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, than 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. magnetoencephalogaphy (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 polygenetic inheritance.*
b. cumulative inheritance
c. genetic dominance
Incorrect: *Genetic dominance refers to one gene being expressed over another gene. The best answer is polygenetic 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. polygenetic 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