

The Human Nervous System

Section Review

Reviewing Terms

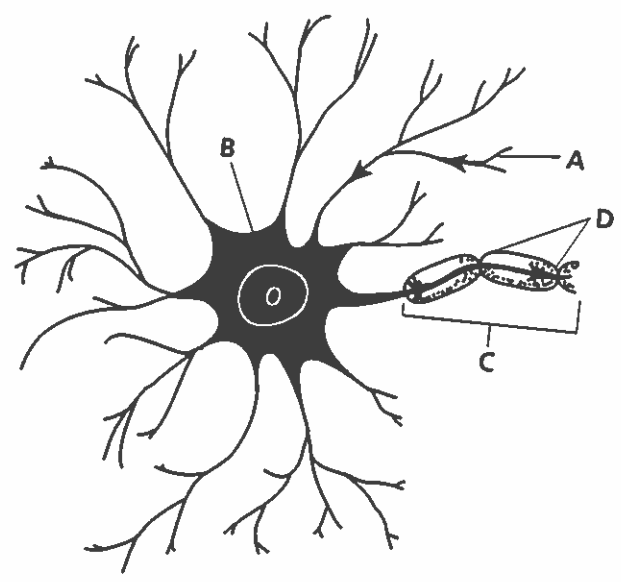
On the line provided, write the letter of the term from the list that matches each description. Each choice can be used once, more than once, or not at all.

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| _____ 1. long branch that carries impulses away from the cell body | a. neuron |
| _____ 2. neurons that carry impulses between sensory and motor neurons | b. impulse |
| _____ 3. small branched extension of a neuron that carries impulses toward the cell body | c. cell body |
| _____ 4. chemical used by one neuron to signal another cell | d. dendrite |
| _____ 5. neurons that carry impulses from the sense organs to the brain and the spinal cord | e. axon |
| _____ 6. material that provides insulation for some axons | f. nerve |
| _____ 7. condition that exists when there is a net excess of negative charges on the inside of the cell membrane of a neuron | g. sensory neurons |
| _____ 8. basic cell of the nervous system that carries impulses throughout the body | h. motor neurons |
| _____ 9. difference in the electrical charge across a neuron's cell membrane | i. interneurons |
| _____ 10. point at which a neuron can transfer an impulse to another cell | j. resting potential |
| _____ 11. message in the form of an electrical signal that is carried by the nervous system | k. action potential |
| _____ 12. basic unit of the nervous system that is made up of a cell body, dendrites, and an axon | l. myelin |
| _____ 13. neurons that carry impulses from the brain or spinal cord to muscles or other organs | m. synapse |
| _____ 14. sudden reversal of the resting potential of a neuron | n. neurotransmitter |
| _____ 15. largest part of the neuron and location of most of its metabolic activity | |
| _____ 16. rapid change in voltage on the inside of the axon, from negative to positive and then back to negative again | |
| _____ 17. small space between the axon of one neuron and the dendrites of the next neuron | |
| _____ 18. bundle of neurons | |
| _____ 19. material formed from layers of the cell membranes of Schwann cells | |

Reviewing Concepts

Complete each statement by underlining the correct word or phrase in the parentheses.

- 20. The structure labeled A in the diagram is a(an) (dendrite, axon).
- 21. The structure labeled (B, D) in the diagram is the cell body.
- 22. The structure in the diagram that carries impulses away from the cell body is labeled (A, C).
- 23. The axon's insulating sheath in the diagram is labeled (A, D).
- 24. (Motor, Sensory) neurons carry impulses from the sense organs to the brain and the spinal cord.
- 25. The resting potential is produced by a net excess of (negative, positive) charges on the inside of the neuron's cell membrane.
- 26. Once an impulse begins, it travels (away from, toward) the cell body of the neuron.
- 27. The points at which the axon membrane is exposed are called (interneurons, nodes).
- 28. The synapse contains tiny sacs filled with (neurotransmitters, negative ions).
- 29. Once released from their receptors, neurotransmitters (are broken down or recycled, travel to the next neuron).



Reviewing Skills

Answer each of the following in the space provided. Use complete sentences as appropriate.

- 30. Suppose a portion of an axon is cut so that it is no longer connected to the cell body of its neuron. Predict the effect this would have on the transmission of impulses. (Making predictions)

- 31. Why do you think animals evolved myelin insulation around their axons? (Drawing conclusions)

