

## **Chapter 2: The Biological Basis of Behavior**

### **Multiple-Choice**

TB\_02\_01 Introduction\_Remember\_LO 2.1

In regards to the brain, the term “plasticity” refers to \_\_\_\_\_.

- a. easily broken or “cracked”
- b. ability to adapt to new conditions
- c. level of complexity
- d. brittleness, or rigidity

Answer: b

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience.

Topic: Introduction

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_02 Introduction\_Remember\_LO 2.1

The field of psychobiology explores the \_\_\_\_\_.

- a. evolution has shaped our instincts, drives, urges, and needs
- b. biological foundations of behavior and mental processes
- c. our mental state affects our physical health
- d. behavioral patterns affect biological development

Answer: b

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience.

Topic: Introduction

Skill: Remember the Facts

Difficulty: 2 - Moderate

### **Neurons: The Messengers**

TB\_02\_03 Neurons: The Messengers\_Remember\_LO 2.1

The brain of the average human being contains approximately 86 billion \_\_\_\_\_.

- a. neurons
- b. lobes
- c. glands
- d. nerves

Answer: a

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience.

Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_04 Neurons: The Messengers\_Remember\_LO 2.1

The part of a neuron which contains the nucleus and has a complete set of the neuron’s chromosomes and genes is the \_\_\_\_\_.

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

Answer: d

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience.

Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers  
Skill: Remember the Facts  
Difficulty: 2 - Moderate

TB\_02\_05 Neurons: The Messengers\_Understand\_LO 2.1

The function of the neuron's dendrite is to \_\_\_\_\_.

a. receive messages from neighboring neurons

Correct: *Dendrites are like antennae, in that they are there to receive information.*

b. regulate the neuron's life processes

c. insulate against leakage of electrical impulses

d. conduct electrical impulses toward other neurons

Incorrect: *Axons, not dendrites, are responsible for taking messages toward other neurons.*

Answer: a

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience.

Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Understand the Concepts

Difficulty: 1 - Easy

TB\_02\_06 Neurons: The Messengers\_Understand\_LO 2.1

The function of the neuron's axon is to \_\_\_\_\_.

a. conduct electrical electrochemical impulses toward other neurons, muscles, or glands

Correct: *The axon takes messages away from the cell body toward other neurons, muscles, or glands.*

b. receive messages from neighboring neurons

Incorrect: *The part of the neuron responsible for receiving incoming messages is a dendrite.*

c. regulate the neuron's life processes

d. insulate against leakage of electrical impulses

Answer: a

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience.

Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Understand the Concepts

Difficulty: 1 - Easy

TB\_02\_07 Neurons: The Messengers\_Remember\_LO 2.1

Neurons typically have \_\_\_\_\_.

a. many axons and one dendrite

b. one axon and many dendrites

c. one axon and one dendrite

d. many axons and many dendrites

Answer: b

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience.

Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_08 Neurons: The Messengers\_Remember\_LO 2.1

A group of axons bundled together is called a \_\_\_\_\_.

a. nerve

b. synaptic vesicle

- c. primary cluster
- d. myelinated pathway

Answer: a

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience. Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_09 Neurons: The Messengers\_Understand\_LO 2.1

The primary purpose of the myelin sheath is to \_\_\_\_\_.

- a. insulate the neuron so it can transmit information more efficiently

Correct: *The myelin sheath protects and insulates the neuron, and helps to speed up the process of neural communication.*

- b. receive messages from outside the neuron and carry them to the cell nucleus
- c. provide a place for neural respiration and cell metabolism to occur
- d. provide a soft covering to hold axons in place

Incorrect: *While the myelin is a covering that surrounds the axon, it is not there to hold the axon in a particular place.*

Answer: a

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience. Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Understand the Concepts

Difficulty: 3 - Difficult

TB\_02\_10 Neurons: The Messengers\_Remember\_LO 2.1

The term “gray matter” refers to \_\_\_\_\_.

- a. interneurons
- b. myelinated axons
- c. unmyelinated axons
- d. glial cells

Answer: c

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience. Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_11 Neurons: The Messengers\_Remember\_LO 2.1

Terminal buttons release chemicals called \_\_\_\_\_.

- a. hormones
- b. neurotransmitters
- c. antibodies
- d. antigens

Answer: b

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience. Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 1 – Easy

TB\_02\_12 Neurons: The Messengers\_Remember\_LO 2.1

Neurons that collect messages from sense organs and carry those messages to the spinal cord or the brain are called \_\_\_\_\_.

- a. motor neurons
- b. primary neurons
- c. sensory neurons
- d. interneurons

Answer: c

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience.

Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_13 Neurons: The Messengers\_Remember\_LO 2.1

Neurons that carry messages from one neuron to another are called \_\_\_\_\_.

- a. efferent neurons
- b. afferent neurons
- c. interneurons
- d. primary neurons

Answer: c

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience.

Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_14 Neurons: The Messengers\_Apply\_LO 2.1

You are a cell in the human nervous system. Your primary function is to provide support for neurons, hold them together, and help remove waste products and other substances, which could otherwise harm them. You are a(n) \_\_\_\_\_ cell.

- a. adipose

Incorrect: *These functions are carried out by glial cells, not by adipose cells.*

- b. epidermal
- c. glial

Correct: *Glial cells perform all of these functions, and are also the substance that make up the myelin sheath.*

- d. lymph

Answer: c

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience.

Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Apply What You Know

Difficulty: 2 - Moderate

TB\_02\_15 Neurons: The Messengers\_Understand\_LO 2.2

The language used by neurons to communicate \_\_\_\_\_.

- a. involves simple “yes-no,” “on-off” electrochemical impulses

Correct: *This is sometimes referred to as the “all or none” principle.*

- b. is not yet known, despite years of research

- c. is extremely flexible and complex, similar to human spoken language

- d. involves neurons transitioning from one of four different electrochemical states to another

Incorrect: *Neurons really only have two “solid” states, on or off.*

Answer: a

Learning Objective: 2.2 Describe how neurons transmit information including the concepts of resting potential, polarization, action potential, graded potential, threshold of excitation, and the all-or-none law.

Topic: Neurons: The Messengers

Skill: Understand the Concepts

Difficulty: 1 - Easy

TB\_02\_16 Neurons: The Messengers\_Remember\_LO 2.2

During its resting state, the electrical charge inside the neuron is \_\_\_\_\_ the electrical charge outside the neuron.

- a. smaller than
- b. positive compared to
- c. negative compared to
- d. larger than

Answer: c

Learning Objective: 2.2 Describe how neurons transmit information including the concepts of resting potential, polarization, action potential, graded potential, threshold of excitation, and the all-or-none law.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_17 Neurons: The Messengers\_Remember\_LO 2.2

When a neuron is polarized, \_\_\_\_\_.

- a. both positive and negative ions are concentrated inside the neural membrane
- b. positive ions are concentrated outside the neural membrane while negative ions are concentrated inside the membrane
- c. negative ions are concentrated outside the neural membrane while positive ions are concentrated inside the membrane
- d. both positive and negative ions are concentrated outside the neural membrane

Answer: b

Learning Objective: 2.2 Describe how neurons transmit information including the concepts of resting potential, polarization, action potential, graded potential, threshold of excitation, and the all-or-none law.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_18 Neurons: The Messengers\_Understand\_LO 2.2

When sodium ions flow into a neuron and depolarize it, they create \_\_\_\_\_.

- a. an action potential

Correct: *The action potential is caused by a depolarization resulting from the influx of sodium ions through the neuron's cellular membrane.*

- b. breakdown of the cell nucleus

- c. a relative refractory period

Incorrect: *A refractory period refers to a period after an action potential when another action potential is more difficult to achieve.*

- d. internal combustion

Answer: a

Learning Objective: 2.2 Describe how neurons transmit information including the concepts of resting potential, polarization, action potential, graded potential, threshold of excitation, and the all-or-none law.

Topic: Neurons: The Messengers

Skill: Understand the Concepts

Difficulty: 2 - Moderate

4 yr.: 84% r = .31

TB\_02\_19 Neurons: The Messengers\_Remember\_LO 2.2

Another term for a neural impulse is a(n) \_\_\_\_\_ potential.

- a. resting
- b. kinetic
- c. graded
- d. action

Answer: d

Learning Objective: 2.2 Describe how neurons transmit information including the concepts of resting potential, polarization, action potential, graded potential, threshold of excitation, and the all-or-none law.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_20 Neurons: The Messengers\_Understand\_LO 2.2

If an incoming message is not strong enough to cause a neuron to fire, it may cause a shift in the electrical charge of just a tiny area of the neuron. This shift, which quickly fades away, is called a(n) \_\_\_\_\_.

- a. resting potential
- b. action potential

*Incorrect: An action potential refers to a state where a neuron has already fired, while graded potentials are usually not adequate to cause a neural impulse on their own.*

- c. transitional polarization
- d. graded potential

*Correct: The sum of many graded potentials are what usually cause a neuron to fire, not a single graded potential from one other neuron.*

Answer: d

Learning Objective: 2.2 Describe how neurons transmit information including the concepts of resting potential, polarization, action potential, graded potential, threshold of excitation, and the all-or-none law.

Topic: Neurons: The Messengers

Skill: Understand the Concepts

Difficulty: 3 - Difficult

TB\_02\_21 Neurons: The Messengers\_Apply\_LO 2.2

A frog muscle is stimulated with an electric current but the muscle doesn't twitch. This probably happens because \_\_\_\_\_.

- a. ionic balance has been restored
- b. the synapses are underactive
- c. the threshold of excitation was not reached

*Correct: The threshold of excitation must be reached or exceeded for a neuron to respond.*

- d. the graded potential is too great

*Incorrect: If the graded potential is "too great," then the neuron will fire. If the muscle doesn't twitch, then the graded potential is too weak.*

Answer: c

Learning Objective: 2.2 Describe how neurons transmit information including the concepts of resting potential, polarization, action potential, graded potential, threshold of excitation, and the all-or-none law.

Topic: Neurons: The Messengers

Skill: Apply What You Know

Difficulty: 2 - Moderate

TB\_02\_22 Neurons: The Messengers\_Remember\_LO 2.2

The "all or none law" is the principle stating that \_\_\_\_\_.

- a. a neuron fires at full strength or not at all
- b. all neurons in an area fire at the same intensity or not at all
- c. a neuron must be receiving only "fire" messages through its dendrites or it will not fire at all
- d. all the neurons in a particular area of the brain fire simultaneously or not at all

Answer: a

Learning Objective: 2.2 Describe how neurons transmit information including the concepts of resting potential, polarization, action potential, graded potential, threshold of excitation, and the all-or-none law.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_23 Neurons: The Messengers\_Remember\_LO 2.2

A neuron is likely to fire \_\_\_\_\_ when stimulated by a strong signal.

- a. in a coded sequence
- b. for a longer period of time
- c. more often
- d. more intensely

Answer: c

Learning Objective: 2.2 Describe how neurons transmit information including the concepts of resting potential, polarization, action potential, graded potential, threshold of excitation, and the all-or-none law.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_24 Neurons: The Messengers\_Remember\_LO 2.2

Immediately after firing, a neuron cannot fire again no matter how strong the incoming messages may be. This period is called the \_\_\_\_\_ period.

- a. relative refractory
- b. primary refractory
- c. polarization
- d. absolute refractory

Answer: d

Learning Objective: 2.2 Describe how neurons transmit information including the concepts of resting potential, polarization, action potential, graded potential, threshold of excitation, and the all-or-none law.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_25 Neurons: The Messengers\_Remember\_LO 2.3

The action potential causes neurotransmitters to be released into the \_\_\_\_\_.

- a. cell membrane
- b. synaptic space
- c. axon
- d. myelin sheath

Answer: b

Learning Objective: 2.3 Describe the parts of the synapse.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_26 Neurons: The Messengers\_Remember\_LO 2.3

When a neural impulse reaches the end of an axon, it causes tiny oval sacs at the end of the axon to release chemicals called \_\_\_\_\_.

- a. hormones
- b. neurotransmitters
- c. antioxidants
- d. electrolytes

Answer: b

Learning Objective: 2.3 Describe the parts of the synapse.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_27 Neurons: The Messengers\_Appy\_LO 2.4

An elderly male is diagnosed as having Alzheimer's disease. His physician tells him the disorder involves a deficiency of \_\_\_\_\_.

a. acetylcholine

Correct: *Alzheimer's disease has been linked to a deficit of acetylcholine (ACh) in the brain.*

b. serotonin

c. norepinephrine

d. dopamine

Incorrect: *There is no current research that has found an association between dopamine and Alzheimer's disease.*

Answer: a

Learning Objective: 2.4 Explain the role of neurotransmitters in the synapse.

Topic: Neurons: The Messengers

Skill: Apply What You Know

Difficulty: 2 - Moderate

TB\_02\_28 Neurons: The Messengers\_Understand\_LO 2.4

The neurotransmitter known as the "mood molecule" is \_\_\_\_\_.

a. dopamine

b. norepinephrine

Incorrect: *The correct answer is serotonin, not norepinephrine.*

c. acetylcholine

d. serotonin

Correct: *Serotonin is known as a mood molecule because of its implication in many mood-related disorders.*

Answer: d

Learning Objective: 2.4 Explain the role of neurotransmitters in the synapse.

Topic: Neurons: The Messengers

Skill: Understand the Concepts

Difficulty: 2 - Moderate

TB\_02\_29 Neurons: The Messengers\_Apply\_LO 2.4

A person with schizophrenia is *most* likely to have a problem with which of the following neurotransmitters?

a. dopamine

Correct: *An excess of dopamine is associated with schizophrenia.*

b. serotonin

c. acetylcholine

Incorrect: *Acetylcholine is associated with Alzheimer's disease, not schizophrenia.*

d. norepinephrine

Answer: a

Learning Objective: 2.4 Explain the role of neurotransmitters in the synapse.

Topic: Neurons: The Messengers

Skill: Apply What You Know

Difficulty: 2 - Moderate

4 yr.: 50% r = .23

TB\_02\_30 Neurons: The Messengers\_Remember\_LO 2.4

Endorphins \_\_\_\_\_.

a. are less powerful than enkaphalins

- b. reduce pain messages in the brain
- c. are radically different in function from neurotransmitters
- d. are found where neurons meet skeletal muscles

Answer: b

Learning Objective: 2.4 Explain the role of neurotransmitters in the synapse.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 1 - Easy

4 yr.: 86% r = .22; 2 yr.: 78% r = .39

TB\_02\_31 Neurons: The Messengers\_Remember\_LO 2.4

Because they have similar chemical structures, morphine and other narcotics are able to lock into receptor sites for \_\_\_\_\_.

- a. dopamine
- b. serotonin
- c. endorphins
- d. acetylcholine

Answer: c

Learning Objective: 2.4 Explain the role of neurotransmitters in the synapse.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 1 - Easy

4 yr.: 85% r = .14; 2 yr.: 88% r = .23

TB\_02\_32 Neurons: The Messengers\_Remember\_LO 2.4

Depression is linked to an \_\_\_\_\_.

- a. oversupply of serotonin and an undersupply of norepinephrine
- b. undersupply of serotonin and an oversupply of norepinephrine
- c. undersupply of serotonin and norepinephrine
- d. oversupply of serotonin and norepinephrine

Answer: c

Learning Objective: 2.4 Explain the role of neurotransmitters in the synapse.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_33 Neurons: The Messengers\_Remember\_LO 2.5

M. R. Rosenzweig examined rats by studying the \_\_\_\_\_.

- a. behavioral effects of lesions in different parts of their brains
- b. sexual orientation effects of prenatal exposure to maternal hormones
- c. effects on their brains of electrical stimulation to the frontal and parietal lobes
- d. effects on their brains of exposure to impoverished or enriched environments

Answer: d

Learning Objective: 2.5 Explain neuroplasticity and neurogenesis.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_34 Neurons: The Messengers\_Apply\_LO 2.4

After drinking several cups of strong coffee, a person develops “coffee nerves” or “jitters.” This probably is due to the ability of caffeine to \_\_\_\_\_.

- a. block adenosine receptor sites

Correct: *Caffeine blocks the receptor sites for adenosine, which in turn leads to the release of stimulating neurotransmitters such as epinephrine.*

- b. cause neurotransmitters to leak out of the synaptic vesicles and be destroyed by enzymes
- c. cause an increase in the release of excitatory neurotransmitters

Incorrect: *Caffeine does not directly cause an increase in excitatory neurotransmitters. In fact, it blocks the depression of such mechanisms.*

d. inhibit enzymes which break down excitatory neurotransmitters

Answer: a

Learning Objective: 2.4 Explain the role of neurotransmitters in the synapse.

Topic: Neurons: The Messengers

Skill: Apply What You Know

Difficulty: 3 - Difficult

TB\_02\_35 Neurons: The Messengers\_Apply\_LO 2.4

Despite its dangers, a young man continues to take cocaine because of the feelings of euphoria it produces for him. This powerful arousal of his nervous system is probably due to cocaine's ability to \_\_\_\_\_.

a. inhibit enzymes that break down neurotransmitters

b. block the receptor sites for neurotransmitters

c. increase the release of dopamine

Incorrect: *Cocaine does not increase the release of dopamine; rather, it allows excess dopamine to accumulate.*

d. allow excess amounts of dopamine to accumulate in the synapses

Correct: *Excess amounts of dopamine produce heightened arousal of the entire nervous system.*

Answer: d

Learning Objective: 2.4 Explain the role of neurotransmitters in the synapse.

Topic: Neurons: The Messengers

Skill: Apply What You Know

Difficulty: 3 - Difficult

TB\_02\_36 Neurons: The Messengers\_Remember\_LO 2.5

Undifferentiated precursor cells that, under the right conditions, can give rise to any specialized cell in the body are called \_\_\_\_\_ cells.

a. stem

b. receptor

c. glial

d. T-cells

Answer: a

Learning Objective: 2.5 Explain neuroplasticity and neurogenesis.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_37 Neurons: The Messengers\_Remember\_LO 2.5

In research with human patients suffering from Parkinson's disease, fetal nerve cell transplants \_\_\_\_\_.

a. resulted in only sporadic, temporary improvements in motor control

b. improved motor control for periods of only 1 to 4 years

c. improved motor control for periods of 5 to 10 years

d. resulted in no improvement in motor control

Answer: c

Learning Objective: 2.5 Explain neuroplasticity and neurogenesis.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_38 Neurons: The Messengers\_Remember\_LO 2.5

Research on human brain tissue has found that human brains are \_\_\_\_\_.

a. capable of neurogenesis only during early childhood

b. capable of neurogenesis only through adolescence

- c. capable of neurogenesis even in adulthood
- d. not capable of neurogenesis after birth

Answer: c

Learning Objective: 2.5 Explain neuroplasticity and neurogenesis.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 3 - Difficult

## The Central Nervous System

TB\_02\_39 The Central Nervous System\_Remember\_LO 2.6

The nervous system is comprised of two major parts - the \_\_\_\_\_.

- a. central nervous system and the peripheral nervous system
- b. brain and the spinal cord
- c. afferent nervous system and the efferent nervous system
- d. sympathetic nervous system and the parasympathetic nervous system

Answer: a

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 1 - Easy

2 yr.: 73% r = .29

TB\_02\_40 The Central Nervous System\_Remember\_LO 2.6

The brain and spinal cord contain about \_\_\_\_\_ percent of the body's neurons.

- a. 40
- b. 65
- c. 15
- d. 90

Answer: d

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_41 The Central Nervous System\_Understand\_LO 2.6

The \_\_\_\_\_ is believed to be the earliest part of the brain to evolve.

- a. midbrain
- b. hindbrain

Correct: *The hindbrain controls our basic, primitive functions, yet it is essential to our survival.*

c. forebrain

Incorrect: *This is the most recent level of brain development in human beings.*

d. limbic system

Answer: b

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Understand the Concepts

Difficulty: 2 - Moderate

TB\_02\_42 The Central Nervous System\_Remember\_LO 2.6

The part of the hindbrain that controls functions such as breathing, heart rate, and blood pressure is the \_\_\_\_\_.

- a. cerebral cortex
- b. medulla
- c. cerebellum

d. pons

Answer: b

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

4 yr.: 79% r = .33; 4 yr.: 84% r = .40

TB\_02\_43 The Central Nervous System\_Apply\_LO 2.6

A college student is having difficulty staying awake during the day and sleeping through the night. This difficulty is *most* likely due to problems in the \_\_\_\_\_.

a. cerebellum

Incorrect: *The cerebellum is part of the hindbrain, like the pons, but it is not responsible for regulating our sleep-wake cycle.*

b. basal ganglia

c. pons

Correct: *The pons is the part of the hindbrain that regulates our sleep-wake cycle.*

d. substantia nigra

Answer: c

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Apply What You Know

Difficulty: 2 - Moderate

2 yr.: 75% r = .32

TB\_02\_44 The Central Nervous System\_Remember\_LO 2.6

The cerebellum \_\_\_\_\_.

a. controls blood pressure

b. relays messages from the sensory receptors

c. coordinates actions so that movements are efficient

d. governs hunger, thirst, and body temperature

Answer: c

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

4 yr.: 61% r = .28; 2 yr.: 64% r = .38

TB\_02\_45 The Central Nervous System\_Remember\_LO 2.6

The part of the brain responsible for emotional behavior such as experiencing rage, terror, or pleasure is the \_\_\_\_\_.

a. amygdala

b. hippocampus

c. thalamus

d. hypothalamus

Answer: d

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 3 - Difficult

4 yr.: 54% r = .37; 4 yr.: 64% r = .10

TB\_02\_46 The Central Nervous System\_Apply\_LO 2.6

After his last class, Carlos went out to his car to get some books to return to the library. He found that during the day someone had badly smashed his rear bumper. He was furious and began pounding on the hood and shouting obscenities. What area of the brain was guiding his behavior?

a. the hypothalamus

Correct: *The hypothalamus controls many functions, and has been found to regulate emotions including rage, terror, and pleasure.*

b. the medulla

Incorrect: *The medulla may have helped increase Carlos's blood pressure, circulation, and respiration, but it was not directly responsible for Carlos's rage behavior.*

c. the thalamus

d. the midbrain

Answer: a

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Apply What You Know

Difficulty: 2 - Moderate

2 yr.: 70% r = .35

TB\_02\_47 The Central Nervous System\_Remember\_LO 2.6

Anesthetics work primarily by shutting down the \_\_\_\_\_.

a. endocrine system

b. reticular formation

c. limbic system

d. dopamine receptor sites

Answer: b

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_48 The Central Nervous System\_Remember\_LO 2.6

The intricate network of folds that line the outer surface of the cerebral cortex, allowing it to fit inside the skull, are called \_\_\_\_\_.

a. convolutions

b. sensory projection areas

c. association areas

d. motor projections

Answer: a

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 1 - Easy

4 yr.: 39% r = .30

TB\_02\_49 The Central Nervous System\_Remember\_LO 2.6

The lobe of the brain that serves as the "executive control center" for the brain is the \_\_\_\_\_ lobe.

a. occipital

b. frontal

c. parietal

d. temporal

Answer: b

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_50 The Central Nervous System\_Understand\_LO 2.6

The section of the frontal lobe responsible for voluntary movement is the \_\_\_\_\_.

a. primary motor cortex

Correct: *The primary motor cortex sends messages to glands and muscles. Some of those messages are related to voluntary movement.*

b. association areas

Incorrect: *The association areas are responsible for interpreting various types of sensory input, not controlling voluntary movement.*

c. primary somatosensory cortex

d. sensory projection areas

Answer: a

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Understand the Concepts

Difficulty: 1 - Easy

TB\_02\_51 The Central Nervous System\_Apply\_LO 2.6

After an industrial accident in which George fell from a scaffold and hit his head, he has had trouble following directions or completing his normal work tasks. He is also apathetic, although he has periods of boastfulness and silliness. The damaged part of his brain is probably the \_\_\_\_\_ lobes.

a. occipital

Incorrect: *The symptoms George experienced are consistent with damage to the frontal, not the occipital, lobe.*

b. parietal

c. temporal

d. frontal

Correct: *George's symptoms are similar to those of Phineas Gage, who probably suffered severe damage to his frontal lobe and suffered from the same symptoms.*

Answer: d

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Apply What You Know

Difficulty: 1 - Easy

TB\_02\_52 The Central Nervous System\_Apply\_LO 2.6

Corey was in an automobile accident that resulted in an injury to her brain. She now has difficulty reading road maps and telling other people how to get somewhere. She has most likely suffered an injury to her \_\_\_\_\_ lobe.

a. occipital

Incorrect: *The occipital lobe is responsible for visual perception, but spatial skills like those that are impaired in Corey are controlled in the parietal lobe of the cerebrum.*

b. temporal

c. frontal

d. parietal

Correct: *Spatial recognition skills, like reading a map and following/giving directions, are controlled in the parietal lobe of the cerebrum.*

Answer: d

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Apply What You Know

Difficulty: 3 - Difficult

TB\_02\_53 The Central Nervous System\_Remember\_LO 2.6

Messages from the sense receptors are registered in those areas of the brain called the \_\_\_\_\_.

a. hemispheric lateralization areas

b. primary somatosensory cortex

c. motor projection areas

d. association areas

Answer: b

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_54 The Central Nervous System\_Apply\_LO 2.6

Corey was in an automobile accident that resulted in an injury to her brain. She now has difficulty with her hearing and her ability to recognize faces. The part of her brain *most* likely injured was her \_\_\_\_\_ lobe.

a. frontal

*Incorrect: The frontal lobes control many different functions in the brain, but facial recognition and auditory reception are handled by the temporal lobes.*

b. temporal

*Correct: Facial recognition and auditory reception are controlled by the temporal lobes of the cerebrum.*

c. occipital

d. parietal

Answer: b

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Apply What You Know

Difficulty: 2 - Moderate

4 yr.: 76% r = .45

TB\_02\_55 The Central Nervous System\_Remember\_LO 2.6

The limbic system is responsible for \_\_\_\_\_.

a. controlling learning and emotional behavior

b. connecting the brain to the rest of the body

c. filtering incoming messages to the brain

d. fighting disease organisms that attempt to infect the brain

Answer: a

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_56 The Central Nervous System\_Remember\_LO 2.7

“Split brain” patients are patients who have had \_\_\_\_\_.

a. their cerebellum split in the middle

b. their brain stem cut down the middle

c. their corpus callosum cut

d. a prefrontal lobotomy

Answer: c

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

4 yr.: 88% r = .19

TB\_02\_57 The Central Nervous System\_Apply\_LO 2.7

A “split brain” patient is asked to stare at a spot on a screen. When a picture of an object is shown to the *left* of the spot, the patient can \_\_\_\_\_.

a. pick the object out of a group of hidden objects using her right hand, but cannot identify it verbally

b. identify the object verbally and pick it out of a group of hidden objects using her right hand

c. identify the object verbally and pick it out of a group of hidden objects using her left hand

Incorrect: *Verbal identification and physical selection require the functions of both hemispheres. In this case, only the right hemisphere is active so verbal identification would be unlikely.*

d. pick the object out of a group of hidden objects using her left hand, but cannot identify it verbally

Correct: *Most people process verbal recognition of objects in their left hemispheres. This object is processed in the right hemisphere, so it can be picked out physically but not identified verbally.*

Answer: d

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System

Skill: Apply What You Know

Difficulty: 3 - Difficult

4 yr.: 19% r = .15

TB\_02\_58 The Central Nervous System\_Remember\_LO 2.7

Which hemisphere of the cerebral cortex is usually dominant in language tasks?

- a. the front hemisphere
- b. the right hemisphere
- c. the rear hemisphere
- d. the left hemisphere

Answer: d

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

4 yr.: 81% r = .24; 2 yr.: 58% r = .30

TB\_02\_59 The Central Nervous System\_Apply\_LO 2.7

A baby is born with an impairment of his left cerebral hemisphere, but it is not discovered until years later, when certain clues are pieced together. Which of the following is *most* likely to be one of those clues?

- a. He has difficulty identifying colors.
- b. He has difficulty perceiving concepts and spatial relationships.

Incorrect: *Spatial skills are usually the responsibility of the right cerebral hemisphere.*

c. He has difficulty learning to read.

Correct: *The left cerebral hemisphere, in most people, is responsible for language abilities, including reading skills.*

d. He has difficulty recognizing people's faces.

Answer: c

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System

Skill: Apply What You Know

Difficulty: 3 - Difficult

2 yr.: 45% r = .34

TB\_02\_60 The Central Nervous System\_Remember\_LO 2.7

The area of the frontal lobe that is crucial in our ability to talk is \_\_\_\_\_ area.

- a. Gall's
- b. Broca's
- c. Korsakoff's
- d. Wernicke's

Answer: b

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System  
Skill: Remember the Facts  
Difficulty: 2 - Moderate

TB\_02\_61 The Central Nervous System\_Remember\_LO 2.7

Simply put, Broca's area is important for \_\_\_\_\_, and Wernicke's area is important for \_\_\_\_\_.

- a. talking; listening
- b. listening; talking
- c. listening; listening
- d. talking; talking

Answer: a

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_62 The Central Nervous System\_Apply\_LO 2.7

Amy has suffered damage to Wernicke's area in her brain. She is most likely to exhibit \_\_\_\_\_ aphasia.

- a. inclusive
- b. receptive

Correct: *Wernicke's area is the part of the brain associated with the reception and comprehension of language. Damage to this area would result in receptive aphasia.*

- c. occlusive
- d. expressive

Incorrect: *Broca's area is essential to our ability to talk, or express ourselves, so damage to this area results in expressive aphasia.*

Answer: b

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System

Skill: Apply What You Know

Difficulty: 2 - Moderate

TB\_02\_63 The Central Nervous System\_Remember\_LO 2.7

Males are \_\_\_\_\_ likely than females to be left-handed.

- a. much less
- b. slightly more
- c. much more
- d. slightly less

Answer: b

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_64 The Central Nervous System\_Remember\_LO 2.8

\_\_\_\_\_ techniques are used to study the functions of single neurons.

- a. Structural imaging
- b. Macroelectrode
- c. Microelectrode
- d. Functional imaging

Answer: c

Learning Objective: 2.8 Discuss how microelectrode techniques, macroelectrode techniques, structural imaging, and functional imaging provide information about the brain.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_65 The Central Nervous System\_Remember\_LO 2.8

Macroelectrode techniques are used to \_\_\_\_\_.

- a. observe neural activity as it reacts to sensory stimuli
- b. study single neurons
- c. study overall activity in particular regions of the brain
- d. map structures in the living brain

Answer: c

Learning Objective: 2.8 Discuss how microelectrode techniques, macroelectrode techniques, structural imaging, and functional imaging provide information about the brain.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_66 The Central Nervous System\_Remember\_LO 2.8

Structural imaging techniques are used to \_\_\_\_\_.

- a. study overall activity in particular regions of the brain
- b. map structures in the living brain
- c. study single neurons
- d. observe neural activity as it reacts to sensory stimuli

Answer: b

Learning Objective: 2.8 Discuss how microelectrode techniques, macroelectrode techniques, structural imaging, and functional imaging provide information about the brain.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_67 The Central Nervous System\_Remember\_LO 2.8

Functional imaging techniques are used to \_\_\_\_\_.

- a. observe the brain's activity as it reacts to sensory stimuli
- b. study single neurons
- c. study overall activity in particular regions of the brain
- d. map structures in the living brain

Answer: a

Learning Objective: 2.8 Discuss how microelectrode techniques, macroelectrode techniques, structural imaging, and functional imaging provide information about the brain.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_68 The Central Nervous System\_Remember\_LO 2.8

An imaging technique that has been useful in helping researchers discover the biological origins of attention-deficit hyperactivity disorder is \_\_\_\_\_.

- a. magnetoencephalography (MEG)
- b. positron emission tomography (PET) scanning
- c. functional magnetic resonance imaging (fMRI)
- d. magnetic source imaging (MSI)

Answer: c

Learning Objective: 2.8 Discuss how microelectrode techniques, macroelectrode techniques, structural imaging, and functional imaging provide information about the brain.

Topic: The Central Nervous System

Skill: Remember the Facts  
Difficulty: 3 - Difficult

TB\_02\_69 The Central Nervous System\_Remember\_LO 2.9  
The spinal cord is made up of soft, jellylike bundles of long \_\_\_\_\_.

- a. ligaments
- b. axons
- c. dendrites
- d. tendons

Answer: b  
Learning Objective: 2.9 Explain how the spinal cord works.  
Topic: The Central Nervous System  
Skill: Remember the Facts  
Difficulty: 1 - Easy

TB\_02\_70 The Central Nervous System\_Apply\_LO 2.9  
Allan gingerly puts his fingertips on the hot handle of the skillet in which he's cooking supper, but he instantly pulls his hand away. His reaction is due to the functioning of the \_\_\_\_\_.

- a. medulla

Incorrect: *The medulla would not be involved in the withdrawal reaction to a hot surface.*

- b. limbic system
- c. spinal cord

Correct: *The spinal cord allows rapid communication between sensory neurons, interneurons, and motor neurons that allow such a reflex to occur.*

- d. hypothalamus

Answer: c  
Learning Objective: 2.9 Explain how the spinal cord works.  
Topic: The Central Nervous System  
Skill: Apply What You Know  
Difficulty: 2 - Moderate

## The Peripheral Nervous System

TB\_02\_71 The Peripheral Nervous System\_Remember\_LO 2.10  
Neurons that carry messages from the sense organs to the spinal cord or the brain are called \_\_\_\_\_ neurons.

- a. afferent
- b. sensory
- c. inter-
- d. efferent

Answer: a  
Learning Objective: 2.10 Identify the peripheral nervous system and contrast the functions of the somatic and autonomic nervous systems.  
Topic: The Peripheral Nervous System  
Skill: Remember the Facts  
Difficulty: 2 - Moderate

TB\_02\_72 The Peripheral Nervous System\_Apply\_LO 2.10  
A young woman returns from a day at the beach to find she has developed severe sunburn. Which neurons are sending messages from her burned skin to her brain informing her of the pain from the burn?

- a. motor neurons
- b. interaction neurons
- c. afferent neurons

Correct: *Afferent, or sensory, neurons take messages to the central nervous system from the sensory organs.*

d. efferent neurons

Incorrect: *Efferent, or motor, neurons take messages from the central nervous system to muscles and glands.*

Answer: c

Learning Objective: 2.10 Identify the peripheral nervous system and contrast the functions of the somatic and autonomic nervous systems.

Topic: The Peripheral Nervous System

Skill: Apply What You Know

Difficulty: 2 - Moderate

TB\_02\_73 The Peripheral Nervous System\_Remember\_LO 2.10

All the things that we can sense (sights, sounds, smells, temperature, taste, and pressure) have their origins in the \_\_\_\_\_ nervous system.

- a. secondary
- b. peripheral
- c. central
- d. autonomic

Answer: b

Learning Objective: 2.10 Identify the peripheral nervous system and contrast the functions of the somatic and autonomic nervous systems.

Topic: The Peripheral Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_74 The Peripheral Nervous System\_Remember\_LO 2.11

The branch of the autonomic nervous system that prepares the body for quick action in an emergency is the \_\_\_\_\_ division.

- a. sympathetic
- b. central
- c. secondary
- d. parasympathetic

Answer: a

Learning Objective: 2.11 Explain the differences between the sympathetic and the parasympathetic nervous systems.

Topic: The Peripheral Nervous System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_75 The Peripheral Nervous System\_Apply\_LO 2.11

You're walking all alone down a dark street when suddenly you hear a scream and then footsteps coming closer and closer. Your heart begins to pound, you're scared stiff, and you feel like running. Which part of the nervous system causes your body's reaction?

- a. the somatic nervous system

Incorrect: *The somatic nervous system generally controls voluntary functions, while the autonomic nervous system controls the automatic functions that are taking place when you are ready to run from a threat like this.*

- b. the autonomic nervous system

Correct: *The autonomic nervous system includes the sympathetic branch, which helps to speed our body up in a crisis or emergency.*

- c. the midbrain
- d. the hippocampus

Answer: b

Learning Objective: 2.11 Explain the differences between the sympathetic and the parasympathetic nervous systems.

Topic: The Peripheral Nervous System

Skill: Apply What You Know

Difficulty: 2 - Moderate

4 yr.: 72% r = .25

TB\_02\_76 The Peripheral Nervous System\_Remember\_LO 2.11

The branch of the autonomic nervous system that calms and relaxes the body is the \_\_\_\_\_ division.

- a. parasympathetic
- b. secondary
- c. sympathetic
- d. central

Answer: a

Learning Objective: 2.11 Explain the differences between the sympathetic and the parasympathetic nervous systems.

Topic: The Peripheral Nervous System

Skill: Remember the Facts

Difficulty: 1 - Easy

## The Endocrine System

TB\_02\_77 The Endocrine System\_Remember\_LO 2.12

The system which coordinates and integrates behavior by secreting chemicals into the bloodstream is called the \_\_\_\_\_ system.

- a. somatic
- b. limbic
- c. autonomic
- d. endocrine

Answer: d

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_78 The Endocrine System\_Remember\_LO 2.12

The gland that produces the largest number of different hormones and has the widest range of effects on the body's functions is the \_\_\_\_\_ gland.

- a. thyroid
- b. pineal
- c. adrenal
- d. pituitary

Answer: d

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Remember the Facts

Difficulty: 1 - Easy

4 yr.: 61% r = .24; 2 yr.: 76% r = .23; 2 yr.: 79% r = .47

TB\_02\_79 The Endocrine System\_Remember\_LO 2.12

The hormone melatonin is produced by the \_\_\_\_\_ gland.

- a. pituitary
- b. pineal
- c. adrenal
- d. thyroid

Answer: b

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_80 The Endocrine System\_Apply\_LO 2.12

Gloria's friends have recently noticed a startling change in her behavior. She eats everything in sight but gains little, if any, weight. She speeds around the room as if she were taking amphetamines. She seems constantly tense and agitated, and has trouble sleeping. She has become impulsive and lately she seems to be upset by even the slightest stress. The source of Gloria's problems is probably an \_\_\_\_\_ gland.

a. overactive pituitary

b. overactive thyroid

Correct: *An overactive thyroid (hyperthyroidism) can lead to such symptoms as irritability, insomnia, and difficulty sleeping.*

c. underactive pituitary

d. underactive thyroid

Incorrect: *An underactive thyroid (hypothyroidism) ordinarily leads to fatigue and excessive sleepiness.*

Answer: b

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Apply What You Know

Difficulty: 1 - Easy

TB\_02\_81 The Endocrine System\_Remember\_LO 2.12

The two hormones which keep the blood-sugar level properly balanced are \_\_\_\_\_.

a. growth hormone and ACTH

b. thyroxin and parathormone

c. insulin and glucagon

d. epinephrine and norepinephrine

Answer: c

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_82 The Endocrine System\_Remember\_LO 2.12

Oversecretion of insulin by the pancreas results in \_\_\_\_\_.

a. cirrhosis

b. diabetes

c. hypoglycemia

d. muscle spasms

Answer: c

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_83 The Endocrine System\_Remember\_LO 2.12

The adrenal glands are important in your body's reaction to \_\_\_\_\_.

a. digestion

- b. pleasurable fantasy
- c. sleep
- d. stress

Answer: d

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_84 The Endocrine System\_Remember\_LO 2.12

The hormone that causes the anterior pituitary gland to release hormones that prolong responses to stress, thus causing you to remain aroused for some time after extreme emotional excitement is \_\_\_\_\_.

- a. epinephrine
- b. acetylcholine
- c. norepinephrine
- d. dopamine

Answer: c

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_85 The Endocrine System\_Remember\_LO 2.12

Masculine sex hormones are called \_\_\_\_\_.

- a. androgens
- b. endorphins
- c. estrogens
- d. testosterone

Answer: a

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_86 The Endocrine System\_Remember\_LO 2.12

\_\_\_\_\_ has long been linked to aggressive behavior.

- a. Thyroxin
- b. Progesterone
- c. Testosterone
- d. Melatonin

Answer: c

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Remember the Facts

Difficulty: 1 - Easy

## Genes, Evolution, and Behavior

TB\_02\_87 Genes, Evolution, and Behavior\_Remember\_LO 2.13

The subfield of psychology concerned with the roots of behaviors and mental processes is \_\_\_\_\_.

- a. psychoneuroendocrinology
- b. evolutionary psychology
- c. behavior genetics
- d. psychobiology

Answer: b

Learning Objective: 2.13 Distinguish between behavior genetics and evolutionary psychology.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_88 Genes, Evolution, and Behavior\_Remember\_LO 2.14

Pairs of tiny threadlike bodies that carry genes are \_\_\_\_\_.

- a. riboplasts
- b. vesicles
- c. proteins
- d. chromosomes

Answer: d

Learning Objective: 2.14 Define genetics. Differentiate among genes, chromosomes, and DNA.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_89 Genes, Evolution, and Behavior\_Remember\_LO 2.14

The only known molecule that can replicate or reproduce itself is \_\_\_\_\_.

- a. messenger RNA
- b. monoamine oxidase
- c. RNA
- d. DNA

Answer: d

Learning Objective: 2.14 Define genetics. Differentiate among genes, chromosomes, and DNA.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_90 Genes, Evolution, and Behavior\_Apply\_LO 2.15

Jessica's mother has blue eyes, with two recessive genes for blue eyes. Her father has brown eyes, with a dominant gene for brown eyes and a recessive gene for blue eyes. What are the chances that Jessica has blue eyes?

- a. 0 percent

Incorrect: *In order for Jessica to have no chance of having blue eyes, her father would need to have two dominant genes for brown eyes.*

- b. 75 percent
- c. 50 percent

Correct: *Because of Jessica's parents' genetic codes, she has a 50 percent chance of having brown eyes and a 50 percent chance of having blue eyes.*

- d. 25 percent

Answer: c

Learning Objective: 2.15 Describe what is meant by dominant and recessive genes, polygenic inheritance, and genotype v. phenotype.

Topic: Genes, Evolution, and Behavior

Skill: Apply What You Know

Difficulty: 3 - Difficult

TB\_02\_91 Genes, Evolution, and Behavior\_Understand\_LO 2.15

In many important psychological characteristics, a number of genes make a small contribution to the trait in question. This process is known as \_\_\_\_\_.

a. polygenic inheritance

Correct: *When multiple genes contribute to a trait or characteristic, it is called polygenic inheritance.*

b. cumulative inheritance

c. genetic dominance

Incorrect: *Genetic dominance refers to one gene being expressed over another gene. The best answer is polygenic inheritance.*

d. natural selection

Answer: a

Learning Objective: 2.15 Describe what is meant by dominant and recessive genes, polygenic inheritance, and genotype v. phenotype.

Topic: Genes, Evolution, and Behavior

Skill: Understand the Concepts

Difficulty: 2 - Moderate

TB\_02\_92 Genes, Evolution, and Behavior\_Remember\_LO 2.16

The sum total of all genes within a human cell is \_\_\_\_\_.

a. polygenic inheritance

b. the human genome

c. the human phenotype

d. homogenetic inheritance

Answer: b

Learning Objective: 2.16 Describe the human genome and what can be learned by studying it.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_93 Genes, Evolution, and Behavior\_Remember\_LO 2.16

An organism's entire unique genetic makeup is called its \_\_\_\_\_.

a. phenotype

b. genotype

c. genetic imprint

d. polygenic inheritance

Answer: b

Learning Objective: 2.16 Describe the human genome and what can be learned by studying it.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_94 Genes, Evolution, and Behavior\_Remember\_LO 2.17

Strain studies involve \_\_\_\_\_.

a. a single generation of animals

b. inbreeding of close relatives of animals over several generations

c. adopting children with similar traits

d. breeding animals which have a trait with other animals that share that trait

Answer: b

Learning Objective: 2.17 Compare and contrast strain studies, selection studies, family studies, twin studies, and adoption studies as sources of information about the effects of heredity.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 2 - Moderate

4 yr.: 40%  $r = .16$

TB\_02\_95 Genes, Evolution, and Behavior\_Understand\_LO 2.17

Studies of heritability in humans that assume that if genes influence a certain trait, close relatives should be more similar with that trait than distant relatives are called \_\_\_\_\_ studies.

a. strain

Incorrect: *Strain studies are only conducted on animals, not on human beings.*

b. selection

c. family

Correct: *Family studies examine the commonality of certain genetic traits in relatives who share various levels of their genetic code.*

d. twin

Answer: c

Learning Objective: 2.17 Compare and contrast strain studies, selection studies, family studies, twin studies, and adoption studies as sources of information about the effects of heredity.

Topic: Genes, Evolution, and Behavior

Skill: Understand the Concepts

Difficulty: 2 - Moderate

TB\_02\_96 Genes, Evolution, and Behavior\_Remember\_LO 2.17

Fraternal twins are \_\_\_\_\_ similar genetically than are other brothers and sisters.

a. much more

b. much less

c. no more

d. slightly more

Answer: c

Learning Objective: 2.17 Compare and contrast strain studies, selection studies, family studies, twin studies, and adoption studies as sources of information about the effects of heredity.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_97 Genes, Evolution, and Behavior\_Remember\_LO 2.18

One process by which physicians can test a fetus, in the womb, for possible genetic abnormalities (defects) is called \_\_\_\_\_.

a. ultrasound

b. positron emission tomography scanning

c. amniocentesis

d. immunotherapy

Answer: c

Learning Objective: 2.18 Identify the key ethical issues that arise as society gains more control over genetics.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 1 - Easy

4 yr.: 88% r = .24

TB\_02\_98 Genes, Evolution, and Behavior\_Remember\_LO 2.18

A procedure in which cells are collected from the membranes surrounding the fetus, and then tested for genetic abnormalities, is called \_\_\_\_\_.

a. intra-uterine probe testing

b. chorionic villus sampling

c. ultrasound

d. amniocentesis

Answer: b

Learning Objective: 2.18 Identify the key ethical issues that arise as society gains more control over genetics.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_99 Genes, Evolution, and Behavior\_Remember\_LO 2.19

The mechanism proposed by Darwin in his theory of evolution stating that organisms best adapted to their environment tend to survive and transmit their genetic characteristics to their offspring, is called \_\_\_\_\_.

- a. mutational transmosis
- b. natural selection
- c. behavior genetics
- d. random adaptation

Answer: b

Learning Objective: 2.19 Describe how evolutionary psychologists view the influence of natural selection on human social behavior

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_100 Genes, Evolution, and Behavior\_Understand\_LO 2.19

From an evolutionary perspective, for mate selection in humans, it is most advantageous for \_\_\_\_\_.

- a. both males and females to seek as many mates as possible
- b. males to seek one long-term mate but for females to seek as many mates as possible  
Incorrect: *According to evolutionary psychology, males may gain advantage by finding as many partners as possible because of their ability to replenish sperm in a short amount of time.*
- c. both males and females to seek one mate for life
- d. females to seek one long-term mate but for males to seek as many mates as possible  
Correct: *Females gain advantage by finding one male mate to stay with for the long term, according to evolutionary psychology.*

Answer: d

Learning Objective: 2.19 Describe how evolutionary psychologists view the influence of natural selection on human social behavior

Topic: Genes, Evolution, and Behavior

Skill: Understand the Concepts

Difficulty: 2 - Moderate

## True/False

TB\_02\_101 Neurons: The Messengers\_Remember\_LO 2.1

The tiny fibers branching out from the cell body of a neuron are called axons.

- a. True
- b. False

Answer: b

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience. Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_102 Neurons: The Messengers\_Remember\_LO 2.1

An axon is very thick and usually much shorter than dendrites.

- a. True
- b. False

Answer: b

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience. Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_103 Neurons: The Messengers\_Remember\_LO 2.1

The axon of a neuron is often surrounded by a fatty covering called the myelin sheath.

- a. True
- b. False

Answer: a

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience.

Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_104 Neurons: The Messengers\_Remember\_LO 2.2

Neural impulses vary in strength according to the strength of the incoming signal to the neuron.

- a. True
- b. False

Answer: b

Learning Objective: 2.2 Describe how neurons transmit information including the concepts of resting potential, polarization, action potential, graded potential, threshold of excitation, and the all-or-none law.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_105 Neurons: The Messengers\_Remember\_LO 2.2

The neuron cannot fire during the absolute refractory period.

- a. True
- b. False

Answer: a

Learning Objective: 2.2 Describe how neurons transmit information including the concepts of resting potential, polarization, action potential, graded potential, threshold of excitation, and the all-or-none law.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_106 Neurons: The Messengers\_Remember\_LO 2.3

The tiny gap between the synaptic knob and the next neuron is called the synapse.

- a. True
- b. False

Answer: b

Learning Objective: 2.3 Describe the parts of the synapse.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_107 Neurons: The Messengers\_Remember\_LO 2.4

Schizophrenia seems to be associated with an overabundance of dopamine.

- a. True
- b. False

Answer: a

Learning Objective: 2.4 Explain the role of neurotransmitters in the synapse.

Topic: Neurons: The Messengers  
Skill: Remember the Facts  
Difficulty: 2 - Moderate

TB\_02\_108 Neurons: The Messengers\_Remember\_LO 2.5

Adult brains are not capable of neurogenesis.

- a. True
- b. False

Answer: b

Learning Objective: 2.5 Explain neuroplasticity and neurogenesis.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_109 The Central Nervous System\_Remember\_LO 2.6

The nervous system is usually divided into two major parts: the central nervous system and the parasympathetic nervous system.

- a. True
- b. False

Answer: b

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_110 The Central Nervous System\_Remember\_LO 2.6

The oldest and most primitive of the brain's structures are the cerebral hemispheres.

- a. True
- b. False

Answer: b

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_111 The Central Nervous System\_Remember\_LO 2.6

Breathing, heart rate, and blood pressure are controlled by the medulla.

- a. True
- b. False

Answer: a

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_112 The Central Nervous System\_Remember\_LO 2.6

Phineas Gage suffered personality changes as a result of damage to his temporal lobes.

- a. True
- b. False

Answer: b

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_113 The Central Nervous System\_Remember\_LO 2.6

The limbic system is important to motivation.

- a. True
- b. False

Answer: a

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_114 The Central Nervous System\_Remember\_LO 2.7

The hemisphere of the brain most dominant in verbal tasks is the right hemisphere.

- a. True
- b. False

Answer: b

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_115 The Central Nervous System\_Remember\_LO 2.7

Differences between hemispheres are greater in women than in men.

- a. True
- b. False

Answer: b

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_116 The Central Nervous System\_Remember\_LO 2.7

Broca's area is important in listening and Wernicke's area is important in talking.

- a. True
- b. False

Answer: b

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_117 The Central Nervous System\_Remember\_LO 2.8

Both CT scanning and MRI provide pictures of brain activity.

- a. True
- b. False

Answer: b

Learning Objective: 2.8 Discuss how microelectrode techniques, macroelectrode techniques, structural imaging, and functional imaging provide information about the brain.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_118 The Central Nervous System\_Remember\_LO 2.9

The complex cable of nerves that connects the brain to the rest of the body is the spinal cord.

- a. True
- b. False

Answer: a

Learning Objective: 2.9 Explain how the spinal cord works.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_119 The Central Nervous System\_Remember\_LO 2.10

Afferent neurons carry messages from the central nervous system.

- a. True
- b. False

Answer: b

Learning Objective: 2.10 Identify the peripheral nervous system and contrast the functions of the somatic and autonomic nervous systems.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_120 The Peripheral Nervous System\_Remember\_LO 2.11

The somatic nervous system contains two branches: the sympathetic and the parasympathetic divisions.

- a. True
- b. False

Answer: b

Learning Objective: 2.11 Explain the differences between the sympathetic and the parasympathetic nervous systems.

Topic: The Peripheral Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_121 The Peripheral Nervous System\_Remember\_LO 2.11

The sympathetic division carries messages to the body which tell it to prepare for an emergency.

- a. True
- b. False

Answer: a

Learning Objective: 2.11 Explain the differences between the sympathetic and the parasympathetic nervous systems.

Topic: The Peripheral Nervous System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_122 The Endocrine System\_Remember\_LO 2.12

Chemical substances called hormones are released into your bloodstream by the endocrine glands.

- a. True
- b. False

Answer: a

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_123 The Endocrine System\_Remember\_LO 2.12

The two hormones secreted by the pancreas are insulin and adrenaline.

- a. True
- b. False

Answer: b

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_124 The Endocrine System\_Remember\_LO 2.12

Estrogen has been linked to aggressive behavior in both males and females.

- a. True
- b. False

Answer: b

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_125 Genes, Evolution, and Behavior\_Remember\_LO 2.14

The main ingredient of genes and chromosomes is glucagon.

- a. True
- b. False

Answer: b

Learning Objective: 2.14 Define genetics. Differentiate among genes, chromosomes, and DNA.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_126 Genes, Evolution, and Behavior\_Remember\_LO 2.15

When a number of genes make small contributions to a trait, this is known as mixed dominance.

- a. True
- b. False

Answer: b

Learning Objective: 2.15 Describe what is meant by dominant and recessive genes, polygenic inheritance, and genotype v. phenotype.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_127 Genes, Evolution, and Behavior\_Remember\_LO 2.15

The effects of genetics are not always immediate or fully apparent.

- a. True
- b. False

Answer: a

Learning Objective: 2.15 Describe what is meant by dominant and recessive genes, polygenic inheritance, and genotype v. phenotype.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts  
Difficulty: 1 - Easy

TB\_02\_128 Genes, Evolution, and Behavior\_Remember\_LO 2.17  
Genes can directly cause human behavior.

- a. True
- b. False

Answer: b

Learning Objective: 2.17 Compare and contrast strain studies, selection studies, family studies, twin studies, and adoption studies as sources of information about the effects of heredity.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_129 Genes, Evolution, and Behavior\_Remember\_LO 2.17  
Family studies are usually based on families with identical twins.

- a. True
- b. False

Answer: b

Learning Objective: 2.17 Compare and contrast strain studies, selection studies, family studies, twin studies, and adoption studies as sources of information about the effects of heredity.

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_130 Genes, Evolution, and Behavior\_Remember\_LO 2.19  
Evolutionary psychologists are especially interested in social behaviors.

- a. True
- b. False

Answer: a

Learning Objective: 2.19 Describe how evolutionary psychologists view the influence of natural selection on human social behavior

Topic: Genes, Evolution, and Behavior

Skill: Remember the Facts

Difficulty: 2 - Moderate

## Essay

TB\_02\_131 Neurons: The Messengers\_Remember\_LO 2.1

Define neuron, axon, dendrite, cell body, and myelin sheath. In your definitions, be sure to describe the specific functions of each item.

Answer:

Learning Objective: 2.1 Define and differentiate between psychobiology and neuroscience.

Describe a typical neuron. Distinguish between afferent neurons, efferent neurons, association neurons, mirror neurons, and glial cells.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_132 Neurons: The Messengers\_Remember\_LO 2.4

Specifically describe the effects of the neurotransmitters acetylcholine, dopamine, serotonin, norepinephrine, and endorphins.

Answer:

Learning Objective: 2.4 Explain the role of neurotransmitters in the synapse.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_133 Neurons: The Messengers\_Remember\_LO 2.4

Discuss why painkillers can be addictive.

Answer:

Learning Objective: 2.4 Explain the role of neurotransmitters in the synapse.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_134 Neurons: The Messengers\_Remember\_LO 2.5

Explain what plasticity and neurogenesis are. Briefly summarize the research regarding stem cells and the possibility of growing new neurons in the human brain.

Answer:

Learning Objective: 2.5 Explain neuroplasticity and neurogenesis.

Topic: Neurons: The Messengers

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_135 The Central Nervous System\_Remember\_LO 2.6

Describe the location and functioning of the medulla, cerebellum, thalamus, hypothalamus, and cerebral cortex.

Answer:

Learning Objective: 2.6 Identify the parts and functions of the brain and nervous system.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_136 The Central Nervous System\_Remember\_LO 2.7

Compare and contrast the functions of the left and right hemispheres of the cerebral cortex. What role does the corpus callosum play in this functioning? Finally, what were the reasons for, and results of, split-brain operations?

Answer:

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 3 - Difficult

TB\_02\_137 The Central Nervous System\_Remember\_LO 2.7

Discuss how the brain controls language in humans, identifying the key structures involved in language processing and describing the effects of damage to these areas.

Answer:

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_138 The Central Nervous System\_Remember\_LO 2.7

Summarize research findings about left-handedness and its causes.

Answer:

Learning Objective: 2.7 Explain what is meant by “hemispheric specialization” and the functional differences between the two cerebral hemispheres.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_139 The Central Nervous System\_Remember\_LO 2.8

Briefly discuss the purposes of and describe the procedure for studying the brain within each of the following general areas: microelectrode techniques, macroelectrode techniques, structural imaging, functional imaging.

Answer:

Learning Objective: 2.8 Discuss how microelectrode techniques, macroelectrode techniques, structural imaging, and functional imaging provide information about the brain.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_140 The Central Nervous System\_Remember\_LO 2.9

Describe the functions of the spinal cord and explain how it works with the brain to sense events and act on them.

Answer:

Learning Objective: 2.9 Explain how the spinal cord works.

Topic: The Central Nervous System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_141 The Peripheral Nervous System\_Remember\_LO 2.11

Compare and contrast the functions of the sympathetic and parasympathetic nervous system. What does the current scientific evidence indicate in regard to one's ability to consciously control functions normally controlled by the autonomic nervous system?

Answer:

Learning Objective: 2.11 Explain the differences between the sympathetic and the parasympathetic nervous systems.

Topic: The Peripheral Nervous System

Skill: Remember the Facts

Difficulty: 1 - Easy

TB\_02\_142 The Endocrine System\_Remember\_LO 2.12

Describe the basic functions of the endocrine system, including the specific functions of the thyroid gland, pancreas, pituitary gland, gonads, and adrenal glands.

Answer:

Learning Objective: 2.12 Describe the endocrine glands and the way their hormones affect behavior.

Topic: The Endocrine System

Skill: Remember the Facts

Difficulty: 2 - Moderate

TB\_02\_143 Genes, Evolution, and Behavior\_Understand\_LO 2.14

Define genes, chromosomes, and DNA and describe their role in the genetic transmission of traits.

Answer:

Learning Objective: 2.14 Define genetics. Differentiate among genes, chromosomes, and DNA.

Topic: Genes, Evolution, and Behavior  
Skill: Understand the Concepts  
Difficulty: 3 - Difficult

TB\_02\_144 Genes, Evolution, and Behavior\_Apply\_LO 2.15

Explain how dominant and recessive genes might influence the eye color of a child born to parents where the father has blue eyes and the mother has brown eyes. What color eyes are the grandchildren likely to have if the child marries a blue-eyed person? Why?

Answer:

Learning Objective: 2.15 Describe what is meant by dominant and recessive genes, polygenic inheritance, and genotype v. phenotype.

Topic: Genes, Evolution, and Behavior

Skill: Apply What You Know

Difficulty: 2 - Moderate

TB\_02\_145 Genes, Evolution, and Behavior\_Understand\_LO 2.17

Define and describe the uses for and limitations of family studies, twin studies, and adoption studies. What has been learned from these studies about the role of heredity in shaping human personality?

Answer:

Learning Objective: 2.17 Compare and contrast strain studies, selection studies, family studies, twin studies, and adoption studies as sources of information about the effects of heredity.

Topic: Genes, Evolution, and Behavior

Skill: Understand the Concepts

Difficulty: 3 - Difficult