two ½’s called **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.
* **Left side** controls the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ side of the body
* It controls activities like speaking, reading, writing, and solving problems.
* **Right side** controls the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ side of the body
* It controls activities like spatial thinking, processing music, and interpreting emotions.

**Cerebellum**

* It is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ largest part of your brain.
* It is under the back part of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* It sends impulses to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ muscles and joints to help keep your body balanced.

**Medulla**

* It is the part of the brain that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* You cannot \_\_\_\_\_\_\_\_\_\_ without it.
* It is about \_\_\_\_ cm long.
* It controls involuntary processes like:
	+ - blood pressure
		- body temperature
		- heart rate
		- involuntary breathing

**Spinal Cord**

* It is about as big around as your \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* It is made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and bundles of \_\_\_\_\_\_\_\_\_\_\_ that pass impulses to and from the brain.
* Theses nerve fibers allow your brain to communicate with your \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ nervous system.
* The spinal cord is surrounded by protective bones called **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Spinal Cord Injuries**

* can block all information to and from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ coming from below the injury may not be able to get to the brain.
* Motor commands may not be able to reach the injured area making this person \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

