**THE NERVOUS SYSTEM**

**Introduction**

A. Neurons = masses of nerve cells that transmit information to other nerves, tissues or cells (nerve impulses)

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - contains the nucleus and two extensions  
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - shorter, more numerous, receive information  
3. \_\_\_\_\_\_\_\_\_ - single, long fiber which conducts impulses away from the cell

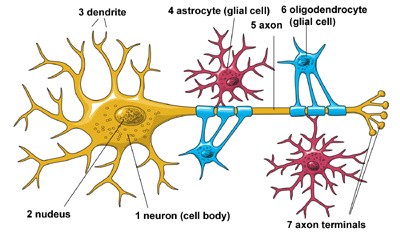
Look at Picture below!

**Neuroglial Cells (neuroglia)**

- supportive tissue of the nervous system (more numerous than neurons). Five types

1. Microglial Cells   
2. Oligodendrocytes  
3. Astrocytes  
4. Ependymal Cells   
5. Schwann cells

\*Myelin Sheaths



B. The nervous system is divided into two parts:

1. Central Nervous System (CNS) - brain and spinal cord  
2. Peripheral Nervous System (PNS) - peripheral nerves through the body  
        - includes 31 pairs of spinal nerves  
        - includes 12 pairs of cranial nerves

**9.2 Three Basic Functions**

1. Sensory Function -

2. Integrative Function -

3. Motor Function -

                        - Homeostasis. Motor neurons.

- Somatic Nervous System (skeletal muscles)  
- Autonomic Nervous System (smooth muscles, glands)

**Types of Nerves**

Sensory Nerves – conduct impulses into the brain or spinal cord  
Motor Nerves – carry impulses to muscles of glands  
Mixed Nerves - contain both sensory and motor nerve

**Nerve Pathways**

Reflex arc – simple pathway, includes only a few neurons

Reflex Behavior – automatic, subconscious responses to stimulu

Knee-jerk reflex =

Withdrawal reflex =

