IV. THE NERVOUS SYSTEM

1. Neuron:
	1. Dendrite:
	2. Cell body:
	3. Axon:
	4. Synapse:
	5. Neurotransmitters:

A. The Resting Potential

 1. the internal charge of a cell is \_\_\_\_\_\_\_\_\_\_\_\_, thanks to the action of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 2. resting potential voltage: \_\_\_\_\_\_\_

B. The Action Potential

 1. voltage-gated proteins:

 2. threshold potential:

 3. during this process \_\_\_\_\_ ions leave the cell, and \_\_\_\_\_\_ ions enter

 4. voltage then returns to resting

C. Speeding up the Action Potential

 1. myelin sheath:

 2. nodes of Ranvier:

 3. MS and action potential:

D. Strength of the Signal

 1. How is a stronger signal generated when needed?

E. Transmitting an Impulse Between Neurons

 1. what happens when an action potential reaches a synapse?

 2. excitatory vs. inhibitory neurotransmitters:

F. Nervous System Organization

 1. ganglia (annelids, mollusks):

 2. ganglia + sensory organs (arthropods):

 3. vertebrate system includes \_\_\_\_\_\_\_\_\_\_\_\_

G. The Vertebrate Nervous System

 1. Central Nervous System (CNS):

 2. Peripheral Nervous System (PNS):

 3. Types of neurons

 a. sensory neurons:

 b. motor neurons:

 c. interneurons:

H. The Central Nervous System

 1. Brain

 a. type of neurons:

 b. cerebrum:

 c. cerebellum:

 d. brainstem / medulla oblongata:

 e. hypothalamus:

 2. Spinal cord

 a. types of neurons:

 b. glial cells:

I. The Peripheral Nervous System

 1. sensory system:

 2. motor system:

 a. somatic system:

 i. acetylcholine:

 ii. all somatic system neurotransmitters are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b. autonomic system:

 i. sympathetic division:

 ii. parasympathetic division:

J. The Senses

 1. sense organs transmit signals from the environment through the \_\_\_\_\_\_ to the \_\_\_\_\_.

 a. vision

 i. eyes can sense \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 ii. rods:

 iii. cones:

 iv. path of action potential impulse:

 v. retina:

 vi. lens:

 vii. pupil:

 viii. cornea:

 b. hearing

 i. ears (aka \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) sense \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of air molecules

 ii. auditory ossicles:

 iii. cochlea:

 iv. auditory nerve:

 c. taste and smell

 i. taste buds / chemoreceptors:

 a. 4 main taste sensations:

 ii. olfactory epithelium:

 d. somatic senses

 i. senses included:



