9. Using the key choices, identify the terms defined in the following statements. Place the correct term or letter response in the answer blanks.

Key Choices

A. Action potential
B. Depolarization
C. Polarized
D. Potassium ions
E. Refractory period
F. Repolarization
G. Sodium ions
H. Sodium-potassium pump

_____ 1. Period of repolarization of the neuron during which it cannot respond to a second stimulus

_____ 2. State in which the resting potential is reversed as sodium ions rush into the neuron

_____ 3. Electrical condition of the plasma membrane of a resting neuron

_____ 4. Period during which potassium ions diffuse out of the neuron

_____ 5. Transmission of the depolarization wave along the neuron's membrane

_____ 6. The chief positive intracellular ion in a resting neuron

_____ 7. Process by which ATP is used to move sodium ions out of the cell and potassium ions back into the cell; completely restores the resting conditions of the neuron

10. Using the key choices, identify the types of reflexes involved in each of the following situations.

Key Choices

A. Somatic reflex(es)
B. Autonomic reflex(es)

_____ 1. Patellar (knee-jerk) reflex

_____ 2. Pupillary light reflex

_____ 3. Effectors are skeletal muscles

_____ 4. Effectors are smooth muscle and glands

_____ 5. Flexor reflex

_____ 6. Regulation of blood pressure

_____ 7. Salivary reflex

LIVEWORKSHEETS

12. Circle the term that does not belong in each of the following groupings.

1. Astrocytes Neurons Oligodendrocytes Microglia
2. K^+ enters the cell K^+ leaves the cell Repolarization Refractory period
3. Nodes of Ranvier Myelin sheath Unmyelinated Saltatory conduction
4. Predictable response Voluntary act Involuntary act Reflex
5. Oligodendrocytes Schwann cells Myelin Microglia
6. Cutaneous receptors Free dendritic endings Stretch Pain and touch
7. Cell interior High Na^+ Low Na^+ High K^+

CENTRAL NERVOUS SYSTEM

Brain

13. Complete the following statements by inserting your answers in the answer blanks.

_____ 1.
_____ 2.
_____ 3.
_____ 4.
_____ 5.

The largest part of the human brain is the (paired) __(1)__. The other major subdivisions of the brain are the __(2)__ and the __(3)__. The cavities found in the brain are called __(4)__. They contain __(5)__.

14. Circle the terms indicating structures that are *not* part of the brain stem.

Cerebral hemispheres Midbrain Medulla

Pons Cerebellum Diencephalon

15. Complete the following statements by inserting your answers in the answer blanks.

_____ 1.
_____ 2.
_____ 3.
_____ 4.
_____ 5.

A __(1)__ is an elevated ridge of cerebral cortex tissue. The convolutions seen in the cerebrum are important because they increase the __(2)__. Gray matter is composed of __(3)__. White matter is composed of __(4)__, which provide for communication between different parts of the brain as well as with lower CNS centers. The lentiform nucleus, the caudate, and other nuclei are collectively called the __(5)__.

LIVEWORKSHEETS

18. Referring to the brain areas listed in Exercise 17, match the appropriate brain structures with the following descriptions. Insert the correct terms in the answer blanks.

_____ 1. Site of regulation of water balance and body temperature

_____ 2. Contains reflex centers involved in regulating respiratory rhythm in conjunction with lower brain-stem centers

_____ 3. Responsible for the regulation of posture and coordination of skeletal muscle movements

_____ 4. Important relay station for afferent fibers traveling to the sensory cortex for interpretation

_____ 5. Contains autonomic centers, which regulate blood pressure and respiratory rhythm, as well as coughing and sneezing centers

_____ 6. Large fiber tract connecting the cerebral hemispheres

_____ 7. Connects the third and fourth ventricles

_____ 8. Encloses the third ventricle

_____ 9. Forms the cerebrospinal fluid

_____ 10. Midbrain area that is largely fiber tracts; bulges anteriorly

_____ 11. Part of the limbic system; contains centers for many drives (rage, pleasure, hunger, sex, etc.)

19. Some of the following brain structures consist of gray matter; others are white matter. Write G (for gray) or W (for white) as appropriate.

_____ 1. Cortex of cerebellum

_____ 2. Basal nuclei

_____ 3. Anterior commisure

_____ 4. Corpus callosum

_____ 5. Pyramids

_____ 6. Thalamic nuclei

_____ 7. Cerebellar peduncle

LIVEWORKSHEETS