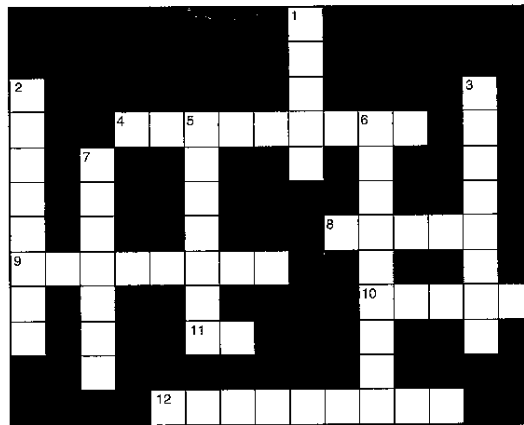


**ASSIGNMENT SHEET****CHAPTER 11: ANATOMY AND PHYSIOLOGY OF THE HUMAN BODY****Unit 2: The Nervous System****WORDS TO KNOW CHALLENGE****A. Spelling: Underline the correct spelling of each word.**

- |                  |              |             |              |
|------------------|--------------|-------------|--------------|
| 1. angiography   | angiografie  | angeography | angiographe  |
| 2. aracknoid     | arachnoid    | arachenoid  | arachnoyd    |
| 3. autonomech    | autanomic    | autonomic   | autenomic    |
| 4. cerebellam    | ceribellum   | cerabellum  | cerebellum   |
| 5. hypothalamous | hypothalamus | hypathalmus | hypethalmous |
| 6. mininges      | menegies     | maninges    | meninges     |
| 7. periferal     | peripherel   | peripheral  | peripharel   |
| 8. sciatika      | sciatica     | siaticka    | sciateca     |
| 9. sympathetic   | synpethetic  | synpathitic | synpathic    |
| 10. ventricle    | vantricle    | ventracle   | ventricle    |

**B. Crossword Puzzle****ACROSS**

4. Posterior lobe of cerebrum
8. Nerve that causes action or movement
9. Contains sensory nerve cell bodies
10. Nerve of vision
11. Acronym for multiple sclerosis
12. Cavity within the brain

**DOWN**

1. Portion of CNS in cranium
2. Membranes covering CNS
3. Small brain part at top of brain stem
5. The skull
6. Part of peripheral nervous system
7. Portion of cerebrum behind forehead

## UNIT REVIEW

### A. Matching: For each symptom, write the letter of the appropriate disease or disorder.

- \_\_\_\_\_ 1. Sudden, acute onset of fever, headache, and vomiting, which progresses to a stiff neck and back, drowsiness, and eventual coma
- \_\_\_\_\_ 2. Blurred or double vision with sensations of tingling or numbness; periods of attacks and remission characterized by tremor, muscular weakness, and paralysis
- \_\_\_\_\_ 3. Severe muscle rigidity, drooling, tremor, and a bent-forward position when walking
- \_\_\_\_\_ 4. Temporary double vision, slurred speech, dizziness, staggering, and falling
- \_\_\_\_\_ 5. Loss of sensation with paralysis of one side of the body
- \_\_\_\_\_ 6. Sharp, piercing pain in the back of the thigh extending down the side of the leg
- \_\_\_\_\_ 7. Weakness and paralysis on one side of the face causing drooping mouth, drooling, and inability to close the affected eye
- \_\_\_\_\_ 8. Fluid-filled vesicles on the skin associated with fever, severe pain, itching, and abnormal skin sensations
- \_\_\_\_\_ 9. Seizures of varying duration, possible loss of consciousness, loss of body function control, and convulsions
- \_\_\_\_\_ 10. Abnormally large head, distended scalp veins, shiny scalp skin, irritability, vomiting
- \_\_\_\_\_ 11. Hyperactive tendon reflexes, underdeveloped affected extremities, muscular contractions; may also have seizures, mental retardation, and impaired speech
- \_\_\_\_\_ 12. High fever, chills, headache, positive Brudzinski's and Kernig's signs
- \_\_\_\_\_ 13. Severe pain along the course of a nerve anywhere in the body
- \_\_\_\_\_ 14. Excruciating facial pain upon stimulation of a trigger zone
- \_\_\_\_\_ 15. Paralysis with loss of sensation and reflexes in lower extremities
- \_\_\_\_\_ 16. Muscular weakness and atrophy; problems with speech, chewing, and swallowing; respirations may be affected; choking and drooling
- \_\_\_\_\_ 17. Prodromal symptoms of fatigue, visual disturbances, tingling of face and lips, sensitivity to light, nausea, and vomiting
- \_\_\_\_\_ 18. Incomplete closure of one or more vertebra, bladder and bowel control problems, hydrocephalus, weakness or paralysis of legs, often includes mental retardation
- \_\_\_\_\_ 19. Vomiting, lethargy, liver dysfunction, hyperventilation, delirium and coma, with eventual respiratory arrest

- a. Amyotrophic lateral sclerosis
- b. Bell's palsy
- c. Cerebral palsy
- d. Encephalitis
- e. Epilepsy
- f. Herpes zoster
- g. Hemiplegia
- h. Hydrocephalus
- i. Meningitis
- j. Migraine headache

- k. Multiple sclerosis
- l. Neuralgia
- m. Paraplegia
- n. Parkinson's disease
- o. Reye's syndrome
- p. Sciatica
- q. Spina bifida
- r. Transient ischemic attack
- s. Trigeminal neuralgia

**B. Short Answer**

1. List the two main divisions of the nervous system.
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
2. What is a synapse? \_\_\_\_\_  
\_\_\_\_\_
3. Identify two types of peripheral nerves.
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
4. List the two types of spinal nerves and describe their functions.
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
5. What is the purpose or function of the autonomic nervous system? \_\_\_\_\_  
\_\_\_\_\_
6. Name the two divisions of the autonomic nervous system, explaining their actions.
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
7. List the five divisions of the brain and identify what function each division provides.
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  - e. \_\_\_\_\_
8. List the lobes of the cerebrum and their associated functions.
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
9. List the two structures between the cerebrum and the midbrain, describing their functions.
  - a. \_\_\_\_\_
    1. \_\_\_\_\_
  - b. \_\_\_\_\_
    1. \_\_\_\_\_
    2. \_\_\_\_\_
    3. \_\_\_\_\_
    4. \_\_\_\_\_
    5. \_\_\_\_\_
    6. \_\_\_\_\_
    7. \_\_\_\_\_
    8. \_\_\_\_\_

10. List the three meninges, describing their characteristics as given in the text.

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

11. What are the spaces called between the (a) dura mater and the arachnoid and (b) the arachnoid and the pia?

- a. \_\_\_\_\_
- b. \_\_\_\_\_

12. Name the fluid within the cavities of the CNS and describe its function. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**C. Matching: Match the diagnostic tests in column I with their purposes in column II.**

**COLUMN I**

- \_\_\_\_\_ 1. Arteriography
- \_\_\_\_\_ 2. Brain scan
- \_\_\_\_\_ 3. Glasgow Coma Scale
- \_\_\_\_\_ 4. CAT scan
- \_\_\_\_\_ 5. E.E.G.
- \_\_\_\_\_ 6. Electromyography
- \_\_\_\_\_ 7. Lumbar puncture
- \_\_\_\_\_ 8. Myelography
- \_\_\_\_\_ 9. Skull X-ray
- \_\_\_\_\_ 10. Position emission tomography

**COLUMN II**

- a. Detects abnormal electrical impulses in the brain
- b. Detects tumors, bleeding, clots, brain size, and edema
- c. Measures cerebrospinal fluid pressure or obtains a sample of fluid
- d. Images enhanced with color
- e. Detects cranial fractures or dense cerebral areas
- f. Instills a dye or air to show irregularities in the CNS
- g. Detects cerebral hemorrhage, aneurysm, or CVA
- h. Detects neuromuscular disorders or nerve damage
- i. Radioisotopes are measured to detect abnormal masses or blood vessel lesions
- j. Describes the level of consciousness

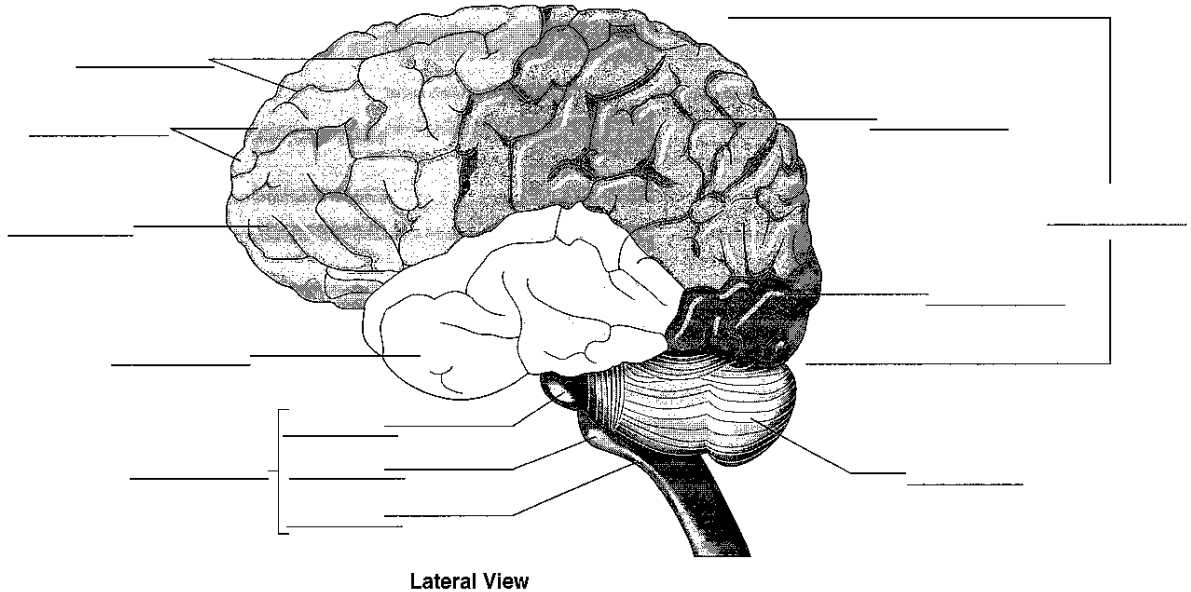
**D. Fill in the Blanks**

- 1. Simple reflex actions involve an impulse traveling along a nerve to the \_\_\_\_\_ and \_\_\_\_\_.
- 2. A common test used to illustrate this action is called the \_\_\_\_\_.
- 3. Complex reflex actions involve an impulse traveling from its source through \_\_\_\_\_ to the \_\_\_\_\_ and up to the \_\_\_\_\_. The message is interpreted and the \_\_\_\_\_ carry the response message back to the \_\_\_\_\_ and out the appropriate nerve.

**E. Label the Illustration**

Label the illustration using the following terms. Refer to Figure 11-38 in the textbook.

- |              |                |               |
|--------------|----------------|---------------|
| Brainstem    | Medulla        | Sulci         |
| Cerebellum   | Midbrain       | Temporal lobe |
| Cerebrum     | Occipital lobe |               |
| Convolutions | Parietal lobe  |               |
| Frontal lobe | Pons           |               |



**CASE STUDIES**

**Scenario 1**

Yesterday your nephew was severely injured in a motorcycle accident. The physician believes there is a fracture in the thoracic spine but needs to have a radiological workup to determine the extent of the injury. Your brother is very concerned because his son has no sensations or control of his body from the waist down. He has asked you what you think of his condition.

**Critical Thinking Questions**

1. Is it important to ask what the nephew's physician has told your brother? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. How would you answer your brother if he asks if the paralysis may be permanent? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3. How much encouragement for recovery should you give him? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Scenario 2**

A male patient phoned the office to request the doctor to call the pharmacy to order some cream to apply on a rash that the patient has on the right side of his chest. He said it started a couple days ago and is getting worse.

**Critical Thinking Questions**

1. What do you need to know about the appearance of the rash? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. What subjective symptoms would you want to ask the patient about? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Does this patient need to be seen? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**UNIT APPLICATION**

Choose a lab partner to participate in some nerve testing and to experience some neurological responses.

1. Following instruction from your teacher, use a percussion hammer to perform the knee-jerk test on your partner. Do it on both legs. Is the reaction equal? Does it seem too reactive or under-responsive?
2. With your partner lying on an exam table with his or her legs relaxed and shoes off, stroke the bottom of each foot, from the heel to the toes, with the hammer handle. What happened?
3. Try to perform the Brudzinski and Kernig's tests.
4. Experience hemiplegia: For 15 minutes, refrain from using your dominant hand and arm. Try to not use your dominant leg except to support you; you cannot make it move. Try to get up from a sitting position without the use of your dominant hand or leg.
5. If possible, spend at least one hour in a wheelchair during lab time when you should be moving about. Can you express your feelings about not being able to perform routine tasks?

**CERTIFICATION AND REGISTRATION PREPARATION**

- \_\_\_\_\_ 1. The space between a neuron dendrite and the next neuron axon is called a(n):
  - a. membrane potential
  - b. synapse
  - c. axon terminal
  - d. neurotransmitter
- \_\_\_\_\_ 2. A ganglion is:
  - a. a collection of nerve endings
  - b. a type of nerve cell
  - c. part of the gray matter of the spine
  - d. a group of sensory nerve cell bodies
- \_\_\_\_\_ 3. The autonomic nervous system includes all but:
  - a. the sympathetic division
  - b. the parasympathetic division
  - c. nerves, ganglia, and plexuses
  - d. motor and sensory nerves

- \_\_\_\_\_ 4. The largest part of the brain is the:
- a. cerebellum
  - b. cerebrum
  - c. frontal lobe
  - d. parietal lobe
- \_\_\_\_\_ 5. The outermost meninges is the:
- a. arachnoid
  - b. pia mater
  - c. duramoid
  - d. dura mater
- \_\_\_\_\_ 6. The cavities and hollow spaces within the brain are called the:
- a. ventricles
  - b. subarachnoid space
  - c. subdural space
  - d. hypothalamus
- \_\_\_\_\_ 7. The electroencephalography:
- a. measures peripheral muscle activity
  - b. shows irregularities of the spinal cord
  - c. measures the level of spinal fluid
  - d. measures the brain's electrical signals
- \_\_\_\_\_ 8. Alzheimer's disease is characterized by:
- a. gradual memory loss, personality change, inability to care for self
  - b. wasting away of the muscles
  - c. a sudden onset with weakness or paralysis
  - d. involuntary shaking of the hands and head
- \_\_\_\_\_ 9. Multiple sclerosis is the result of:
- a. abnormal brain chemistry, premature birth, or brain injury
  - b. acute inflammation of the dorsal root ganglion
  - c. destruction of the myelin sheath of the nerves
  - d. excessive accumulation of cerebral spinal fluid
- \_\_\_\_\_ 10. Parkinson's disease causes
- a. severe headache, sensitivity to light, and nausea
  - b. permanent muscle contracture and underdevelopment
  - c. muscle rigidity, drooling, and hand tremors
  - d. weakness and paralysis on one side of the face

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