

Chapter Test

1. A cell that receives information and transmits it to other cells via an electrochemical process is called a(n)

- a. neuron
- b. hormone
- c. glia
- d. endorphin

Answer: A difficulty: 1 factual

Goal 1: Knowledge Base of Psychology

2. The neurons that transmit information from the body toward the brain and spinal cord are called \_\_\_\_\_ neurons. The neurons that transmit information from the brain and spinal cord to the muscles are called \_\_\_\_\_ neurons.

- a. motor; sensory
- b. sensory; motor
- c. endocrine; sensory
- d. motor; endocrine

Answer: B difficulty: 1 factual

Goal 1: Knowledge Base of Psychology

3. The neuron has many branch-like extensions called \_\_\_\_\_ that receive input from other neurons.

- a. glia
- b. dendrites
- c. axons
- d. terminals

Answer: B difficulty: 1 factual

Goal 1: Knowledge Base of Psychology

4. Which part of the neuron is the site of neurotransmitter release?

- a. cell body
- b. axon
- c. dendrite
- d. terminal

Answer: D difficulty: 1 factual

Goal 1: Knowledge Base of Psychology

5. Which of the following best describes the junction of two neurons?

- a. The axon of the first cell is fused to the soma of the second cell.
- b. The soma of the first cell releases neurotransmitters to be collected by the second cell's axon.
- c. The terminal of the first neuron is separated from the second neuron by a small gap called the synapse.
- d. The dendrites of the first cell are fused to the dendrites of the next cell.

Answer: C difficulty: 2 conceptual

Goal 1: Knowledge Base of Psychology

6. The flood of sodium ( $\text{Na}^+$ ) ions into the cell during an action potential increases the charge inside the cell, a process also known as
- polarization
  - resting potential
  - depolarization
  - repolarization

Answer: C difficulty: 2 factual

Goal 1: Knowledge Base of Psychology

7. A substance that increases the effect of a neurotransmitter is called an \_\_\_\_\_, while a substance that decreases the effect of a neurotransmitter is called an \_\_\_\_\_.

- antagonist; agonist
- agonist; aggravator
- aggravator; antagonist
- agonist; antagonist

Answer: D difficulty: 2 factual

Goal 1: Knowledge Base of Psychology

8. Which of the following is NOT true regarding the nature of neurotransmitters?

- Neurotransmitter action can be excitatory or inhibitory.
- Neurotransmitters are released from the terminal of a presynaptic neuron.
- Neurotransmitters in the brain form a single category called dopamine.
- Neurotransmitters are chemical molecules.

Answer: C difficulty: 3 conceptual

Goal 3: Critical Thinking Skills in Psychology

9. In the central nervous system, \_\_\_\_\_ matter is composed of myelinated axons, while \_\_\_\_\_ matter is composed of cell bodies, unmyelinated axons, glia, and dendrites.

- gray; yellow
- white; gray
- green; white
- gray; white

Answer: B difficulty: 2 factual

Goal 1: Knowledge Base of Psychology

10. The peripheral nervous system has two divisions called

- the sensory and motor systems
- the central and somatic systems
- the autonomic and automatic systems
- the somatic and autonomic systems

Answer: D difficulty: 1 factual

Goal 1: Knowledge Base of Psychology

11. When your heart starts to race as you are preparing to give an oral presentation in class, this division of the autonomic nervous system is active.

- a. autonomic
- b. parasympathetic
- c. sympathetic
- d. metasympathetic

Answer: B                      difficulty: 2      factual

Goal 4: Application of Psychology

12. Which of the following is NOT true about the hindbrain?

- a. The hindbrain includes the cerebellum, pons, and medulla.
- b. The hindbrain includes many tracts of neurons that link the brain and spinal cord.
- c. The hindbrain, especially the medulla, is considered the seat of human intelligence.
- d. The hindbrain regulates much of your involuntary vital functions like heart rate and breathing.

Answer: C                      difficulty: 2      conceptual

Goal 3: Critical Thinking Skills in Psychology

13. The superior and inferior colliculi of the midbrain are important because

- a. they support metabolic processes and digestion
- b. they convey sensory information from outside the brain to various forebrain regions
- c. they convey tactile information from inside the brain to various regions of the somatic nervous system
- d. they support decision-making and problem-solving processes

Answer: B                      difficulty: 2      factual

Goal 1: Knowledge Base of Psychology

14. The forebrain includes all of the following brain structures EXCEPT

- a. the limbic system
- b. the cerebral cortex
- c. the thalamus
- d. the cerebellum

Answer: D                      difficulty: 1      factual

Goal 1: Knowledge Base of Psychology

15. You wake up in the hospital and your doctor informs you that you may have problems with your vision for a few days due to head trauma that disrupted functioning in this lobe of the cortex.

- a. temporal
- b. occipital
- c. parietal
- d. frontal

Answer: B                      difficulty: 2      conceptual

Goal 4: Application of Psychology

16. When musicians engage in long periods of practice, the part of this brain area that controls the hands is active.

- a. primary somatosensory cortex
- b. primary visual cortex
- c. primary motor cortex
- d. primary auditory cortex

Answer: C difficulty: 2 factual

Goal 4: Application of Psychology

17. You are helping a stroke victim to rehabilitate and you observe that his ability to produce language is severely impaired. You conclude that this small area between the frontal and temporal lobes has been damaged.

- a. Wernicke's area
- b. Broca's area
- c. Ranier's area
- d. Duca's area

Answer: B difficulty: 1

Goal 4: Application of Psychology

18. This lobe integrates information from the rest of the cortex to support problem solving, decision making, and motor function.

- a. occipital
- b. temporal
- c. parietal
- d. frontal

Answer: D difficulty: 1 factual

Goal 1: Knowledge Base of Psychology

19. Which of the following provides the best description of hemispheric specialization in the cortex?

- a. The two hemispheres of the cortex are specialized to have identical functions.
- b. The two hemispheres of the cortex are specialized for different functions, especially in the case of language.
- c. The two hemispheres of the cortex are specialized to maintain most of the body's vital functions like respiration and heart rate.
- d. The two hemispheres of the cortex are specialized to compete for the brain's resources, especially the limbic system.

Answer: B difficulty: 2 conceptual

Goal 3: Critical Thinking Skills in Psychology

19. What is the term for patients who have had their corpus callosum severed to prevent seizures?

- a. split-brain
- b. schizophrenic
- c. half-brain
- d. pea-brain

Answer: A difficulty: 1 factual  
Goal 1: Knowledge Base of Psychology

20. As we age, our brains continue to change according our environment, a property known as
- a. viscosity
  - b. density
  - c. plasticity
  - d. fluidity

Answer: C difficulty: 1 factual  
Goal 1: Knowledge Base of Psychology

21. The main components of the endocrine system are
- a. glia and neurons
  - b. nerves and glands
  - c. hormones and glands
  - d. glands and skin

Answer: C difficulty: 1 factual  
Goal 1: Knowledge Base of Psychology

22. One interesting aspect of the pituitary gland is that
- a. it plays no role in the endocrine system even though it is a gland
  - b. the two parts of the pituitary gland are in different hemispheres of the brain
  - c. it is a part of the hypothalamus that controls the movements of our heads
  - d. it is a gland but is also connected directly to the hypothalamus of the brain

Answer: D difficulty: 3 factual  
Goal 1: Knowledge Base of Psychology

23. These neuroscientists often employ nonhuman animals in research and are interested in the neural bases of behavior.
- a. cognitive neuroscientists
  - b. biological scientists
  - c. molecular neuroscientists
  - d. behavioral neuroscientists

Answer: D difficulty: 2 factual  
Goal 1: Knowledge Base of Psychology

24. Unlike phrenology, this early theory of brain organization held that any portion of the cortex could support any mental activity.
- a. equilibrium
  - b. equatorial theory
  - c. equipotentiality
  - d. eventide theory

Answer: D difficulty: 2 factual  
Goal 1: Knowledge Base of Psychology

25. Contemporary cognitive neuroscientists often employ a technique called \_\_\_\_\_ which uses multiple radio-frequency images of the brain to detect changes in activity in a particular brain region.

- a. functional magnetic resonance imaging
- b. functional electroencephalography
- c. functional positron emission tomography
- d. functional electrical stimulation imaging

Answer: A                      difficulty: 2      factual

Goal 1: Knowledge Base of Psychology