

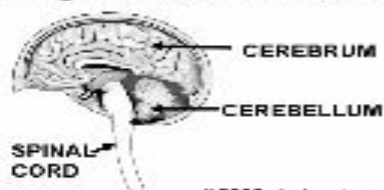
The Nervous System

The nervous system coordinates all actions and reactions in the body. Two parts make up the nervous system; the central and the peripheral.

Central nervous system

The brain and spinal cord make up the central nervous system. This is the body's command center. Every action you take is determined by your brain and carried through the spinal cord to your peripheral nerves.

The brain keeps the body in order, controls all body systems and organs, and keeps the body working. The **cerebrum** allows us to have thoughts, emotions, memories, and imagination.



The cerebrum is also responsible for our sight, smell, taste, touch, and sound senses. If you think something tastes sour, it is because receptors in the cerebrum interpreted the taste and determined it was sour.

The **cerebellum** is responsible for movement, coordination, our organs, involuntary actions, and our reflexes. You are able to walk upright, breathe, and flinch from danger because of the cerebellum.

The spinal cord is how the brain communicates with the body. It relays information to the brain, and back to the nerves. Nerves divide many times from the spinal cord to reach all parts of the body. The thickest nerve is one inch thick, while the thinnest is thinner than a human hair. Each nerve is a bundle of hundreds or thousands of neurons. Neurons are nerve cells. The spinal cord is protected by the spinal vertebrae.

Peripheral nervous system

The nerves and wiring of your body, outside the brain and spinal cord, make up the peripheral system. Its job is to relay messages to the brain, and from the brain to the rest of the body.

If you've ever burned your hand, you know it does not take long for your nerves to send the signal to your brain; what you're touching is hot. Your brain sends a signal back: Pain! Danger! The neurons of the peripheral system are wired together throughout the whole body to create a fast relay system of communication. Messages are carried from one neuron to the other in the form of electrical pulses, carried by chemicals.

The peripheral nerves are easily damaged. They have a limited ability to repair themselves, and can not be repaired if damaged by injury or disease. Together with the central nervous system, the peripheral nerves help you run, taste, feel, and daydream.

