Test Bank for Essentials Of Understanding Psychology 6th Edition by Feldman

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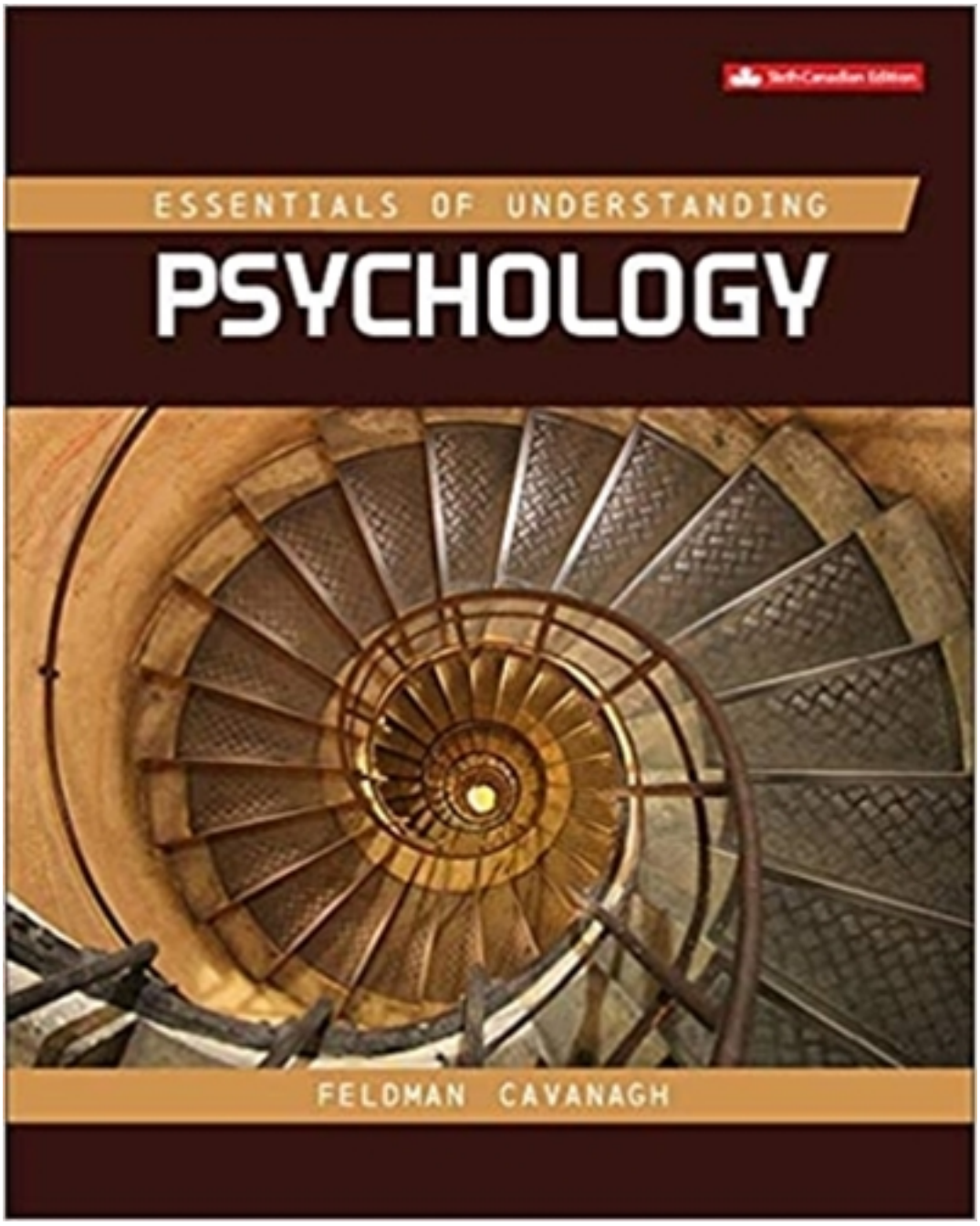

Test Bank

Chapter 02
Neuroscience and Behaviour

True / False Questions

1. Canadian actor Michael J. Fox has been diagnosed with an early on-set case of Alzheimer's disease.
FALSE

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: Prologue

2. The preliminary symptoms of Parkinson's disease include; tremors, rigidity, and slow movement.
TRUE

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: Prologue

3. As many as 1 in 10 individuals diagnosed with the Parkinson's disease are under the age of 40.
TRUE

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: Prologue

4. Mirror neurons suggest that the capacity of even young children to imitate others may be an inborn behaviour.
TRUE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-01 The Structure of the Neuron

5. The dendrite physically holds the neuron in place.
FALSE

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-01 The Structure of the Neuron

6. A neuron's resting state has a negative electrical charge of about 10 millivolts (a millivolt is one one-thousandth of a volt).
FALSE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-02 How Neurons Fire

7. The speed with which an action potential moves down the axon is determined by the axon's size and the thickness of its myelin sheath.
TRUE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-03 Where Neurons Meet: Bridging the Gap

8. Neurotransmitters are always consistent in their actions. They perform in an identical manner regardless of their location in the nervous system.
FALSE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

9. The longer and thicker the axon the more rapid the impulse.
TRUE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-03 Where Neurons Meet: Bridging the Gap

10. Neurons are complex structures. Due to the action potential, they may be connected with no more than one to two hundred other neurons.
FALSE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

11. In the nervous system, neurotransmitters are stored in the neuron's dendrites.
FALSE

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

12. Acetylcholine and serotonin are both excitatory neurotransmitters in the central nervous system.
FALSE

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Hard
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

13. The abilities to regulate or suppress pain and to experience pleasure are influenced by endorphins.
TRUE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

14. The fMRI scan also has the potential to treat some psychological disorders.
FALSE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-04 How do researchers identify the major parts and functions of the brain?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

15. The advantage of transcranial magnetic stimulation (TMS) is that it can increase neural growth.
FALSE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-04 How do researchers identify the major parts and functions of the brain?
Topic: 02-05 Studying the Brain's Structure and Functions: Spying on the Brain

16. Research has shown that the central core, or the primitive brain, is very similar in all vertebrates.
TRUE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-06 The Hindbrain: Our "Reptilian Brain"

17. The limbic system contains three primary components: the thalamus, hypothalamus, and hippocampus.
FALSE

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-09 The Subcortical Structures: The Thalamus, Hypothalamus, and Limbic System

18. The limbic system consists of a series of doughnut-shaped structures that are involved in self-preservation, learning memory, and the experience of pleasure.
TRUE

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-13 Association Areas of the Cortex

19. The association areas of the brain are closely linked to such higher order mental processes as thinking, language, memory, and speech.
TRUE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-13 Association Areas of the Cortex

20. Motor neurons carry information from the brain to the muscle groups, and sensory neurons carry information from the sensory organs to the brain.
TRUE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-11 The Motor Area of the Cortex

21. Neurons that connect sensory and motor neurons carrying messages between the two are called complimentary neurons.
FALSE

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-11 The Motor Area of the Cortex

22. The structures of the brain are organized in such a way that older, more primitive parts of the brain regulate the newer areas of the brain.
FALSE

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-17 The Nervous System

23. The nervous system is divided into three main parts: the spinal cord, the central nervous system and the peripheral nervous system.
FALSE

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-17 The Nervous System

24. Neurons that connect sensory and motor neurons are called cognitive neurons.
FALSE

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-18 The Central and Peripheral Nervous Systems

25. Behavioural genetics holds the promise of developing new diagnostic and treatment techniques for genetic deficiencies that can lead to physical and psychological difficulties.
TRUE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-20 Behavioural Genetics

26. The endocrine system is a chemical communication network that sends messages via hormones.
FALSE

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands

Multiple Choice Questions

27. Which analogy describes the function of myelin?
A. Insulation packed around a hot water pipe
B. A portable battery charger
C. Jumper cables used to boost a dead battery
D. A vitamin taken to supply necessary nutrients.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-02 How Neurons Fire

28. Surgeons have found that implanting a device in the brain that delivers weak electric shocks to areas of the brain that control movement and abnormal nerve signals may offer relief for people living with which of the following?
A. Asperger's syndrome
B. Klinefelter's syndrome
C. Parkinson's disease
D. Alzheimer's disease

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: Prologue

29. The dendrite of a neuron performs which role?
A. Receives information from other neurons
B. Performs the cell's metabolic activities
C. Passes information along to other neurons
D. Releases neurotransmitters into the synapse

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-02 How Neurons Fire

30. Which of the following defines another name for a biopsychologist?
A. Psychic practitioner
B. Clinical diagnostician
C. Medical psychologist
D. Behavioural neuroscientist

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-01 The Structure of the Neuron

31. The speed of transmission in a neuron will occur fastest if the myelin sheath around the axon is which of the following?
A. Highly concentrated
B. Absent
C. Not highly concentrated
D. Uncovered

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-02 How Neurons Fire

32. Which feature of the neuron makes it distinct from other cells in the body?
A. Its rapid rate of reproduction
B. Its ability to function well without oxygen
C. The fact that it has a nucleus
D. Its ability to communicate with other cells

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-01 The Structure of the Neuron

33. What is a neuron?
A. The sensory apparatus involved in balance
B. A chemical substance transmitted in the bloodstream
C. One of many kinds of muscles found in the motor system
D. The basic unit of the nervous system

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-01 The Structure of the Neuron

34. A behavioural neuroscientist would be most interested in which of these questions?
A. How does learning style affect language development in young children?
B. Can the causes of behavioural disorders be linked to medical factors?
C. How do personality differences relate to romantic attraction?
D. In what ways does culture influence perceptual abilities?

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-01 The Structure of the Neuron

35. Research suggests that there is a positive correlation between the thickness of an axon's myelin sheath and which of the following?
A. Size of the neurotransmitters in the terminal buttons
B. The number of dendrites that receive messages
C. Importance of the message that is transmitted
D. Neuron's excitatory or inhibitory nature

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-02 How Neurons Fire

36. All of the following statements describe Michael J. Fox EXCEPT which one?
A. Fox began his very public crusade to find a cure for Parkinson disease.
B. Times Magazine nominated Fox as one of the world's top 100 heroes and pioneers.
C. Fox's early onset of Parkinson's Disease is extremely rare, affecting 1 in 500 people.
D. The Michael J. Fox Foundations has raised more than $115 million for research and treatment.

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: Prologue

37. Researchers from many areas are interested in the relationship between behaviour and biology. Which of the following terms describes the study of the brain, nervous system, and behaviour?
A. Cognitive science
B. Neuroscience
C. Biophysics
D. Behaviourism

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-02 How Neurons Fire

38. The myelin sheath wraps around which of the following?
A. Cell bodies
B. Synapses
C. Dendrites
D. Axon

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-02 How Neurons Fire

39. Damaged or insufficient myelin sheath would cause which of the following?
A. Slowed nerve impulses
B. Rapid nerve impulses
C. Accelerated nerve impulses
D. Exaggerated nerve impulses

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-02 How Neurons Fire

40. The prologue describes the case of Canadian Michael J. Fox, who fought privately and secretly a disease for seven years. Fox was experiencing the beginning stages of which of the following?
A. Parkinson's disease
B. Alzheimer's disease
C. Asperger's syndrome
D. Klinefelter's syndrome

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: Prologue

41. To acknowledge Michael J. Fox for his crusade to find a cure for this particular disease, the University of British Columbia bestowed upon him an honorary degree. Michael J. Fox was a crusader for which of the following?
A. Parkinson's disease.
B. Alzheimer's disease
C. Asperger's syndrome
D. Klinefelter's syndrome

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: Prologue

42. Which term describes the part of the neuron that receives chemical signals from other neurons?
A. Dendrite
B. Synapse
C. Axon
D. Terminal button

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-02 How Neurons Fire

43. Which concept describes the portion of the nerve cell from which information is passed to other nerve cell?
A. Dendrite
B. Cell body
C. Axon terminal
D. Myelin sheath

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-02 How Neurons Fire

44. People like Michael J. Fox, who was described in the prologue, are finding relief from the symptoms of Parkinson's disease by implanting a device in the brain that delivers weak electric shocks to areas of the brain that control movement and abnormal nerve signals. Which of the following describes what this procedure is known as?
A. Motor cortex ablation
B. Deep brain stimulation
C. Endovascular surgery
D. Neuro-pituitary surgery

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-02 How Neurons Fire

45. What are nerves composed of?
A. Action fibers
B. Muscles
C. Excitatory potentials
D. Neurons

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-01 The Structure of the Neuron

46. What is the approximate negative electrical charge of a neuron's resting state?
A. 30 millivolts
B. 70 millivolts
C. 100 millivolts
D. 150 millivolts

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-01 The Structure of the Neuron

47. Regardless of how strong a stimulus is, neurons still fire with the same amount of electrical impulse. Which of the following describes this fact?
A. All-or-none law
B. Dendrite-axon law
C. Excitatory-inhibitory law
D. Split-brain law

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-02 How Neurons Fire

48. Which of the following is taking place when a neuron is at its resting state?
A. There is more negative ions inside the neuron than outside it.
B. There is fewer negative ions inside the neuron than outside it.
C. There is an equal number of positive and negative ions inside the neuron.
D. There is an equal number of positive and negative ions outside the neuron.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-02 How Neurons Fire

49. Ted is experiencing problems walking and controlling his muscles. His doctor thinks he may have multiple sclerosis, a disease that occurs when which of the following takes place?
A. A neuron's dendrites shrink in size.
B. The deterioration of the myelin sheath.
C. Too much dopamine is released into the synapse.
D. Too little serotonin is being released into the synapse.

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Hard
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-02 How Neurons Fire

50. The "all-or-none law" refers to which fact about the nervous system?
A. Neurons will die if they do not have enough blood supply.
B. People cannot function if parts of their brains are removed.
C. Neurons are either "on" or "off"; there is no in-between.
D. More intense stimuli provoke stronger action potentials.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-02 How Neurons Fire

51. Which of the following statements describe an action potential?
A. Through the same neuron, impulses can move at different strengths.
B. Through the same neuron, impulses can move at different speeds.
C. Neurons differ in the frequency of impulses they communicate.
D. All neurons have the same frequency of impulses they communicate.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-02 How Neurons Fire

52. Where are neurotransmitters stored?
A. Inside the myelin sheath
B. In terminal buttons
C. In the cell body
D. At the end of the dendrites

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-03 Where Neurons Meet: Bridging the Gap

53. What is the synapse?
A. The long slender tail that leads away from the neuron's cell body.
B. The neural structure that connects the two cerebral hemispheres.
C. A gap between an axon's terminal button and another neuron's dendrite.
D. A temporary impairment that causes a memory lapse.

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-03 Where Neurons Meet: Bridging the Gap

54. Which feature of the synapse makes possible greater variety and flexibility in the nervous system?
A. Hard-wired connections between neurons.
B. The ability to manufacture enzymes.
C. The presence of a gap between neurons.
D. The ability to resist chemical reuptake.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-03 Where Neurons Meet: Bridging the Gap

55. The neurotransmitter acetylcholine has a major role in which behavioural function?
A. Sexual arousal
B. Mood control
C. Pleasurable feelings
D. Memory

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Hard
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

56. A neurotransmitter affects particular neurons, but not others, depending upon whether the:
A. Receiving neuron has a suitable receptor site.
B. Receiving neuron expects a message to arrive.
C. Receiving neuron is in its resting state.
D. Nerve impulse acts according to the all-or-none law.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

57. Which neurotransmitter is found in the parasympathetic nervous system as well as in the central nervous system?
A. GABA
B. Dopamine
C. Norepinephrine
D. Acetylcholine

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Hard
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

58. Messages travel in _____ form within a neuron, and in _____ form between neurons.
A. electrical; electrical
B. chemical; chemical
C. chemical; electrical
D. electrical; chemical

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

59. Which of the following is the primary inhibitory neurotransmitter in the nervous system?
A. GABA
B. Dopamine
C. Norepinephrine
D. Acetylcholine

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

60. Which of the following substances serves as a neurotransmitter at the nerve-muscle junction and also in the central nervous system?
A. Acetylcholine (Ach)
B. Dopamine
C. Curare
D. Gamma-amino butyric acid (GABA)

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

61. Although too much dopamine is thought to be involved in _____, having too little of it in certain parts of the brain is involved in _____.
A. depression; Alzheimer's disease
B. movement; alcoholism
C. aggression; eating disorders
D. schizophrenia; Parkinson's disease

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

62. Jason suffers from the symptoms of depression. Some psychologists believe that his depression could be caused by a deficiency of which neurotransmitter?
A. GABA
B. Serotonin
C. Dopamine
D. Endorphins

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Hard
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

63. Long-distance runners sometimes report a natural high and a reduction in pain sensitivity associated with the release of which of the following?
A. Acetylcholine
B. Dopamine
C. Endorphins
D. Norepinephrine

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Easy
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

64. Which of the following describes the chemical substances that communicate information from one neuron to another?
A. Axons
B. Terminal bulbs
C. Hormones
D. Neurotransmitters

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

65. What would be expected that the symptoms of Alzheimer's disease will do?
A. Be unaffected by ACh levels.
B. Be improved by boosting the levels of endorphins.
C. Improve if ACh levels are increased.
D. Worsen if ACh levels are reduced.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

66. Excitatory messages received across the synapse do what?
A. Cause the axon to vibrate physically.
B. Have no effect on the receiving neuron.
C. Stimulate the neuron to prevent an action potential.
D. Tell the receiving neuron to trigger an action potential.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

67. After being fired by the neuron, a neurotransmitter is absorbed into the axon terminal. Which of the following describes this process?
A. Reuptake
B. Inhibition
C. Myelination
D. Endorphing

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

68. Which statement describes a neurotransmitter?
A. A chemical substance that carries information in the nervous system.
B. The part of the neuron that receives information from other neurons.
C. A brain disease that results in loss of memory and motor control.
D. The part of the brain that controls speech and language functions.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

69. If Dr. White wants to view the work of the brain as it processes different words visually and auditorially, which of the following will he use?
A. An electroencephalogram to record electrical wave patterns.
B. A positron emission tomography scans to see the intensity of work in parts of the brain.
C. Functional magnetic resonance imaging for a structural view.
D. Transcranical magnetic stimulation to see the effects of a "virtual lesion."

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Medium
Learning Objective: 02-04 How do researchers identify the major parts and functions of the brain?
Topic: 02-05 Studying the Brain's Structure and Functions: Spying on the Brain

70. A group of Canadian researchers examine the effects of introducing a strong magnetic field in a small area of the brain. They wants to see how such a "virtual lesion" changes normal brain functioning. What type of scan is the research group using?
A. EEG
B. TMS
C. PET
D. fMRI

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Medium
Learning Objective: 02-04 How do researchers identify the major parts and functions of the brain?
Topic: 02-05 Studying the Brain's Structure and Functions: Spying on the Brain

71. In order to study the brain wave activity of different areas of the brain, researchers use which of the following techniques?
A. EEG (electroencephalogram)
B. CAT scan (computerized axial tomography)
C. PET scan (positron emission tomography)
D. NMR scan (nuclear magnetic resonance)

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Hard
Learning Objective: 02-04 How do researchers identify the major parts and functions of the brain?
Topic: 02-05 Studying the Brain's Structure and Functions: Spying on the Brain

72. Monica's doctor has requested a test that will show the amount and location of activity in her brain just after she is injected with a radioactive isotope. Which of the following procedures will be used?
A. CAT scan
B. EEG
C. TMS
D. PET scan

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Medium
Learning Objective: 02-04 How do researchers identify the major parts and functions of the brain?
Topic: 02-05 Studying the Brain's Structure and Functions: Spying on the Brain

73. What can transcranial magnetic stimulation (TMS) do?
A. Produce a picture of electrical activity in the brain.
B. Provide diagnostic information and treat brain disease or injury.
C. View and remove dysfunctional brain area.
D. Produce pictures of the brain and spinal cord.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-04 How do researchers identify the major parts and functions of the brain?
Topic: 02-05 Studying the Brain's Structure and Functions: Spying on the Brain

74. The medulla is critical for survival, since it controls which of the following?
A. Breathing and heartbeat
B. Thoughts and decision making
C. Body rhythms
D. Vision

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-06 The Hindbrain: Our "Reptilian Brain"

75. After a serious auto accident, your friend has difficulty sitting securely in her chair, and she often drops her fork or misses her mouth as she tries to feed herself. She may have suffered damage to which area of the brain?
A. Reticular formation
B. Pons
C. Cerebellum
D. Adrenal cortex

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Medium
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-06 The Hindbrain: Our "Reptilian Brain"

76. Which term describes the part of the brain which consists of a bundle of nerve fibers connecting the halves of the cerebellum?
A. Medulla
B. Reticular formation
C. Thalamus
D. Pons

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-06 The Hindbrain: Our "Reptilian Brain"

77. If a person's cerebellum were damaged in an accident, you would expect that person to have problems with which of the following?
A. Breathing
B. Seeing and hearing
C. Speaking
D. Muscle coordination

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Medium
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-06 The Hindbrain: Our "Reptilian Brain"

78. While watching her favourite podcast, Laura falls fast asleep. Even though her boyfriend Rob tries to wake her. Which part of Laura's brain is Rob trying to activate?
A. Reticular formation
B. Wernicke's area
C. Sensory cortex
D. Thalamus

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Medium
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-07 The Midbrain

79. Dr. Tan used the analogy of a switchboard operator to describe the part of the brain that not only activates other specific brain areas but may also screen other stimuli depending on the state of awareness which is needed. Which part of the brain is he referring to?
A. Pons
B. Frontal lobe
C. Cerebellum
D. Reticular formation

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Hard
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-07 The Midbrain

80. Sally is a skilled gymnast whose specialty is the balance beam. Which part of her brain is most responsible for her ability to perform?
A. Cerebellum
B. Reticular formation
C. Hypothalamus
D. Limbic system

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Medium
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-07 The Midbrain

81. If you hear a sudden, loud noise, which of the following can immediately activate other parts of the brain to produce general bodily arousal?
A. Hypothalamus
B. Medulla
C. Reticular formation
D. Thalamus

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-07 The Midbrain

82. Sydney Crosby started playing hockey at age three. He shoots the hockey pucks with ease that gives the appearance that his muscles and balance system are on "automatic pilot." This advanced level of coordination and control is probably the work of which of the following?
A. Thalamus
B. Hypothalamus
C. Cerebellum
D. Pons

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Hard
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-07 The Midbrain

83. Roberta began to learn how to play soccer in second grade. She remembered how awkward she felt running and trying to control the ball at the same time. In high school, she became an expert at soccer dribbling. During a game she feels her muscles and balance system are on "automatic pilot." This advanced level of coordination and control is probably the work of which of the following?
A. Thalamus
B. Hypothalamus
C. Cerebellum
D. Pons

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Hard
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-07 The Midbrain

84. Injury to which of the following would leave a person with serious handicaps in both vision and hearing?
A. Cerebellum
B. Hypothalamus
C. Thalamus
D. Reticular formation

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-08 The Forebrain

85. Which statement describes why the function of the hypothalamus is so important?
A. It is responsible for maintenance of the body temperature.
B. Ensures a person's sense of physical balance.
C. Distinguishing foreground from background vision.
D. Regulates heart rate.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-08 The Forebrain

86. Electrical stimulation of which of the following, via an implanted electrode would likely trigger false visual or auditory sensations even when the sense organs themselves remain unstimulated?
A. Cerebellum
B. Hypothalamus
C. Thalamus
D. Reticular formation

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-08 The Forebrain

87. Information from the eyes, ears, and skin which must be communicated to higher brain levels travels through which of the following?
A. Cerebellum
B. Ventricles
C. Thalamus
D. Sensory cortex

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-08 The Forebrain

88. Although "pleasure centers" are found at many brain sites, where is the most common place to find them?
A. In the association areas of the cerebral cortex
B. In the cerebellum
C. The medulla
D. The limbic system

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-09 The Subcortical Structures: The Thalamus, Hypothalamus, and Limbic System

89. Which of the following best describes the functions of the hypothalamus?
A. Cortical arousal
B. Motor coordination
C. Information processing
D. Basic survival

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-09 The Subcortical Structures: The Thalamus, Hypothalamus, and Limbic System

90. Which area of the brain is primarily associated with basic functions relating to emotions and self-preservation, such as eating and reproduction?
A. Thalamus
B. Cerebral cortex
C. Cerebellum
D. Limbic system

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-09 The Subcortical Structures: The Thalamus, Hypothalamus, and Limbic System

91. What is the frontal lobe?
A. It is a division of the limbic system.
B. It contains the hippocampus.
C. It is involved in hearing.
D. It is involved in voluntary muscle movement.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-10 The Cerebral Cortex: Our "New Brain"

92. If a particular behaviour is associated with a small portion of the motor area, then it must be:
A. A large scale behaviour, like waving your arms.
B. A precise behaviour, like threading a needle with your fingers.
C. A facial behaviour, like smiling or frowning.
D. Unknown-we know very little about how behaviours map onto the motor area.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-10 The Cerebral Cortex: Our "New Brain"

93. Which of the following is NOT a primary region in the sensory area of the cortex?
A. A region related to body sensations.
B. A region related to vision.
C. A region related to sexual behaviour.
D. A region related to hearing.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-10 The Cerebral Cortex: Our "New Brain"

94. Where is the higher mental function located that distinguish human brains from other species?
A. In the limbic system
B. In the cerebral cortex
C. In the cerebellum
D. In the thalamus and hypothalamus

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-10 The Cerebral Cortex: Our "New Brain"

95. What happened to railroad worker Phineas Gage, whose case study is presented in the chapter on biology and behaviour?
A. An explosive accident blasted a spike through his brain.
B. After a severe fall that injured most of his brain, he received a transplant.
C. A surgical accident left him with a permanent memory defect.
D. He was born with only half a brain, yet he was able to live a normal life.

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-11 The Motor Area of the Cortex

96. Broca's area is primarily responsible for which function?
A. Speech comprehension
B. Emotions
C. Memory
D. Speech production

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-12 The Sensory Area of the Cortex

97. What is the language disorder in which speech sounds fluent, but makes no sense?
A. Apraxia
B. Broca's aphasia
C. Split-brain syndrome
D. Wernicke's aphasia

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Hard
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-12 The Sensory Area of the Cortex

98. All of the following describe brain functioning EXCEPT which one?
A. Neurons in the central nervous system cannot be replaced; once they die, they are gone forever.
B. Stimulating the brain's production of dopamine may help to reduce the symptoms of Parkinson's disease.
C. The issue of stem cell research is a controversial, ethical issue that produces varied opinions-even among psychologists.
D. Removing diseased areas of the brain can sometimes help relieve seizures.

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Hard
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-13 Association Areas of the Cortex

99. Research involving rats with spinal cord injuries has demonstrated which of the following?
A. The temporal lobe is able to compensate for movement restrictions.
B. Neurons transplanted from the peripheral nervous system may restore movement.
C. The spinal cord can be fused with sections for the occipital lobe.
D. A section of the myelin sheath can be used to restore function.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-13 Association Areas of the Cortex

100. The concept of neuroplasticity is best described by which statement?
A. The brain ceases to create changes after the age of one year.
B. People who have injured their brain in adulthood cannot regain their lost functions.
C. The neurons and synapses in the brain reorganize themselves throughout life.
D. Each hemisphere has a specialized function not shared by the other hemisphere.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-14 Neuroplasticity and the Brain

101. Sequential information processing is a characteristic of the _____ hemisphere, and the recognition of patterns and drawings is characteristic of the _____ hemisphere.
A. left; right
B. right; left
C. right; right
D. left; left

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-06 How do the halves of the brain operate interdependently?
Topic: 02-15 The Specialization of the Hemispheres: Two Brains or One?

102. Which statement describes why it is difficult to study the specialized abilities of the left and right cerebral hemispheres in the brains of normal individuals?
A. The left side of the brain controls the right side of the body, and vice versa.
B. People won't submit for unnecessary brain surgery.
C. It is difficult to identify the boundary between the two hemispheres.
D. The two hemispheres share information quickly and completely.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-06 How do the halves of the brain operate interdependently?
Topic: 02-15 The Specialization of the Hemispheres: Two Brains or One?

103. Which describes the Lateralization of language ability?
A. It cannot be compared between the two genders.
B. It is equal between men and women.
C. It is stronger in women than in men.
D. It is stronger in men than in women.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-06 How do the halves of the brain operate interdependently?
Topic: 02-15 The Specialization of the Hemispheres: Two Brains or One?

104. What can be concluded about the causes of gender differences?
A. Causes of male/female gender differences cannot be identified with certainty because the data are correlational and descriptive.
B. The differences are caused by innate biological factors rather than learning or social experiences.
C. The differences are caused by differences in the early social experiences of girls and boys.
D. The differences are caused equally by biological/genetic factors and by early childhood experiences.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-06 How do the halves of the brain operate interdependently?
Topic: 02-15 The Specialization of the Hemispheres: Two Brains or One?

105. Research with split-brain patients has shown which of the following?
A. Mental stimulation can reunite the halves of their brain.
B. An object shown to the left hemisphere only will not be seen at all.
C. The temporal lobe is not needed for hearing if the occipital lobe is intact.
D. An object shown to the right hemisphere only will be seen but cannot be named.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-06 How do the halves of the brain operate interdependently?
Topic: 02-16 The Split Brain: Exploring the Two Hemispheres

106. A person who has difficulty naming objects that appear only in the right visual field most likely has which of the following conditions?
A. Split brain
B. Wernicke's aphasia
C. Dyslexia
D. Broca's aphasia

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Hard
Learning Objective: 02-06 How do the halves of the brain operate interdependently?
Topic: 02-16 The Split Brain: Exploring the Two Hemispheres

107. Which task could a "split-brain" patient perform if shown a ball in his left visual field?
A. Name it but be unable to throw it.
B. Throw it but be unable to name it.
C. Refer to it in several different languages.
D. Name its colour but not its shape.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-06 How do the halves of the brain operate interdependently?
Topic: 02-16 The Split Brain: Exploring the Two Hemispheres

108. Behaviour that is reflexive, or automatic and involuntary, is generally regulated by which of the following?
A. Brain
B. Peripheral nervous system
C. Somatic nervous system
D. Spinal cord

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-17 The Nervous System

109. Which of the following describes the neurons that transmit information from the perimeter of the body to the central nervous system?
A. Spinal neurons
B. Sensory (afferent) neuron
C. Motor (efferent) neurons
D. Interneurons

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-17 The Nervous System

110. You can move your pen skillfully across the page and do the latest dance step thanks to the functioning of which division of your nervous system?
A. Somatic
B. Sensory
C. Sympathetic
D. Parasympathetic

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-17 The Nervous System

111. The central nervous system (CNS) consists of which of the following?
A. The brain and spinal cord.
B. Neurons located in sensory organs or that contact muscles.
C. The brain structures located centrally in the brain, covered by other neural tissue.
D. All neurons whose axons are covered by myelin sheath.

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-17 The Nervous System

112. The sympathetic portion of the nervous system controls which aspect of behaviour?
A. The voluntary muscular reactions.
B. The automatic, emotional responses.
C. The conscious decision making.
D. The memory and thought processes.

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-18 The Central and Peripheral Nervous Systems

113. The fact that your heart is beating reflects that the _____ division of the peripheral nervous system is operating; reading this question and selecting the correct answer reflects the operation of the _____ division.
A. autonomic; somatic
B. somatic; autonomic
C. sympathetic; parasympathetic
D. parasympathetic; sympathetic

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-18 The Central and Peripheral Nervous Systems

114. The parasympathetic nervous system is responsible for which aspect of behaviour?
A. The integration of sensory information.
B. Preparing the body for emergencies.
C. Taking care of the body's functions at rest.
D. Facilitation of newly learned actions.

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-18 The Central and Peripheral Nervous Systems

115. Which of the following describes the likely consequence of a disabling injury to a man's sympathetic autonomic nervous system?
A. Inability to walk without a cane or other aid.
B. Difficulty detecting sensory signals.
C. Frustration at not achieving orgasm during intercourse.
D. Intermittent drowsiness, with naps needed throughout the day.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-18 The Central and Peripheral Nervous Systems

116. Which of the following does the activation of the autonomic nervous system require?
A. Conscious, deliberate action
B. Stimulation by the somatic system
C. Reflexive reactions of the spinal cord
D. No conscious or voluntary action

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-18 The Central and Peripheral Nervous Systems

117. The sympathetic and parasympathetic autonomic divisions have opposing effects on the behaviours they control. What is the most likely consequence of this arrangement?
A. The body's level of emergency preparedness can be quickly changed.
B. The person will often be left in a state of confusion.
C. Sensation and movement will sometimes become confused.
D. Afferent and efferent neurons will sometimes exchange their roles.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-18 The Central and Peripheral Nervous Systems

118. Which of the following describes the important function of the autonomic nervous system?
A. Handling simple reflexes
B. Successfully resolving emergencies
C. Making future plans
D. Maintaining alert consciousness

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-18 The Central and Peripheral Nervous Systems

119. What does the hierarchical organization of the nervous system explain?
A. Why most primitive regions of the brain are no longer associated with important functions.
B. Why lower regions of the brain control higher regions of the nervous system.
C. Why oldest regions of the brain are associated with more advanced functioning.
D. Why more recently evolved regions of the brain are associated with advanced functioning.

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Hard
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-19 The Evolutionary Foundations of the Nervous System

120. Psychology students were in a heated discussion. One group maintained that attention deficit disorder was a result of poor child rearing, while the other group believed that it stemmed from genetic traits beyond the control of parents and teachers. The students were discussing a question regarding which of the following?
A. The role of drug treatments in reducing hyperactivity.
B. Nature verses nurture.
C. Chemical agency as opposed to genetic changes.
D. Intolerance of activity level based on changes in the demands of social structures.

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Hard
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-20 Behavioural Genetics

121. Adriana and David are fraternal twins. Adriana is exceptionally outgoing and friendly, and David is extremely shy. What would behavioural geneticists most likely attribute their personality differences to?
A. Equal influence of environmental and inheritance factors
B. Environmental factors
C. Inherited factors
D. Neither environmental nor inheritance factors

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Medium
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-20 Behavioural Genetics

122. In which field of study do researchers attempt to identify the effects of heredity on psychological characteristics?
A. Behavioural genetics
B. Evolutionary psychology
C. Neurological psychology
D. Environmental biology

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-20 Behavioural Genetics

123. The field of behavioural genetics is concerned with which aspect of psychological functioning?
A. The treatment of neurological disorders.
B. The effects of heredity on psychological characteristics.
C. The impact of hormones on mood.
D. The connection between brain measures and thoughts.

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-20 Behavioural Genetics

124. In the endocrine system, a hormone is defined as which of the following?
A. Electrical messenger
B. Major organ
C. Chemical messenger
D. State of rest

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands

125. Which of the following describes why the pituitary gland is called the "master gland"?
A. Regulates the response of the brain to an internal imbalance
B. Is solely responsible for homeostasis
C. Has sufficient power to defend against micro-organisms
D. Controls the endocrine system

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands

126. What does the hypothalamus and pituitary gland control when they are working together?
A. Metabolic rate
B. Emotional reactions
C. Most other endocrine glands
D. Sugar metabolism

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands

127. In the endocrine system, which organ controls the pituitary gland?
A. Adrenal gland
B. Hypothalamus
C. Parathyroid gland
D. Thymus

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands

128. People who are unusually short or tall may have abnormalities in which endocrine gland?
A. Thymus
B. Pancreas
C. Pituitary
D. Testis

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Medium
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands

129. Shirley has no desire to breastfeed her newborn daughter, and she seems uninterested in her partner's offer to cuddle. Her doctor may want to consider low levels of which of the following as one explanation for Shirley's low desire?
A. Estrogen
B. Oxytocin
C. Somatotropin
D. Thyroxine

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Hard
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands

130. All of the following statements describe hormones EXCEPT which one?
A. Most health experts now encourage menopausal women to undergo hormone replacement therapy.
B. The hormone oxytocin may be beneficial for social interactions, leading to greater trust among individuals.
C. Steroid use has been associated with heart attacks, strokes, and cancer.
D. Hormones produced by the thymus are important for immune system functions.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands

131. Which organ of the endocrine is considered the "master gland"?
A. Thyroid
B. Ovary
C. Testes
D. Pituitary

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands

132. What describes the brain organ that interacts most closely with the pituitary gland?
A. Pons
B. Cerebral cortex
C. Thalamus
D. Hypothalamus

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Medium
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands

133. If estrogen can be used to replace the missing hormone in women, could testosterone be used for older men? A physician would probably advise which of the following?
A. That testosterone builds muscles and good health in older men.
B. That testosterone can increase risk of heart attacks, strokes, cancer, and aggressive behaviour in older men.
C. That all hormones are beneficial.
D. That most men maintain high testosterone levels throughout life.

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Medium
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands

134. Which of the following describes how hormones differ from neurotransmitters?
A. They are more robust and effective in escalating behaviour.
B. Conserve more energy as needed.
C. They travel throughout the body and move at a slower rate.
D. Exchange chemical make up more readily.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands

135. Which organ in the endocrine system is also part of the nervous system?
A. Parathyroid
B. Ovary
C. Thymus
D. Hypothalamus

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands

Short Answer Questions

136. Why do psychologists study the brain and nervous system, and what is this field of study generally referred to?

Psychologists who specialize in considering the ways in which the biological structures and functions of the body affect behaviour are known as behavioural neuroscientists (or biopsychologists).
They seek to answer several key questions: How does the brain control the voluntary and involuntary functioning of the body? How does the brain communicate with other parts of the body? What is the physical structure of the brain, and how does this structure affect behaviour? Are psychological disorders caused by biological factors, and how can such disorders be treated?

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Easy
Learning Objective: 02-01 Why do psychologists study the brain and the nervous system?
Topic: 02-01 The Structure of the Neuron

137. Draw a typical neuron and label its major parts accurately. Briefly describe the functions of the parts labeled on your diagram.

The drawing should contain: (a) dendrites, which should appear as clusters of branchlike extensions from the cell body; (b) the cell body, which should appear as a roundish structure in the center of the diagram; (c) the axon, which should appear as a long tube extending from the cell body; and (d) myelin sheath, which should appear bracketing portions of the axon. The diagram should also include a terminal button, a bulblike ending to the axon.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-01 The Structure of the Neuron
Topic: 02-02 How Neurons Fire

138. A neuron contains three primary structures: the cell body, axon, and dendrites. What are the functions of each of these structures?

A neuron is the basic building block of the nervous system, and it contains three primary structures. The first structure is the cell body: it contains the nucleus and houses inherited information that governs how the neuron functions. Thus, the cell body directs the growth and nourishment of the neuron. One of the most important and distinct features of the neuron is its ability to communicate to other nerve cells. The axon, the second structure, is important in this communication process. The axon is a tube-like extension of the cell body, and it is responsible for carrying messages away from the cell body of one neuron and toward other neurons. Axons vary in length, and they contain terminal buttons that send messages to other neurons via neurotransmitters. Dendrites represent the final structure, and they are also critical for interneuron communication. They are fibers along the outside of the cell body, and these fibers receive chemical messages from other neurons. Damage to any of these structures can lead to the neuron's inability to sustain itself or to communicate effectively.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-02 What are the basic elements of the nervous system?
Topic: 02-01 The Structure of the Neuron
Topic: 02-02 How Neurons Fire

139. Briefly explain how one neuron sends a message to another neuron.

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

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-02 How Neurons Fire
Topic: 02-03 Where Neurons Meet: Bridging the Gap

140. The brain contains many different types of neurotransmitters, including dopamine and acetylcholine. Briefly describe the functions of dopamine and acetylcholine, including what happens when levels of these neurotransmitters are too high and/or too low.

Dopamine generates excitatory messages, and is typically found in the brain. It is responsible for movement, attention, and learning. When the level of dopamine in the brain is too high, then it is not unusual for a person to exhibit behaviours that are associated with schizophrenia or other severe mental disorders. When the level of dopamine is too low, a person is likely to manifest such symptoms of Parkinson's disease as shaky and uncoordinated movement. Acetylcholine can be found throughout the central and peripheral nervous systems. Within the brain and autonomic nervous system, it generates excitatory messages; it produces inhibitory messages elsewhere. Acetylcholine plays an important function in muscle control and movement, communicating between the skeletal muscles and the nervous systems. Memory is also affected by acetylcholine levels. Lower levels of acetylcholine has been correlated with the development of Alzheimer's disease.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Medium
Learning Objective: 02-03 How does the nervous system communicate electrical and chemical messages from one part to another?
Topic: 02-04 Neurotransmitters: Multitalented Chemical Couriers

141. How does the EEG recording differ from those provided by the TMS scan?

The electroencephalogram (EEG) provides a recording of brain wave activity which can be used in understanding abnormal patterns of electrical patterns in the brain. Recordings are made by placing electrodes on the outside of a person's skull, and then a machine measures electrical wave patterns. Recent advances in EEG technology have enabled psychologists to transform the electrical activity into a "picture" of the brain. Such innovation allows psychologists to be more precise in how they diagnose disorders of the brain.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-04 How do researchers identify the major parts and functions of the brain?
Topic: 02-05 Studying the Brain's Structure and Functions: Spying on the Brain

142. What is aphasia, and what is the difference between Broca's aphasia and Wernicke's aphasia?

The term aphasia generally refers to problems with language, and there are two major forms of aphasia. Broca's aphasia is associated with laboured speech that often does not follow the rules of grammar. For example, all the words they want to say are spoken, but they are spoken in a disorganized and grammatically inappropriate way. Often, though, people with this form of aphasia struggle to find the words they want to say, and their speech is broken and incomplete. Wernicke's aphasia is associated with problems in understanding what other people are saying, as well as with problems in producing language. People who suffer from this form of aphasia often speak quite fluently, showing no gaps between words or ideas. However, the content of their speech does not make sense, potentially leading to frustration in the audience trying to understand what is being said.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Easy
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-06 The Hindbrain: Our "Reptilian Brain"

143. Identify the major functions of these three brain structures: hypothalamus, cerebellum, and the reticular formation.

The hypothalamus is a small structure in the brain that maintains the body's internal balance or homeostasis. For example, the hypothalamus works to keep the body at a constant temperature, triggering perspiration when the body is hot and shivers when the body is cold. The hypothalamus is also involved in basic behaviours such as eating, self-protection, and sexual behaviour.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-05 What are the major parts of the brain; and for what behaviours is each part responsible?
Topic: 02-06 The Hindbrain: Our "Reptilian Brain"
Topic: 02-07 The Midbrain
Topic: 02-08 The Forebrain
Topic: 02-09 The Subcortical Structures: The Thalamus, Hypothalamus, and Limbic System

144. You have been asked to prepare a brief summary for your school's newspaper that describes research on the differences between the left and right hemispheres. What would you generally say in this summary?

Research on lateralization and split-brain patients has shown that the left and right hemispheres do specialize in different types of information and functions. The left hemisphere appears to specialize in skills that relate to verbal competence (e.g., speaking, thinking, and reasoning), and the right hemisphere specializes in nonverbal tasks (e.g., music and emotional expression). Although there does appear to be differences in the specialization of the brain's hemispheres, these differences are small. And such lateralization can vary across culture. For example, language functions are often specialized in men's left hemisphere. For women, in contrast, language functions are more equally distributed between both hemispheres. As another example, when native speakers of Japanese process information about vowel sounds, there is greater activity in the left hemisphere. Among North and South Americans and Europeans, the activity is primarily in the right hemisphere. What psychologists do not agree on, however, is why those differences exist or where they come from. The degree of specialization varies across individuals, and it is likely the case that the left and right hemispheres work together much of the time to process information that the brain receives.

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Medium
Learning Objective: 02-06 How do the halves of the brain operate interdependently?
Topic: 02-15 The Specialization of the Hemispheres: Two Brains or One?
Topic: 02-16 The Split Brain: Exploring the Two Hemispheres

145. How could a right-handed patient recovering from split brain surgery be unable to describe an object placed in their left hand while blindfolded?

Stimulus tactile stimulus of the object in the left hand is sent to the sematosensory cortex in the right hemisphere. Most right handed people use the left hemisphere for speech. Although the right hemisphere may have the information, it cannot send it to the left hemisphere due to the surgery.

Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: Medium
Learning Objective: 02-06 How do the halves of the brain operate interdependently?
Topic: 02-18 The Central and Peripheral Nervous Systems

146. Briefly describe the peripheral nervous system and its four divisions.

The peripheral nervous system (PNS) extends from the central nervous system (brain and spinal cord) to the extremities of the body through a system of neurons with long axons and dendrites. The two major divisions of the PNS are the somatic and autonomic divisions. The somatic division is responsible for voluntary movements and for the transmission of information to and from such areas as the eyes, ears, and fingers. The autonomic division regulates organs that are necessary for survival, like the heart and lungs. It operates even without our awareness, because it would be disastrous if we forget to remind ourselves to breathe or our heart to beat. The autonomic division is further subdivided into the sympathetic and parasympathetic divisions, and these subdivisions are most noticeable during emergencies. The sympathetic division prepares the body for emergencies and helps us to either fight stressors or to flee from them. If you were inside a burning house, for example, the sympathetic division would produce the necessary arousal that would allow you to either run out of the house for safety, or to find a fire extinguisher to help battle the blaze. The parasympathetic division restores the body to its resting state once an emergency has ended. Once it is clear that your house was not on fire, your breathing and heart rate return to normal, and you eventually feel a sense of calm. The parasympathetic system is also responsible for storing nutrients and oxygen for the body to use should another emergency arise.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-19 The Evolutionary Foundations of the Nervous System

147. Describe some of the major contributions in the field of behavioural genetics that further our understanding of the nature and nurture debate in psychology.

Behavioural geneticists study the ways in which behaviour and cognition are affected by heredity. That is, they approach the understanding of human behaviour and cognition from a nature perspective, arguing that much of what psychologists study can be understood by understanding a person's genetic makeup. Our genetic makeup predisposes us to act in particular ways to our environment, or to even prefer one kind of environment over another. Behavioural geneticists do not contend that heredity is the only influence on behaviour and cognition, but they do believe heredity is very important.
Research in behavioural genetics has substantially contributed to our understanding of how humans behave and think. For example, research has shown that there may be a genetic component to cognitive abilities, personality traits (e.g., novelty-seeking and sociability), sexual orientation, and disorders (e.g., schizophrenia and autism). Research has also revealed strategies for identifying, treating, or coping with inherited behaviours. Gene therapy has allowed scientists to explore ways of treating genetic diseases, and genetic counseling has helped people understand the kinds of risks they may pass on to their offspring. Behavioural genetics is a relatively new subfield in psychology, and its popularity and importance will continue to grow.

Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: Hard
Learning Objective: 02-07 How are the structures of the nervous system linked?
Topic: 02-20 Behavioural Genetics

148. In what ways are hormones and neurotransmitters similar to and different from each other?

Both hormones and neurotransmitters communicate chemical messages to cells in the body. However, they vary in how quickly they travel and in their modes of transmission. Whereas neurotransmitters move between neurons very rapidly (less than a second), hormones require several minutes to reach their target cells and to have their intended effect. Neurotransmitters travel to specific neurons in a network; hormones, in contrast, flow in the bloodstream and move throughout the whole body. Only those cells that are receptive to the hormone's message will be activated. Finally, the messages that hormones transmit relate closely to growth in the body. The endocrine system is responsible for producing hormones, a primary component of which is the pituitary gland. The pituitary releases hormones that regulate growth, and people with extreme deviations from normal height often have abnormalities in this gland. Without neurotransmitters and hormones, the various systems of the body would be unable to function effectively, leading to many problems in behaviour and cognition.

Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: Hard
Learning Objective: 02-08 How does the endocrine system affect behaviour?
Topic: 02-21 The Endocrine System: Of Chemicals and Glands