

## Chapter

## 36

## The Nervous System

## Reinforcement and Study Guide

## Section 36.1 The Nervous System

*In your textbook, read about neurons—basic units of the nervous system.*

Complete the table by filling in the missing information in each case.

Structure	Function
1.	carry impulses toward the brain and spinal cord
2. dendrites	
3. motor neurons	
4.	transmit impulses within the brain and spinal cord
5.	carry impulses away from neuron cell bodies

Order the steps in impulse transmission from 1 to 7.

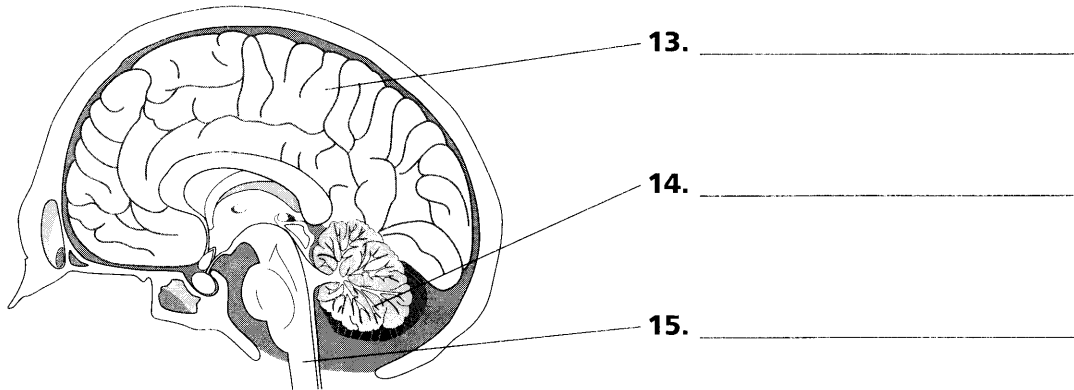
- \_\_\_\_\_ 6. A wave of depolarization moves down the neuron.
- \_\_\_\_\_ 7. The  $\text{Na}^+/\text{K}^+$  pump takes over again, pumping sodium ions out across the membrane, and pumping potassium ions in.
- \_\_\_\_\_ 8. Sodium channels in the neural membrane open.
- \_\_\_\_\_ 9. A neuron receives a stimulus.
- \_\_\_\_\_ 10. As the wave of depolarization passes, sodium channels close and potassium channels open.
- \_\_\_\_\_ 11. The neuron returns to a resting state.
- \_\_\_\_\_ 12. Sodium ions flow into the neuron, causing the inside of the neuron to become positively charged.

## Chapter

**36****The Nervous System, continued****Reinforcement and Study Guide****Section 36.1 The Nervous System, continued**

*In your textbook, read about the central nervous system and the peripheral nervous system.*

Label the diagram of the brain to show the cerebrum, cerebellum, and brain stem.



Write the name of the part labeled above that matches each description in the table.

Description	Part
16. Includes the medulla and pons	
17. Controls conscious activities and movement	
18. Important for keeping your balance	
19. If damaged, heart rate might be affected	
20. If damaged, memory might be affected	
21. Ensures that movements are coordinated	

Complete the table by checking the correct column for each description.

Description	Autonomic Nervous System Division	
	Sympathetic	Parasympathetic
22. Controls internal activities when the body is at rest		
23. Increases breathing rate		
24. Tenses muscles		
25. Slows heart rate down		
26. Activates fight or flight response		

*In your textbook, read about sensing chemicals and sensing light.*

Determine if each statement is true or false.

- \_\_\_\_\_ 1. Impulses coming from sensory receptors in your nose and mouth are interpreted as odors and tastes by the cerebrum.
- \_\_\_\_\_ 2. All of your tongue's tastebuds respond equally well to all taste sensations.
- \_\_\_\_\_ 3. The lens in the eye controls the amount of light that strikes the retina.
- \_\_\_\_\_ 4. On a bright sunny day, the cones in your eyes play a greater role in your sense of sight than the rods.
- \_\_\_\_\_ 5. Only the left hemisphere of the brain is involved in the sense of sight.
- \_\_\_\_\_ 6. When you are looking at an object, each of your eyes sees the object from the same perspective.
- \_\_\_\_\_ 7. Much of what you taste depends on your sense of smell.

*In your textbook, read about sensing mechanical stimulation.*

Circle the letter of the response that best completes each statement.

- 8. Sound waves are converted into nerve impulses inside the  
a. ear canal.                      b. cochlea.                      c. malleus.                      d. optic nerve.
- 9. If the semicircular canals in one of your ears were damaged, you might  
a. lose your ability to hear low-frequency sounds.  
b. lose your ability to coordinate your neck muscles.  
c. lose your sense of balance.  
d. lose your sense of rhythm.
- 10. The malleus, incus, and stapes are found in the  
a. outer ear.                      b. eardrum.                      c. middle ear.                      d. inner ear.
- 11. Your senses of hearing and touch *both* depend on nerve impulses being generated by  
a. electrical stimulation.                      b. sound waves.  
c. a change in temperature.                      d. mechanical stimulation.
- 12. In the skin of your fingertips, you might expect to find receptors for  
a. touch.                      b. pressure.                      c. pain.                      d. all of these

## Chapter

**36****The Nervous System, continued****Reinforcement and Study Guide****Section 36.3 The Effects of Drugs**

*In your textbook, read about how drugs act on the body, their medicinal uses, and abuse of drugs.*

**Answer the following questions.**

- 1.** Distinguish between a drug and a medicine.

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- 2.** What is a narcotic?

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- 3.** Compare the effect of a stimulant on the CNS with the effect of a depressant.

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- 4.** What is an addiction?

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- 5.** How does a person's body develop a tolerance for a drug?

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*In your textbook, read about the classes of commonly abused drugs.*

**Complete the table by checking the correct column for each example.**

<b>Example</b>	<b>Stimulant</b>	<b>Depressant</b>
<b>6.</b> Drugs that cause an increase in heart rate		
<b>7.</b> Alcohol		
<b>8.</b> Nicotine		
<b>9.</b> Drugs that increase neurotransmitter levels		
<b>10.</b> Barbiturates		
<b>11.</b> Drugs that cause vasoconstriction		
<b>12.</b> Opiates		
<b>13.</b> Hallucinogens		