

Match the following vocabulary terms with their correct definition:

action potential	integration	proton
axons	ion	refractory period
Central Nervous System	motor nerves	repolarization
dendrites	nerves	resting potential
depolarization	neurotransmitters	sensory nerves
electrochemical process	perception	<i>sodium/potassium</i>
electron	polarization	<i>pumps</i>
gap junctions	postsynaptic neuron	soma
hyperpolarized	presynaptic neuron	synapses

- 1) _____ a long cable-like bundle of nerve cell axons
- 2) _____ a series of actions during a nerve impulse in which a large amount of sodium ions enter the cell after the dendrites receive a stimulus
- 3) _____ active transport system which uses energy to move three sodium ions out of the neuron for every two potassium ions it allows in
- 4) _____ an element which has lost or gained one or more electrons
- 5) _____ areas between synapses in which an electrochemical system can jump from one neuron to another
- 6) _____ cell body of a nerve cell
- 7) _____ chemical which allow for neurons to communicate with other neurons
- 8) _____ control center of the nervous system; consisting of the brain and spinal cord
- 9) _____ electrically negative charge of all neurons

- 10) _____ method of communication between neurons in which chemicals are released thereby triggering a nerve impulse
- 11) _____ negatively-charged particle within an atom; 1800+ times smaller than a proton
- 12) _____ period of time after repolarization when an excess of potassium ions have left the neuron causing it to become more negative
- 13) _____ period of time during a nerve impulse in which a neuron can no longer send any more signals along its neuron before its resting potential is reached once again
- 14) _____ period of time during a nerve impulse when waves of positively-charged sodium ions enters the neuron; this causes the neuron to become more positively charged
- 15) _____ proton-charged particle within an atom
- 16) _____ send information AWAY from the central nervous system to the effectors (e.g. muscles or glands)
- 17) _____ send information from sensory receivers (e.g., in skin, eyes, nose, tongue, ears) TOWARD the central nervous system
- 18) _____ special structures extending from the surface of nerve cells which receive a stimulus
- 19) _____ special structures within a nerve cell which move nerve impulses towards the CNS
- 20) _____ stage of a neuron in which the electrical charge on the outside of the neuron is positive while the electrical charge on the inside of the membrane is negative
- 21) _____ stage within a nerve impulse when the movement of positively-charged ions from the inside of the cell begins to lower the positively-charged cell back to a more negative charge

- 22) _____ the cell that receives the message from the presynaptic neuron
- 23) _____ the cell which sends a message
- 24) _____ the location where two nerve cells meet and transmit signals to each other
- 25) _____ the receiving of signals concerning what is going on inside and outside the body
- 26) _____ the sorting and directing of signals to other areas of the body

Choose the correct answer from the following questions:

- 1) The areas of a neuron that typically receives incoming stimuli are called:
 - A) soma
 - B) dendrites
 - C) gap junctions
 - D) synapses
 - E) axons

- 2) The diffusion of potassium ions out of a neuron causes it to experience:
 - A) repolarization
 - B) an action potential
 - C) a nerve impulse
 - D) a depolarization

- 3) The conduction of nerve impulses is fastest in neurons that are:
 - A) sensory
 - B) unmyelinated
 - C) cerebral
 - D) motor
 - E) myelinated

- 4) A chemical that is released from presynaptic neurons to create a nerve impulse is called:
 - A) an ion
 - B) an action potential
 - C) the sodium-potassium pump
 - D) a neurotransmitter