The nervous system controls the body’s systems and provides the means of communication between the parts of the body.

**Terms**

**autonomic nervous system**: controls unconscious, involuntary body functions like heartbeat and digestion

**axons**: long extensions of neurons that transmit signals from the cell body to stimulate another neuron

**brain**: a complex, centralized organ located adjacent to many sensory organs and responsible for most bodily functions and behavior

**brain stem**: includes the medulla oblongata, pons, and midbrain, which collectively control messages as they move from the brain to the spinal cord and vice versa

**cerebellum**: helps the body maintain balance and equilibrium

**cerebrum**: dominant part of the brain; responsible for conscious thoughts and movements, higher-order thinking, and memory storage

**central nervous system**: the brain and spinal cord

**dendrites**: extensions of neurons that receive incoming impulses

**forebrain**: holds the cerebrum, thalamus, and hypothalamus

**gyri**: ridges in the brain

**hindbrain**: contains the pons, medulla oblongata, and cerebellum

**hypothalamus**: part of the brain that regulates many involuntary body activities

**medulla oblongata**: connects the spinal cord with the brain; regulates many automatic body activities

**midbrain**: responsible for receiving visual and auditory signals and sending sensory information to other parts of the brain

**motor nerves**: transmit information to muscles

**nerve impulses**: electrical signals that travel along neurons, allowing the body to monitor the environment and respond to both internal and external changes

**neurons**: the basic cell units that transport nerve impulses

**occipital lobe**: part of the brain that processes visual information

**parasympathetic nervous system**: slows the heartbeat and breathing rate and regulates other functions to conserve energy in normal, non-emergency situations

**pons**: bridges information from different parts of the brain

**sensory nerves**: transmit information from sensory organs to the central nervous system

**sensory receptors**: organs that can receive information from an outside stimulus and send that information through the nervous system to the brain

**somatic nervous system**: includes the movement of muscle as well as reflexes; animals have voluntary control over it

**spinal cord**: a long mass of nerve cells extending from the brain and serving as the main channel of impulse communication to and from the brain

**sulci**: valleys in the brain

**sympathetic nervous system**: primarily responsible for the flight or fight response of the body to outside stimuli; regulates metabolism and heart rate in response to emergency situations, among others

**synapse**: site of neuron communication between cells

**temporal lobe**: part of the brain that deals with language comprehension and emotion

**thalamus**: part of the brain that processes sensory information