Chapter 02
The Brain and Behavior

Multiple Choice Questions

1. The _____ system is the body's electrochemical communication circuitry.
A. pulmonary
B. nervous
C. endocrine
D. respiratory

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Nervous System

Feedback: The Nervous System, 42

2. Ashley, a secretary at Plato Inc., is typing on her computer, talking on the phone, and handing some papers to her colleague simultaneously. Which of the following characteristics of the nervous system is best illustrated in this scenario?
A. complexity
B. resting potential
C. polarization
D. plasticity

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Nervous System

Feedback: The Nervous System, 42

3. Which of the following characteristics of the nervous system best reflects the brain's ability to coordinate information from all five senses?
A. complexity
B. adaptability
C. integration
D. electrochemical transmission

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Nervous System

Feedback: The Nervous System, 42

4. The term plasticity refers to the
A. flexibility of the endocrine system.
B. ability of people to adapt to new surroundings.
C. ability to connect electrical impulses and chemical messengers.
D. brain's special capacity for modification and change.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.

Bloom's: Remember
Difficulty: Low
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Nervous System

Feedback: The Nervous System, 43

5. Plasticity best reflects which of the following characteristics of the nervous system?
A. complexity
B. integration
C. adaptability
D. electrochemical transmission

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Nervous System

Feedback: The Nervous System, 43

6. Stand-up comedians who improvise constantly while on stage are demonstrating their ability to change according to the environment. Which of the following characteristics of the nervous system is most likely playing a predominant role in their adaptability?
A. resting potential
B. reuptake
C. polarization
D. adaptability

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Nervous System

Feedback: The Nervous System, 43

7. You are listening to a lecture. Then the bell rings in the hallway. In order to hear this stimulus, _____ nerves must carry electrochemical messages from your ears to your brain.
A. afferent
B. olfactory
C. efferent
D. pyramidal

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Nervous System

Feedback: The Nervous System, 43

8. The lecture you were listening to is over. The bell that rang in the hall signaled the end of class. You get up, pick up your things, and walk out the classroom door. Which kind of nerves sent the signals from your brain to your muscles to initiate your physical movements?
A. afferent
B. pyramidal
C. efferent
D. olfactory

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Nervous System

Feedback: The Nervous System, 43

9. Information from the brain and spinal cord to the muscles is sent through _____, thus enabling the body to move.
A. afferent nerves
B. efferent nerves
C. auditory nerves
D. olfactory nerves

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Nervous System

Feedback: The Nervous System, 43

10. Your brain has instructed your body muscles to move so that you avoid burning your hand on a hot stove. Which type of nerves carried the information from your brain to your muscles so that you could avoid getting burned?
A. efferent nerves
B. afferent nerves
C. olfactory nerves
D. auditory nerves

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Nervous System

Feedback: The Nervous System, 43

11. The brain and spinal cord make up the
A. peripheral nervous system.
B. central nervous system.
C. autonomic nervous system.
D. somatic nervous system.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Central Nervous System

Feedback: The Nervous System, 44

12. The _____ connects the brain and spinal cord to the rest of the body.
A. central nervous system
B. peripheral nervous system
C. limbic system
D. endocrine system

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 44

13. The somatic nervous system and autonomic nervous system are components of the
A. sensory system.
B. central nervous system.
C. limbic system.
D. peripheral nervous system.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 44

14. The somatic nervous system consists of motor nerves, whose function is to _____.
A. mobilize the body for action in a dangerous situation
B. tell muscles what to do
C. reduce the stress levels of the body
D. convey information from the skin and muscles to the central nervous system

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

15. The function of sensory nerves of the somatic nervous system is to
A. take messages to and from the body's internal organs, monitoring such processes as breathing, heart rate, and digestion.
B. be involved in the experience of stress and calm the body.
C. arouse the body to mobilize it for action.
D. convey information from the skin and muscles to the CNS about conditions such as pain and temperature.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

16. The function of the _____ is to take messages to and from the body's internal organs, monitoring such processes as breathing, heart rate, and digestion.
A. central nervous system
B. autonomic nervous system
C. somatic nervous system
D. voluntary nervous system

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

17. Which of the following essential body functions are under the control of the autonomic nervous system?
A. functions of reproductive system
B. excretory functions
C. sensory functions such as vision and hearing
D. functions of heart rate, breathing, and digestion

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

18. The sympathetic nervous system and parasympathetic nervous system are components of the
A. central nervous system.
B. endocrine system.
C. somatic nervous system.
D. autonomic nervous system.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

19. Which of the following is one of the functions of the sympathetic nervous system?
A. convey information from skin to the central nervous system (CNS)
B. calm the body
C. fight-or-flight reaction
D. tell muscles what to do

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

20. You are walking to school when you encounter a barking dog. You start sweating and contemplate whether you should run away. Which nervous system is primarily responsible for this "fight-or-flight" reaction?
A. somatic
B. sympathetic
C. parasympathetic
D. central

Accessibility: Keyboard Navigation

APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

21. Just before you went on a job interview your heart was pounding like crazy. You experienced a shortness of breath and felt sick to your stomach. These symptoms were most likely produced by your _____ nervous system.
A. central
B. somatic
C. parasympathetic
D. sympathetic

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

22. Which division of the peripheral nervous system is responsible for producing physiological symptoms (such as increased heart rate and butterflies in the stomach) under conditions of stress?
A. somatic
B. parasympathetic
C. sympathetic
D. central

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

23. If a person needs to run away from a dangerous situation, the _____ nervous system sends blood to the person's extremities to prepare him or her for taking off.
A. central
B. somatic
C. sympathetic
D. parasympathetic

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

24. After taking her English final, Natalie attempts to relax in her chair by meditating. She is attempting to reduce her heart and respiration rates, as well as her muscular tension. In this scenario, her physiological relaxation can be best attributed to the functioning of her _____ nervous system.
A. somatic
B. central
C. parasympathetic

D. sympathetic

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

25. Maya burns her fingers while cooking dinner. Which of the following divisions of the nervous system will be primarily responsible for the pain she feels?
A. the central nervous system
B. the autonomic nervous system
C. the somatic nervous system
D. the parasympathetic nervous system

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

26. After finishing a psychology test, you try to relax by engaging in some meditation techniques. Doing these exercises should increase the response of the _____ nervous system, which results in a slower heart and respiration rate and less muscular tension.
A. somatic
B. central
C. parasympathetic
D. sympathetic

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

27. Corticosteroids are
A. stress hormones.
B. sex hormones.
C. neurotransmitters that regulate mood.
D. neurotransmitters that regulate memory.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

28. _____ stress is the momentary stress that occurs in response to life experiences.
A. intrinsic
B. differential

C. chronic
D. acute

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Feedback: The Nervous System, 45

29. Which of the following types of cells in the nervous system handle the information-processing function?
A. neurons
B. glial cells
C. sclerenchyma cells
D. sensors

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 46

30._____ provide support, nutritional benefits, and other functions in the nervous system.
A. Neurons
B. Glial cells
C. Sclerenchyma cells
D. Dendrites

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 46

31. The cell body contains the _____, which directs the manufacture of substances that a neuron needs for growth and maintenance.
A. myelin
B. nucleus
C. axon
D. dendrite

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 48

32. Which of the following is a true statement about dendrites?
A. They encase and insulate most axons.
B. They are treelike fibers projecting from a neuron.
C. They contain the nucleus of a neuron.

D. They direct the manufacture of substances required for growth of neurons.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 48

33. Which of the following is a true statement about an axon?
A. It encases and insulates most nuclei.
B. It is a treelike fiber projecting from a neuron.
C. It is extremely thin and has many branches.
D. It directs the manufacture of substances required for growth of neurons.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 48

34. Dendrites are
A. the part of the neuron that is responsible for sending information away from the cell body toward other cells.
B. treelike fibers which receive information and orient it toward the neuron's cell body.
C. located inside the cell body.
D. the layer of fat cells that encase and insulate the neuron.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 48

35. The axon is
A. the part of the neuron that carryies information away from the cell body toward other cells.
B. the branchlike part of the neuron that is responsible for receiving information from other neurons.
C. located inside the cell body.
D. the layer of fat cells that encase and insulate the neuron.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 48

36. A _____ is a layer of fat cells that insulates most axons and speeds up the transmission of nerve impulses.
A. dendrite
B. myelin sheath
C. cyton
D. nucleolus

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 48

37. Which of the following is a function of the myelin sheath?
A. carry information away from the cell body toward other cells
B. increase the surface area of nerve cells
C. speed up the transmission of nerve impulses
D. play a role in imitation

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 48

38. In multiple sclerosis, identify the part of a neuron that typically hardens and disrupts the flow of information through neurons.
A. the nucleus
B. the dendrites
C. the cell body
D. the myelin sheath

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 48

39. In the context of the neural impulse, the membrane that encases the axon is called semipermeable because
A. only sodium ions can cross the membrane.
B. any type of substance can pass through the membrane.
C. fluids can sometimes flow into and out of it.
D. depolarization of the membranes cannot occur.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 49

40. Normally, when a neuron is not transmitting information and a slight negative charge is present on the inside of the cell membrane, it is said to be
A. depolarized.
B. resting.
C. active.
D. highly charged.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 49

41. Resting potential is the
A. amount of time a signal travels through the central nervous system.
B. amount of time a neuron must "rest" in between firing episodes.
C. stable, positive charge of an inactive neuron.
D. stable, negative charge of an inactive neuron.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 49

42. The membrane of the resting neuron is said to be
A. deconcentrated.
B. depolarized.
C. concentrated.
D. polarized.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Feedback: Neurons, 49

43. When a neuron is at its resting state, what is the status of the charges on each side of the cell membrane?
A. There is a negative charge on the outside of the cell membrane, and a positive charge on the inside.
B. There is a negative charge on the inside of the cell membrane and a positive charge on the outside.
C. There is a negative charge on both the outside and the inside of the cell membrane.
D. There is a positive charge on both the outside and the inside of the cell membrane.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Describe how nerve cells communicate with other nerve cells.
Topic: Neurons

Feedback: Neurons, 49

44. In the context of the neural impulse, which of the following is true about the depolarization of neuron membranes?
A. It is characterized by more negatively charged ions on the inside of the cell and more positively charged ions on the outside.
B. It occurs when there is a decrease in the charge difference between the fluids inside and outside of the neuron.
C. It is the brief wave of positive electrical charge that sweeps down the axon.
D. It is the phase that allows sodium ions to move out of the neuron.

Accessibility: Keyboard Navigation

APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Describe how nerve cells communicate with other nerve cells.
Topic: Neurons

Feedback: Neurons, 50

45. The brief wave of positive electrical charge that sweeps down the axon is
A. resting potential.
B. action potential.
C. graded potential.
D. polarized potential.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Describe how nerve cells communicate with other nerve cells.
Topic: How Neurons Fire

Feedback: Neurons, 50

46. When a neuron sends an action potential, it is commonly said to be
A. firing.
B. grading.
C. depolarizing.
D. classifying.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Describe how nerve cells communicate with other nerve cells.
Topic: How Neurons Fire

Feedback: Neurons, 50

47. According to the all-or-nothing principle,
A. if all the neurons in a network are not integrated, the "message" carried by the neurons will be lost.
B. the amount of time a neuron must "rest" in between firing episodes is stable.
C. once the electrical impulse reaches a certain level of intensity, it fires and moves all the way down the axon without losing any intensity.
D. as a person ages, his or her neurological system slows down and the intensity of neural impulses decreases significantly.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Describe how nerve cells communicate with other nerve cells.
Topic: How Neurons Fire

Feedback: Neurons, 50

48. Which of the following refer to tiny spaces between neurons?
A. dendrites
B. axons
C. synapses
D. basal ganglia

Accessibility: Keyboard Navigation

APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Synapse

Feedback: Neurons, 51

49. _____ are chemical substances that are stored in very tiny sacs within the neuron's terminal buttons and involved in transmitting information across a synaptic gap to the next neuron.
A. Neurotransmitters
B. Neural impulses
C. Synapses
D. Dendrites

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 52

50. Acetylcholine is a neurotransmitter that plays an important role in
A. learning and memory.
B. vision and hearing.
C. mood regulation.
D. reproductive function.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 52

51. Your relative is experiencing memory loss related to Alzheimer disease. Research suggests that the decline in memory is due to a(n) _____ deficiency in this individual's brain.
A. serotonin
B. gamma-amino butyric acid (GABA)
C. acetylcholine
D. dopamine

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 53

52. _____ inhibits the firing of neurons in the central nervous system, but it excites the heart muscle, intestines, and urogenital tract.
A. Serotonin
B. Dopamine
C. Norepinephrine
D. GABA

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 53

53. Which of the following pairs are correctly matched?
A. High levels of oxytocin—Alzheimer disease
B. Low levels of dopamine—Parkinson disease
C. Low levels of acetylcholine—Schizophrenia
D. High levels of serotonin—Depression

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 53

54. Melinda suffers from migraine headaches and seizures. In the context of neurotransmitter functioning, which of the following most likely plays a significant role in her symptoms?
A. too little norepinephrine
B. too much glutamate
C. too much acetylcholine
D. too little dopamine

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 53

55. Depression is associated with low levels of which neurotransmitter?
A. acetylcholine
B. serotonin
C. dopamine
D. oxytocin

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 53

56. In the context of neurotransmitters, which of the following best describes the effect of norepinephrine stimulation?
A. It plays a role in the human tendency to feel pleasure during orgasm.
B. It plays a role in forming emotional bonds with romantic partners.
C. It inhibits the heart muscle, intestines, and urogenital tract.
D. It helps to control the level of alertness.

Accessibility: Keyboard Navigation

APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 53

57. Which of the following is true of the neurotransmitter serotonin?
A. It is related to the personality trait of extraversion.
B. It inhibits the firing of neurons in the central nervous system.
C. It is involved in the regulation of mood and attention.
D. It is hardly involved in the regulation of sleep.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 53

58. Kenny has been diagnosed with Parkinson disease and has been prescribed medication to manage some of his symptoms. The medication elevates the levels of dopamine in his system. If the levels of dopamine in his system become excessive, Kenny is most likely to exhibit symptoms associated with
A. depression.
B. multiple sclerosis.
C. Alzheimer disease.
D. schizophrenia.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 53

59. Who among the following is most likely to have elevated levels of endorphins?
A. Amy, a 30-year-old teacher, who is in shock after a car wreck.
B. Jamie, a 40-year-old diplomat, who is on a cruise.
C. Martha, a 32-year-old homemaker, who is showing symptoms of schizophrenia.
D. Joshua, a 17-year-old student, who is depressed after seeing his low SAT scores.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 54

60. A powerful surge of oxytocin is released in a
A. person who is in shock after a car wreck.
B. long-distance runner.
C. young boy on a roller-coaster ride.
D. mother who has just given birth.

Accessibility: Keyboard Navigation

APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 54

61. Lilly, who has just given birth, is able to provide nourishment for her baby and loves her newborn unconditionally. Which of the following neurotransmitters is said to play an important role in this case?
A. acetylcholine
B. serotonin
C. dopamine
D. oxytocin

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 54

62. An _____ is a drug that mimics or increases a neurotransmitter's effects, whereas an _____ is a drug that blocks a neurotransmitter's effects.
A. agonist/antagonist
B. antagonist/agonist
C. oxytocin/endorphin
D. endorphin/oxytocin

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 54

63. Mark Johnson, a doctor in Dallas, prescribed an antidepressant drug Prozac to his patient, Ted. Prozac works by increasing brain levels of serotonin. This means that Prozac is considered
A. an agonist.
B. an antagonist.
C. an endorphin.
D. an oxytocin.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 54

64. Michael has schizophrenia. His doctor prescribed a new drug that blocks or interferes with the activity of dopamine. Michael's doctor is using _____ to treat his disorder.
A. an agonist
B. an antagonist
C. a brain lesion
D. a lobotomy

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Name the key neurotransmitters and their functions and describe how they influence behavior.
Topic: Neurotransmitters

Feedback: Neurons, 54

65. Neuroscientists who surgically remove, destroy, or eliminate the brain tissue of laboratory animals are using which of the following techniques for studying the brain?
A. electroencephalogram
B. positron emission tomography (PET)
C. magnetic resonance imaging (MRI)
D. brain lesioning

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Name the techniques used to map and study the brain.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 56

66. Which of the following is a significance of the brain-lesioning process?
A. It assesses the amount of glucose in the various brain regions.
B. It gives a three-dimensional view of various brain regions.
C. It gives a sense of the functions of the damaged brain regions.
D. It assesses the amount of radioactivity in several brain regions.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Name the techniques used to map and study the brain.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 56

67. Which of the following methods of studying the brain records the brain's electrical activity by placing electrodes on the scalp to detect brain-wave activity?
A. electroencephalograph (EEG)
B. positron emission tomography (PET)
C. magnetic resonance imaging (MRI)
D. functional MRI (fMRI)

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the brain's levels, structures, and functions.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 56

68. Harry has been diagnosed with epilepsy by his neurologist. Which of the following should the neurologist use to assess Harry's epilepsy by studying his brain-wave activity?
A. electrooculography
B. electromyography
C. electroencephalograph

D. electrocardiograph

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Name the techniques used to map and study the brain.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 56

69. Arnold Becker, a doctor in Seattle, needs information about the location and extent of damage involving stroke and loss of memory of his patient, Judith. Which of the following techniques will he most likely use to diagnose Judith's condition?
A. brain lesioning
B. computerized axial tomography (CAT scan)
C. positron emission tomography (PET)
D. electroencephalogram (EEG)

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Name the techniques used to map and study the brain.
Topic: Brain Imaging

Feedback: Structures of the Brain and Their Functions, 56

70. Stern Tyler, a neuroscientist who is collecting data for a new research study, uses techniques for monitoring the amount of glucose in various areas of the brain. Which of the following methods is Stern Tyler using in this study?
A. brain lesioning
B. staining
C. positron emission tomography (PET scan)
D. electroencephalogram (EEG)

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Name the techniques used to map and study the brain.
Topic: Brain Imaging

Feedback: Structures of the Brain and Their Functions, 56

71. Functional magnetic resonance imaging (fMRI) is a technique that
A. allows scientists to see what is happening in the brain while it is working.
B. requires injecting the brain with a substance but still cannot portray brain function.
C. measures the amount of glucose in various areas of the brain and then sends this information to a computer for analysis.
D. examines the effects of lesions in brain tissue.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Name the techniques used to map and study the brain.
Topic: Brain Imaging

Feedback: Structures of the Brain and Their Functions, 56

72. In which of the following ways does functional magnetic resonance imaging (fMRI) detect the functioning of the brain?

A. It exploits changes in blood oxygen that occur in association with brain activity.
B. It measures the amount of glucose in various areas of the brain.
C. It places electrodes on the scalp to detect brain-wave activity.
D. It establishes a cause-effect relationship between variables associated with brain activity.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Name the techniques used to map and study the brain.
Topic: Brain Imaging

Feedback: Structures of the Brain and Their Functions, 57

73. Which of the following principles underlies the technique of functional magnetic resonance imaging (fMRI)?
A. It rests on the principle that mental activity is associated with changes in glucose levels in the brain.
B. It rests on the principle that mental activity is associated with changes in the oxygenated blood levels in the brain.
C. It rests on the principle that mental activity is associated with changes in hydrogenated blood levels in the brain.
D. It rests on the principle that mental activity is associated with changes in magnetic fields in the brain.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Name the techniques used to map and study the brain.
Topic: Brain Imaging

Feedback: Structures of the Brain and Their Functions, 57

74. Which of the following is true of the brain-imaging technique known as transcranial magnetic stimulation (TMS)?
A. It does not allow researchers to draw cause-and-effect conclusions.
B. It examines neuronal functioning following brain-injuring events.
C. It is not used to treat any neurological and psychological disorders.
D. It is the most painful technique used in examining the role of various regions of the brain.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the brain's levels, structures, and functions.
Topic: Brain Imaging

Feedback: Structures of the Brain and Their Functions, 58

75. Michael, a researcher in the field of neuroscience, has a theory about a specific area of the brain causing difficulties in face recognition. To draw a solid causal inference, he intends to test his hypothesis on dogs by disrupting regions of their brains and examining the effects of this disruption on the dogs' face-recognition capacity. Which of the following techniques should be used by Michael to achieve his purpose?
A. computerized axial tomography (CAT scan)
B. magnetic resonance imaging (MRI)
C. transcranial magnetic stimulation (TMS)
D. functional magnetic resonance imaging (fMRI)

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Identify the brain's levels, structures, and functions.
Topic: Brain Imaging

Feedback: Structures of the Brain and Their Functions, 58

76. Which part of the nervous system regulates breathing and heart rate?
A. hypothalamus
B. pons
C. medulla
D. cerebellum

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the brain's levels, structures, and functions.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 59

77. Damien has been unable to sleep for the past few weeks. He wakes up in the middle of the night and cannot go back to sleep. On certain occasions, he cannot fall asleep at all and at other times, he is unable to wake up from sleep. In the context of organization of the brain, Damien's problem with sleep and arousal is most likely caused by the poor functioning of the
A. pons.
B. amygdala.
C. medulla.
D. cerebellum.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Identify the brain's levels, structures, and functions.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 59

78. Marshall's cerebellum was damaged in a car accident. Marshal is likely to have problems with
A. breathing and heart rate.
B. seeing and hearing.
C. talking and understanding.
D. balance and muscle coordination.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Identify the brain's levels, structures, and functions.
Topic: Brain Function

Feedback: Structures of the Brain and Their Functions, 59

79. The _____ relays information between the brain and the eyes and ears.
A. forebrain
B. midbrain
C. hindbrain
D. cerebellum

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the brain's levels, structures, and functions.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 60

80. The reticular formation of the midbrain is involved in
A. controlling breathing and regulating reflexes to maintain an upright posture.
B. stereotyped patterns of behavior such as walking, sleeping, or turning to attend to a sudden noise.
C. the control and coordination of balance, hearing, and parasympathetic function.
D. governing higher brain functions, such as thinking, learning, and consciousness.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the brain's levels, structures, and functions.
Topic: Brain Function

Feedback: Structures of the Brain and Their Functions, 60

81. Which of the following is the brain's largest division?
A. forebrain
B. midbrain
C. hindbrain
D. medulla

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the brain's levels, structures, and functions.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 60

82. Joe has suffered a massive stroke. Since then, he finds it difficult to remember names of new people whom he meets or even to recognize them. This is because he is unable to retain any new memories after the stroke. In the context of the organization of the brain, these symptoms are most likely due to a damaged
A. amygdala.
B. thalamus.
C. hippocampus.
D. hypothalamus.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Apply
Difficulty: High
Learning Objective: Identify the brain's levels, structures, and functions.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 61

83. Which of the following parts of the brain are correctly matched?
A. thalamus—hindbrain
B. amygdala—midbrain
C. basal ganglia—hindbrain
D. limbic system—forebrain

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the limbic system's key structures and functions.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 61

84. Nathan is suffering from amnesia, an illness that prevents the retrieval of new memories. In the context of the organization of the brain, which area of Nathan's brain is most likely responsible for the amnesia?
A. basal ganglia
B. reticular formation
C. cerebellum
D. hippocampus

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Identify the limbic system's key structures and functions.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 61

85. Discrimination of objects that are necessary for survival (such as appropriate food) as well as emotional awareness and expression involves the
A. hippocampus.
B. occipital lobe.
C. medulla.
D. amygdala.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the limbic system's key structures and functions.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 61

86. Carrie suffered brain damage when she was injured in a car accident. Since then, she is unable to take pleasure in the things she used to. She has also lost interest in sexual intimacy with her husband and does not enjoy the taste of her favorite foods. In this scenario, damage to which of the following areas of the brain is most likely causing her inability to experience pleasure?
A. medulla
B. hippocampus
C. hypothalamus
D. pituitary gland

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Identify the limbic system's key structures and functions.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 61

87. Steven was in a serious automobile accident that caused a severe injury to his hippocampus. What type of problem is Steven likely to experience as a result of this brain injury?
A. He will probably be unable to speak.
B. He will probably be unable to comprehend language.
C. He will probably be unable retain any new conscious memories.
D. He will probably be unable to move on his own.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High

Learning Objective: Identify the limbic system's key structures and functions.
Topic: Brain Function

Feedback: Structures of the Brain and Their Functions, 61

88. Large neuron clusters located above the thalamus and under the cerebral cortex, that work with the cerebellum and the cerebral cortex to control and coordinate voluntary movements are called
A. occipital lobes.
B. basal ganglia.
C. medulla.
D. amygdala.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the brain's levels, structures, and functions.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 61

89. The _____ is a small forebrain structure that monitors pleasurable activities (e.g. eating, drinking, and sex), emotion, stress, and reward.
A. hypothalamus
B. basal ganglia
C. corpus callosum
D. medulla

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the brain's levels, structures, and functions.
Topic: Brain Structure

Feedback: Structures of the Brain and Their Functions, 61

90. As a result of a brain injury after an accident, James lost his vision. Which of the following regions of James's cerebral cortex is most likely to be damaged?
A. association cortex
B. parietal lobe
C. occipital lobe
D. somatosensory cortex

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the major areas of the cerebral cortex and their functions.
Topic: Cerebral Cortex

Feedback: Structures of the Brain and Their Functions, 63

91. Samantha had a stroke. Doctors told her she sustained substantial damage to the occipital lobes. What type of deficiencies is Samantha likely to experience as a result of this brain damage?
A. She may be blind or unable to see clearly.
B. She will probably be unable to comprehend language.
C. She will probably have difficulties with memory function.
D. She will probably suffer from impaired cognitive functioning.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.

Bloom's: Apply
Difficulty: High
Learning Objective: Identify the major areas of the cerebral cortex and their functions.
Topic: Cerebral Cortex

Feedback: Structures of the Brain and Their Functions, 63

92. Structures in the cerebral cortex that are involved in hearing, language processing, and memory are called
A. temporal lobes.
B. frontal lobes.
C. occipital lobes.
D. parietal lobes.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the major areas of the cerebral cortex and their functions.
Topic: Cerebral Cortex

Feedback: Structures of the Brain and Their Functions, 63

93. The ____ are involved in personality, intelligence, and the control of voluntary muscles.
A. temporal lobes
B. frontal lobes
C. occipital lobes
D. parietal lobes

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the major areas of the cerebral cortex and their functions.
Topic: Cerebral Cortex

Feedback: Structures of the Brain and Their Functions, 64

94. Zeus was injured in a mining accident and suffered severe brain damage. In time, his brain healed and he was back to working in the mines. The only change was in his personality. From being a highly aggressive and temperamental individual, he became mild-mannered and calm, almost to the extent of being placid. In this scenario, the region of the cerebral cortex that was most likely damaged in the accident was the _____ lobe.
A. frontal
B. occipital
C. temporal
D. parietal

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Identify the major areas of the cerebral cortex and their functions.
Topic: Cerebral Cortex

Feedback: Structures of the Brain and Their Functions, 64

95. Which of the following are correctly matched?
A. frontal lobes—hearing, language processing, and memory
B. occipital lobes—personality, intelligence, and the control of voluntary muscles
C. temporal lobes—visual stimuli
D. parietal lobes—spatial location, attention, and motor control

Accessibility: Keyboard Navigation

APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the major areas of the cerebral cortex and their functions.
Topic: Cerebral Cortex

Feedback: Structures of the Brain and Their Functions, 64

96. Gregory is an excellent basketball player. He is always able to gauge the distance between himself and the basket correctly, and he never misses a shot. Which of the following regions of the cerebral cortex should function most efficiently to help him use this spatial location skill?
A. parietal lobe
B. temporal lobe
C. somatosensory cortex
D. prefrontal cortex

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Identify the major areas of the cerebral cortex and their functions.
Topic: Cerebral Cortex

Feedback: Structures of the Brain and Their Functions, 64

97. The _____ is the part of the cerebral cortex that processes information about voluntary muscle movement.
A. motor cortex
B. sensory cortex
C. limbic system
D. temporal lobe

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Identify the major areas of the cerebral cortex and their functions.
Topic: Cerebral Cortex

Feedback: Structures of the Brain and Their Functions, 66

98. Which of the following is true with regard to the association cortex?
A. It processes information about body sensations.
B. It makes up 25 percent of the cerebral cortex.
C. It is at the rear of the frontal lobes, processes information about voluntary movement.
D. It is the site of the highest intellectual functions, such as thinking and problem solving.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Identify the major areas of the cerebral cortex and their functions.
Topic: Cerebral Cortex

Feedback: Structures of the Brain and Their Functions, 67

99. Katy was in a car accident and sustained serious brain damage. Since the accident Katy can speak only one word. This is an example of
A. amnesia.
B. aphasia.
C. multiple sclerosis.
D. epilepsy.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Explain what split-brain research reveals about the functions of the brain's two hemispheres.
Topic: Specialization of Hemispheres

Feedback: Structures of the Brain and Their Functions, 67

100. _____ plays an important role in the production of speech, whereas _____ plays an important role in the comprehension of language.
A. Wernicke's area/Broca's area
B. Broca's area/Wernicke's area
C. The occipital lobe/the hippocampus
D. The hippocampus/the occipital lobe

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Explain what split-brain research reveals about the functions of the brain's two hemispheres.
Topic: Specialization of Hemispheres

Feedback: Structures of the Brain and Their Functions, 67

101. Neurosurgeons can reduce the unbearable seizures some epileptics experience by severing the
A. hypothalamus.
B. cerebellum.
C. amygdala.
D. corpus callosum.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Explain what split-brain research reveals about the functions of the brain's two hemispheres.
Topic: Specialization of Hemispheres

Feedback: Structures of the Brain and Their Functions, 68

102. The left hemisphere of the brain plays an important role in managing or regulating
A. speech and grammar.
B. spatial perception.
C. visual recognition.
D. movement in the left side of the body.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Explain what split-brain research reveals about the functions of the brain's two hemispheres.
Topic: Specialization of Hemispheres

Feedback: Structures of the Brain and Their Functions, 68

103. The endocrine system
A. directs the most complex mental functions, such as thinking and planning.
B. connects the brain and the spinal cord to the rest of the body.
C. consists of glands that regulate the activities of certain organs by releasing hormones into the bloodstream.
D. communicates through the release of neurotransmitters.

Accessibility: Keyboard Navigation

APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Describe the function of the endocrine system.
Topic: Endocrine System

Feedback: The Endocrine System, 71

104. The chemical messengers produced by the endocrine glands are known as
A. neurotransmitters.
B. hormones.
C. axons.
D. stem cells.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Describe the function of the endocrine system.
Topic: Endocrine System

Feedback: The Endocrine System, 71

105. The _____ is sometimes referred to as the "master gland" because almost all of its hormones direct the activity of target glands elsewhere.
A. anterior thyroid gland
B. posterior adrenal gland
C. anterior pituitary gland
D. posterior parathyroid gland

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Describe the function of the endocrine system.
Topic: Endocrine System

Feedback: The Endocrine System, 72

106. Ellie has recently experienced irregular mood swings. Her energy level has decreased and she seems to have greater difficulty coping with stress. Based on her symptoms, it seems as though Ellie may have problems with her _____ glands.
A. pituitary
B. pineal
C. adrenal
D. thymus

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Describe the function of the endocrine system.
Topic: Endocrine System

Feedback: The Endocrine System, 72

107. _____ are secreted by the adrenal glands.
A. Epinephrine and norepinephrine
B. Estrogen and testosterone
C. Estrogen and epinephrine
D. Acetylcholine and testosterone

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Describe the function of the endocrine system.
Topic: Endocrine System

Feedback: The Endocrine System, 72

108. Which of the following play(s) an important role in insulin production, metabolism, and body weight?
A. testes and ovaries
B. adrenal gland
C. pituitary gland
D. pancreas

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Describe the function of the endocrine system.
Topic: Endocrine System

Feedback: The Endocrine System, 72

109. Which of the following organs are involved in men's and women's sexual development and reproduction?
A. testes and ovaries
B. adrenal glands
C. pituitary glands
D. pancreas

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Describe the function of the endocrine system.
Topic: Endocrine System

Feedback: The Endocrine System, 72

110. When the axons of healthy neurons adjacent to damaged cells grow new branches, _____ has occurred.
A. collateral sprouting
B. substitution of function
C. neurogenesis
D. synaptic pruning

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Define plasticity and describe the brain's capacity for recovery and repair.
Topic: Brain Damage

Feedback: Brain Damage, Plasticity, and Repair, 73

111. When Charlie was three years old, he fell off the slide at the playground and damaged the left hemisphere of his brain. Despite this injury, as Charlie grew older he still retained some of his language abilities because the right hemisphere of his brain took control over the language function. Which of the following mechanisms of brain-damage repair is apparent in this example?
A. collateral sprouting
B. substitution of function
C. neurogenesis
D. lobotomy

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Define plasticity and describe the brain's capacity for recovery and repair.
Topic: Brain Damage

Feedback: Brain Damage, Plasticity, and Repair, 73

112. Which of the following is true about neurogenesis?
A. Neurogenesis cannot occur in human adults.
B. Researchers have found that neurogenesis does not occur in a few mammals such as mice.
C. Researchers have documented neurogenesis in only two brain regions; the hippocampus and the olfactory bulb.
D. Recent research has revealed that exercise decreases neurogenesis.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Define plasticity and describe the brain's capacity for recovery and repair.
Topic: Brain Damage

Feedback: Brain Damage, Plasticity, and Repair, 73

113. In the context of brain-tissue implants, what is unique about stem cells?
A. They survive for extended periods outside of the body.
B. They can develop into most types of human cells.
C. They are insusceptible to the effects of plasticity.
D. They transfer genetic information into human cells.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Define plasticity and describe the brain's capacity for recovery and repair.
Topic: Brain Damage

Feedback: Brain Damage, Plasticity, and Repair, 75

114. In the human cell, threadlike structures that come in 23 pairs, one member of each pair originating from each parent, and that contain DNA are called
A. chromosomes.
B. ergosomes.
C. ribosomes.
D. polysomes.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Explain how genetics increases our understanding of behavior.
Topic: Genetics

Feedback: Genetics and Behavior, 76

115. _____ is a complex molecule in the cell's chromosomes that carries genetic information.
A. RNA
B. DNA
C. Ribosome
D. Polysome

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Explain how genetics increases our understanding of behavior.
Topic: Genetics

Feedback: Genetics and Behavior, 76

116. Genes
A. consist of short segments of ribosomes composed of RNA.
B. match and link small pieces of RNA.
C. manufacture the proteins that are necessary for maintaining life.
D. act independently and do not collaborate with another gene.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Explain how genetics increases our understanding of behavior.
Topic: Genetics

Feedback: Genetics and Behavior, 76

117. _____ is a term used to describe the influences of multiple genes on behavior.
A. Sequencing
B. Polygenic inheritance
C. Phenotype
D. Genotype

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Explain how genetics increases our understanding of behavior.
Topic: Genetics

Feedback: Genetics and Behavior, 78

118. _____ involves the manipulation of genes using technology to determine their effect on behavior.
A. Molecular genetics
B. Selective breeding
C. Genome-wide association method
D. Behavior genetics

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Explain how genetics increases our understanding of behavior.
Topic: Genetics

Feedback: Genetics and Behavior, 78

119. _____ is a genetic method in which organisms are chosen for reproduction based on how much of a particular trait they display.
A. Selective breeding
B. Experimental evolution
C. Polymorphism
D. Natural selection

Accessibility: Keyboard Navigation

APA Learning Outcome: 1.1 Describe key concepts, principles, and overarching themes in psychology.
Bloom's: Remember
Difficulty: Low
Learning Objective: Explain how genetics increases our understanding of behavior.
Topic: Genetics

Feedback: Genetics and Behavior, 78

120. Dr. Cardinale is interested in the effects of heredity and environment on intelligence. She compares the similarity of IQ scores of identical twins to the similarity of IQ scores of fraternal twins. In this case, Dr. Cardinale is studying heredity's influence on behavior using
A. human genome.
B. molecular genetics.
C. behavior genetics.
D. selective breeding.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Explain how genetics increases our understanding of behavior.
Topic: Genetics

Feedback: Genetics and Behavior, 78

121. A _____ is a person's genetic heritage, his or her actual genetic material.
A. prototype
B. phenotype
C. endophenotype
D. genotype

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.
Bloom's: Understand
Difficulty: Medium
Learning Objective: Explain how genetics increases our understanding of behavior.
Topic: Genetics

Feedback: Genetics and Behavior, 80

122. Molly's natural hair color is brown but she has had it dyed blonde. Molly changed her
A. phenotype.
B. genotype.
C. chromosomes.
D. genetic heritage.

Accessibility: Keyboard Navigation
APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom's: Apply
Difficulty: High
Learning Objective: Explain how genetics increases our understanding of behavior.
Topic: Genetics

Feedback: Genetics and Behavior, 80

Essay Questions

123. Briefly describe the peripheral nervous system and its four divisions. What is the function of each? Give examples of situations that would activate each division and how they would do so.

APA Learning Outcome: 1.2 Develop a working knowledge of psychology's content domains.

Bloom’s: Understand
Difficulty: Medium
Learning Objective: Discuss the functions of the nervous system's main divisions.
Topic: Peripheral Nervous System

Answer: The peripheral nervous system (PNS) is the network of nerves that connects the brain and spinal cord to other parts of the body. The two major divisions of the PNS are the somatic and autonomic divisions. The somatic nervous system consists of sensory nerves (afferent), whose function is to convey information from the skin and muscles to the CNS about conditions such as pain and temperature, and motor nerves (efferent), whose function is to tell muscles what to do. The function of the autonomic nervous system is to take messages to and from the body’s internal organs, monitoring such processes as breathing, heart rate, and digestion. The autonomic division is further subdivided into the sympathetic and parasympathetic divisions, and these subdivisions are most noticeable during emergencies. The sympathetic division prepares the body for emergencies and helps us to either fight stressors or to flee from them. If you were inside a burning house, for example, the sympathetic division would produce the necessary arousal that would allow you to either run out of the house to safety, or to find a fire extinguisher to help battle the blaze. The parasympathetic division restores the body to its resting state once an emergency has ended. Once it is clear that your house was not on fire, your breathing and heart rate return to normal, and you eventually feel a sense of calm.

Feedback: The Nervous System, 44–45

124. Describe the structure of a neuron and explain the function of each component.

APA Learning Outcome: 1.2 Develop a working knowledge of psychology’s content domains.
Bloom’s: Understand
Difficulty: Medium
Learning Objective: Identify the parts of a neuron, and explain how they transmit information.
Topic: Neurons

Answer: Every neuron has three components: a cell body, dendrites, and an axon. Dendrites are treelike fibers that receive information and orient it towards the neuron's cell body. Most nerve cells have multiple dendrites. The axon is the part of the neuron that carries information away from the cell body toward other cells. The cell body contains the nucleus, which directs the manufacture of substances that the neuron needs for growth and maintenance.

Feedback: Neurons, 46–48

125. Briefly explain how one neuron sends a message to another neuron. Be sure to include a description of the roles that the various structures of the neuron play in communicating neural messages.

APA Learning Outcome: 1.2 Develop a working knowledge of psychology’s content domains.
Bloom’s: Understand
Difficulty: Medium
Learning Objective: Describe how nerve cells communicate with other nerve cells.
Topic: Neurons

Answer: When neurons are at rest, they have a negative electrical charge. When an excitatory message is received from another neuron, the neuron becomes more positive. As the charge reaches a critical level of positivity, an action potential occurs and the electrical message travels along the neuron's axon. Once the message passes any point of the axon, that section becomes negatively charged once again, and the neuron is unable to fire again immediately. When a nerve impulse reaches the end of the axon, the terminal buttons on the ends of the axon release neurotransmitters into the synapse. Dendrites of nearby neurons receive messages from the neurotransmitters that "fit" onto their particular receptor sites. If the concentration of excitatory neurotransmitters that have been received is higher, then the neuron fires. If the concentration of inhibitory neurotransmitters that have been received is higher, then the neuron will not fire.

Feedback: Neurons, 49–50

126. Compare and contrast the techniques researchers use to study the brain. Explain what type of information can be gained by each approach.

APA Learning Outcome: 1.3 Describe applications of psychology.
Bloom’s: Evaluate
Difficulty: High
Learning Objective: Identify the brain's levels, structures, and functions.

Topic: Brain Imaging

Answer: One way researchers have learned more about the brain is by studying the effects of brain lesions or brain damage. By examining the person or animal that has the lesion, researchers get a sense of the function of the part of the brain that was damaged. Electroencephalograph (EEG) involves recording the brain's electrical activity. Researchers also might use one of several brain-imaging techniques. Computerized axial tomography (CAT scan or CT scan) involves the use of x rays to produce a composite three-dimensional image and can provide information about the location and extent of brain damage. Positron-emission tomography (PET scan) is another brain-imaging technique that is based on metabolic (glucose) changes related to brain activity. Magnetic resonance imaging (MRI) involves creating a magnetic field around a person's body and using radio waves to construct images of the person's tissues and biochemical activities. MRI scans provide valuable information about the structure of the brain and can allow researchers to see if and how experiences affect brain structure. Although MRI scans can reveal considerable information about brain structure, they cannot portray brain function. A new method known as functional magnetic resonance images (fMRI) allows scientists to see what is happening in the brain while it is working. The fMRI charts track changes in blood oxygen that occur in association with brain activity.

Feedback: Structures of the Brain and Their Functions, 56–58

127. Identify the major functions of the hypothalamus, cerebellum, and the reticular formation. Give examples of their functions in terms of real behaviors.

APA Learning Outcome: 1.2 Develop a working knowledge of psychology’s content domains.
Bloom’s: Understand
Difficulty: Medium
Learning Objective: Identify the brain's levels, structures, and functions.
Topic: Brain Function

Answer: The hypothalamus is a small forebrain structure that monitors three pleasurable activities—eating, drinking, and sex—as well as emotion, stress, and reward. It also regulates the body's internal state. For example, the hypothalamus works to keep the body at a constant temperature, triggering perspiration when the body is hot and shivering when the body is cold. The cerebellum extends from the rear of the hindbrain, just above the medulla. It consists of two rounded structures thought to play important roles in motor coordination. Damage to the cerebellum impairs the performance of coordinated movements. When this damage occurs, people’s movements become awkward and jerky. Extensive damage to the cerebellum makes it impossible even to stand up. The reticular formation is a diffuse collection of neurons involved in stereotyped patterns of behavior such as walking, sleeping, and turning to attend to a sudden noise.

Feedback: Structures of the Brain and Their Functions, 59–61

128. Explain how the right and left hemispheres of the brain are specialized for different functions.

APA Learning Outcome: 1.2 Develop a working knowledge of psychology’s content domains.
Bloom’s: Understand
Difficulty: Medium
Learning Objective: Explain what split-brain research reveals about the functions of the brain's two hemispheres.
Topic: Specialization of Hemispheres

Answer: The right hemisphere receives information only from the left side of the body, and the left hemisphere receives information only from the right side of the body. When you hold an object in your left hand, for example, only the right hemisphere of your brain detects the object. When you hold an object in your right hand, only the left hemisphere of the brain detects it. The most extensive research on the brain’s two hemispheres has focused on language. Speech and grammar are localized to the left hemisphere. Although it is a common misconception that all language processing occurs in the left hemisphere, much language processing and production does come from this hemisphere. The right hemisphere dominates in processing nonverbal information such as spatial perception, visual recognition, and emotion.

Feedback: Structures of the Brain and Their Functions, 68–69

129. Compare and contrast the nervous system and the endocrine system.

APA Learning Outcome: 1.2 Develop a working knowledge of psychology’s content domains.
Bloom’s: Evaluate

Difficulty: High
Learning Objective: Describe the function of the endocrine system.
Topic: Endocrine System

Answer: Neuroscientists have discovered that the nervous system and endocrine system are intricately interconnected. Both systems work together to control the body's activities. However, the nervous system and endocrine system do differ in a variety of ways. First, the parts of the endocrine system are not all connected in the way that the parts of the nervous system are. Second, the endocrine system communicates via hormones, whereas the nervous system communicates via electrical impulses and neurotransmitters. Hormones are released in the bloodstream and are transported throughout the body by the circulatory system. Thus, hormones move much more slowly than the neural impulses in the nervous system.

Feedback: The Endocrine System, 71

130. How does the endocrine system transmit its messages? What functions do the pituitary gland, adrenal glands, pancreas, and gonads (testes or ovaries) perform?

APA Learning Outcome: 1.2 Develop a working knowledge of psychology’s content domains.
Bloom’s: Understand
Difficulty: Medium
Learning Objective: Describe the function of the endocrine system.
Topic: Endocrine System

Answer: The endocrine system consists of a set of glands that regulate the activities of certain organs by releasing hormones (chemical substances) into the bloodstream. The pituitary gland regulates growth and its anterior part is known as the "master gland" because almost all of its hormones direct the activity of target glands elsewhere. Adrenal glands are located at the top of each kidney. They secrete epinephrine and norepinephrine and play an important role in regulating mood, energy level, and the ability to cope with stress. The pancreas, which is located under the stomach, performs both digestive and endocrine functions. The pancreas produces insulin, which is a hormone that controls glucose levels in the body and is related to metabolism, body weight, and obesity. The ovaries and testes are the sex-related endocrine glands that produce hormones related to sexual development and reproduction.

Feedback: The Endocrine System, 71–72

131. Discuss the three ways through which brain repair can take place.

APA Learning Outcome: 1.2 Develop a working knowledge of psychology’s content domains.
Bloom’s: Understand
Difficulty: Medium
Learning Objective: Define plasticity and describe the brain's capacity for recovery and repair.
Topic: Plasticity

Answer: There are three ways that brain repair might take place:

In collateral sprouting, the axons of some healthy neurons adjacent to damaged cells grow new branches. In substitution of function, the damaged region’s function is taken over by another area or areas of the brain. Neurogenesis is the process by which new neurons are generated. Researchers have found that neurogenesis occurs in mammals such as mice. Recent research has revealed that exercise increases neurogenesis, whereas social isolation decreases it. It is now accepted that neurogenesis can occur in humans.

Feedback: Brain Damage, Plasticity, and Repair, 73

132. Explain the difference between genotype and phenotype. Be sure to mention the role of environmental influences.

APA Learning Outcome: 1.2 Develop a working knowledge of psychology’s content domains.
Bloom’s: Understand
Difficulty: Medium
Learning Objective: Explain how genetics increases our understanding of behavior.
Topic: Genetics

Answer: A genotype is one's genetic heritage, the actual genetic material that determines characteristics. A phenotype is one's observable characteristics. The phenotype is influenced by the genotype but also by environmental factors. The

activity of genes (genetic expression) is affected by their environment. For example, hormones that circulate in the blood make their way into the cell where they can turn genes on and off. The flow of hormones, too, can be affected by environmental conditions, such as light, day length, nutrition, and behavior.

Feedback: Genetics and Behavior, 80–81