

**Section- 8.1- The Nervous System
Regular Anatomy**

Nervous Tissue

Match the given terms of the parts of a neuron to its function or description.

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| _____ 1. Axon | A. Receives signals from sensory receptors or other neurons. |
| _____ 2. Node of Ranvier | B. Conducts action potentials (nerve impulses). |
| _____ 3. Axon terminal | C. A white covering that surrounds and insulates an axon. |
| _____ 4. Cell body | D. Contains the nucleus and other organelles. |
| _____ 5. Dendrite | E. The end of an axon. |
| _____ 6. Myelin sheath | F. Gaps between the myelin sheath of an axon. |

Using the list below, color and label the different parts of a neuron.

- Axon
- Node of Ranvier
- Axon terminal
- Cell body
- Dendrite
- Myelin sheath



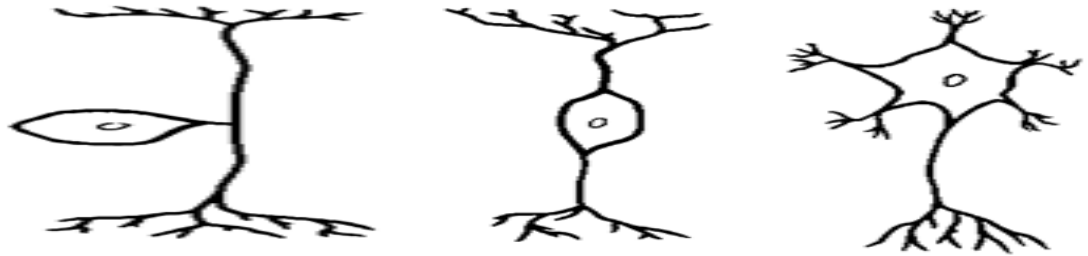
7. The type of cell of the nervous system that transmits action potentials is called a _____.
8. The type of cell of the nervous system that supports and nourishes neurons are called _____.

Classify each type of neuron by its function.

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|--------------------------|--|
| _____ 9. Interneuron | A. Transmits action potentials from the peripheral nervous system to the central nervous system. |
| _____ 10. Motor neuron | B. Transmits action potentials between motor neurons and sensory neurons. |
| _____ 11. Sensory neuron | C. Transmits action potentials from the central nervous system to the peripheral nervous system. |

Using the list below, write the structural classification of each of the given neurons.

bipolar
multipolar
unipolar



Nerve Impulses

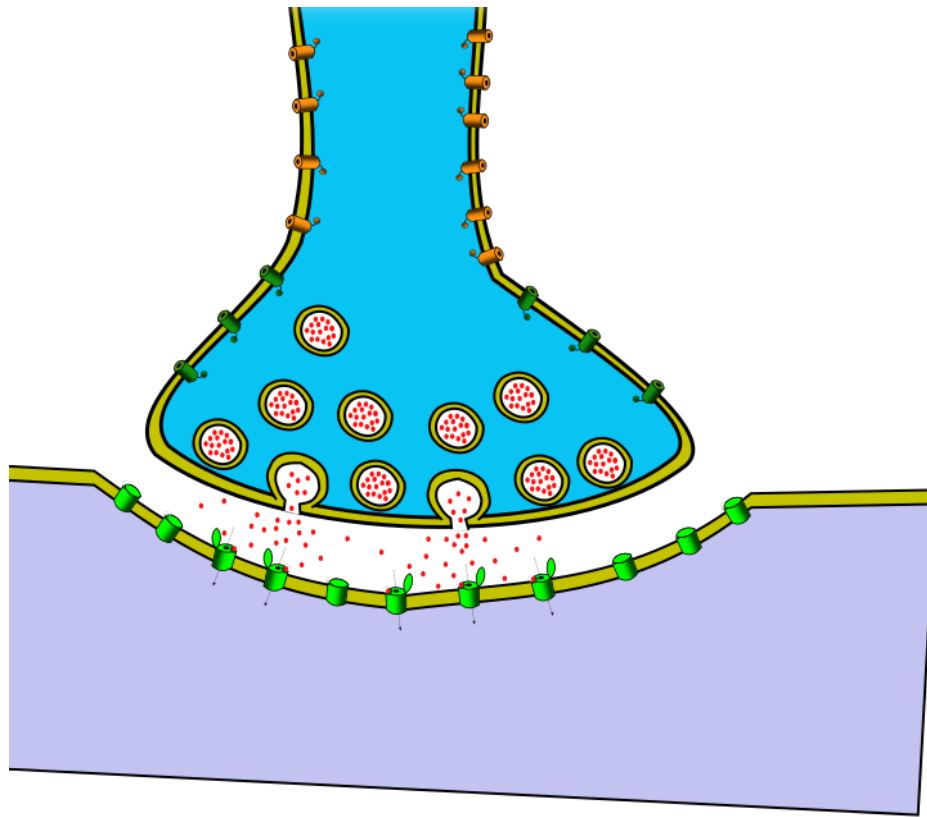
Match the phase of an action potential to its description.

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|-------|-----------------------|----|--|
| _____ | 12. Depolarization | A. | Difference in electrical charge between the inside and outside of the membrane when no impulse is being conducted. |
| _____ | 13. Repolarization | B. | Inside of membrane becomes more (+) compared to outside (Na ions move inward) |
| _____ | 14. Resting potential | C. | Inside of membrane becomes more (-) compared to outside (K ions move outward) |
| _____ | 15. Action potential | D. | Change in polarity across an axon's membrane |

Match the parts of a synapse with its description or function.

- | | | | |
|-------|---------------------------------|----|--|
| _____ | 16. Neurotransmitter | A. | Decreases membrane permeability to Na ions, reducing the chance that an impulse will occur |
| _____ | 17. Postsynaptic membrane | B. | Stores neurotransmitter |
| _____ | 18. Presynaptic membrane | C. | Gap between presynaptic membrane and postsynaptic membrane. |
| _____ | 19. Synaptic cleft | D. | Terminal end of the first neuron in a synapse |
| _____ | 20. Synaptic vesicle | E. | Increases membrane permeability to Na ions and triggers nerve impulse |
| _____ | 21. Excitatory neurotransmitter | F. | Chemical substance released by a neuron to act on another cell |
| _____ | 22. Inhibitory neurotransmitter | G. | Second neuron in a synapse |

Using the list below, color and label the different parts of a synapse.



- Action potential (draw direction with arrows)
- Axon
- Presynaptic membrane

- Neurotransmitter
- Postsynaptic membrane

- Synaptic cleft
- Synaptic vesicle