


## Section 35–2 The Nervous System (pages 897–900)

 **TEKS FOCUS:** 10A Functions of the nervous system; 10B interrelationships of organ systems

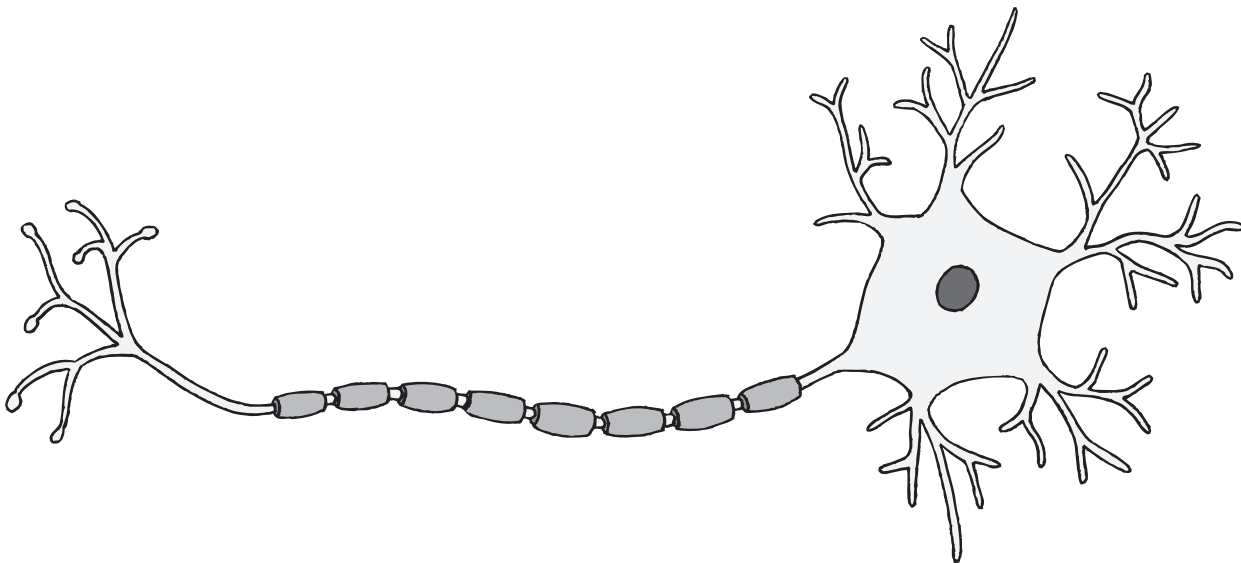
*This section describes the nervous system and explains how a nerve impulse is transmitted.*

### Introduction (page 897)

1. What is the function of the nervous system? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Neurons (pages 897–898)

2. What are three types of neurons?
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
3. Is the following sentence true or false? Sensory neurons carry impulses from the brain and the spinal cord to muscles and glands. \_\_\_\_\_
4. Label the following features in the drawing of a neuron: cell body, dendrites, and axon.



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5. What is the function of the myelin sheath? \_\_\_\_\_  
\_\_\_\_\_

### The Nerve Impulse (pages 898–899)

6. The electrical charge across the cell membrane of a neuron in its resting state is called its \_\_\_\_\_.

7. How does a nerve impulse begin? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. Circle the letter of the choice that describes an action potential.
- a. Reversal of charges due to the flow of positive ions into a neuron
  - b. Increase in negative ions in a neuron due to the flow of potassium out of the cell
  - c. Change to a negative charge due to the flow of sodium ions out of a neuron
  - d. Reversal of charges due to the flow of negative ions into a neuron

9. The minimum level of a stimulus that is required to activate a neuron is called the \_\_\_\_\_.

10. How does a nerve impulse follow the all-or-nothing principle? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**The Synapse** (page 900)

11. Circle the letter of the term that refers to the location at which a neuron can transfer an impulse to another cell.
- a. axon
  - b. dendrite
  - c. synapse
  - d. node

12. What are neurotransmitters? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

13. Describe what happens when an impulse arrives at an axon terminal.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Reading Skill Practice**

When you read about a complex process, representing the process with a diagram can help you understand it better. Make a diagram to show how a nerve impulse is transmitted from one cell to another. Do your work on a separate sheet of paper.