# **The Nervous System Comprehension Check**

For questions 1-5, match each vocabulary term to its definition:

|  |  |
| --- | --- |
| 1. Central Nervous System | a. part of the nervous system that lies outside the brain and spinal cord |
| 2. Peripheral Nervous System | b. the part of the brain that controls the coordination of muscles |
| 3. Cerebrum | c. part of the nervous systems that includes the brain and spinal cord |
| 4. Cerebellum | d. the part of the brain that controls information from the sense organs and involuntary actions |
| 5. Brain Stem | e. the part of the brain that controls thoughts and voluntary actions |

1. Central Nervous System – c
2. Peripheral Nervous System – a
3. Cerebrum – e
4. Cerebellum – b
5. Brain Stem – d
6. What is the difference between voluntary and involuntary actions?
7. What is the spinal cord and what is its main function?
8. Explain how a nerve impulse travels through your body, to your brain, and back again.
9. What is a reflex? Why do reflexes not involve the brain?
10. Who was Phineas Gage and why was his story important in the study of the brain at that time?

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1. Central Nervous System – c
2. Peripheral Nervous System – a
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6. What is the difference between voluntary and involuntary actions?
   1. Voluntary actions are those your brain chooses to do. Actions you are aware your brain is choosing, like walking or talking, are considered voluntary. Involuntary actions are the opposite. Your body does them without being told. Involuntary actions include breathing, circulating your blood, digesting your food, and maintaining your body temperature.
7. What is the spinal cord and what is its main function?
   1. The spinal cord is a ropelike bundle of nerves. It connects to the brain stem and is responsible for sending messages from the body to the brain. The brain can also send messages to the muscles and body through the spinal cord. The spinal cord is protected by a bony structure called the spine.
8. Explain how a nerve impulse travels through your body, to your brain, and back again.
   1. First you receive information from the outside world. This information enters the dendrites of a neuron. It travels through the neuron and down its axon. It exits the axon endings and crosses a synapse as an electrical impulse. It continues this process through a chain of neurons until it reaches the brain. The brain then decodes the information, determines what to do next, and sends new message through the nerves back out to the body.
9. What is a reflex? Why do reflexes not involve the brain?
   1. A reflex is an involuntary action. It occurs when your body needs to respond quickly to a situation. The body does not have enough time to send electrical impulses through the neurons to the brain and back again. Instead, neurons follow a loop through the spinal cord and respond as a reflex, such as jerking your leg.
10. Who was Phineas Gage and why was his story important in the study of the brain at that time?
    1. Phineas Gage was a railroad worker involved in a dangerous accident where the front part of his brain was damaged. He was lucky to be saved by a doctor, but his family and friends noticed the injury had caused major changes in his personality. His story was important to the study of the brain at that time because this was the first time scientists associated certain behaviors with certain parts of the brain.