Structure and Function in Living Systems Name:

Nervous Chatter Period:

Did you know that all the different parts of your body are in constant conversation with one another? Well they are, even though you never hear a word of it! Most of your activities require your ***nervous system*** to respond to your environment. Read this imaginary conversation between the various parts of your nervous system, and then complete the sentences that follow by using the underlined terms as answers. You can also use Chapter 17 to help you.

Brain: Okay everybody, this is Mission Control for the ***central*** nervous system. It is time to get this body out of bed! Left Arm, would you please shut off the alarm clock already! With that racket, ***Cerebrum*** is having trouble remembering what is on the exam in math class today. Left Arm, I am sending signals through ***motor neurons*** to your muscles now, and I expect you to obey those orders, pronto. Feet, it is time to hit the floor. Signals through your motor neurons are on the way, too. This ***voluntary movement*** will get us to the closet so we can get dressed!

Stomach: Excuse me, but our blood sugar is getting low. It is awfully empty down here! We also realize that the skin ***receptors*** are detecting that the room is cold. The sooner we get dressed, the sooner we eat, so hurry!

Brain: I am sorry, Stomach, but you will just have to wait. The arms are still involved with other voluntary movement—they are currently combing the hair. By the way, Heart, thank you for pumping all night. You kept us all alive and well. I really have to hand it to the organs on the ***involuntary movement*** team. This includes you, too, Stomach—that late night snack before bed was great, and your digestion process went so smoothly!

Cerebrum: Aha, I've got it! We are having a quiz in math class today, not an exam. Whew, I am so glad I remembered! **Medulla**, I am sorry I didn't remember we needed a coat today. I felt the increase in heart rate you made as we ran back up the stairs. Even though you are only 3 cm long, we couldn't live without you, Medulla.

Spinal Cord: Good morning everyone! All my vertebrae are feeling great today. That new mattress is wonderful. Well, good grief, I have so many impulses from the neurons in the ***peripheral*** nervous system. The ***dendrites*** and ***axons*** of each neuron move information to and from other neurons so quickly. It is amazing I can keep up with you guys!

Peripheral Nervous System: Yes, well, thank you, ***Spinal Cord***. I have ***nerves*** throughout the body that I am responsible for, and there is never a moment to waste. I must transfer information to the central nervous system.

Left Hand: Ouch! Pain! Pain! Pain! Spinal Cord, help!

Spinal Cord: Left Hand, stop touching that hot mug!

Cerebellum: Watch out, Legs! Leg Muscles, this is ***Cerebellum***, be quick about it and step to the side, not to the back! You are about to trip over the dog!

Cerebrum: Hey, what just happened? I missed it.

Spinal Cord: Don't worry, Cerebrum, it was just another involuntary movement. The mug we grabbed was too hot to handle, so a reflex prevented the hands from getting burned. I took care of it since you are just too slow, but hey, that's my job.

sentences to complete on the back

Structure and Function in Living Systems Name:

Nervous Chatter Period:

1. The nervous system is made up of the _____ nervous system and the _____ nervous system.

2. The central nervous system is made up of the brain and the _____.

3. The peripheral nervous system has many _____ throughout the body.

4. Combing your hair, getting out of bed, and getting dressed are all examples of _____.

5. The process of digestion and the pumping your heart does are both examples of _____.

6. Within a neuron, the impulse travels from _____ to _____.

7. The _____ is responsible for thinking and memory.

8. The _____ controls your heart rate, blood pressure, and involuntary breathing.

9. The _____ keeps track of the body's position.

10. _____ tell your muscles to move.

11. Specialized nerve endings called _____ tell sensory neurons when you are hungry and cold.