

Absolute refractory period	The minimum length of time after an action potential during which another action potential cannot begin.
Action potential	A brief change in a neuron's electrical charge.
Adaptation	An inherited characteristic that increased in a population (through natural selection) because it helped solve a problem of survival or reproduction during the time it emerged.
Adoption studies	Research studies that assess hereditary influence by examining the resemblance between adopted children and both their biological and their adoptive parents.
Afferent nerve fibers	Axons that carry information inward to the central nervous system from the periphery of the body.
Autonomic nervous system (ANS)	The system of nerves that connect to the heart, blood vessels, smooth muscles, and glands.
Axon	A long, thin fiber that transmits signals away from the neuron cell body to other neurons, or to muscles or glands.
Central nervous system (CNS)	The brain and the spinal cord.
Cerebellum	("Little brain") The relatively large and deeply folded structure adjacent to the back surface of the brainstem.
Cerebral cortex	The convoluted outer layer of the cerebrum.
Cerebral hemispheres	The right and left halves of the cerebrum.
Chromosomes	Threadlike strands of DNA (deoxyribonucleic acid) molecules that carry genetic information.
Corpus callosum	The structure that connects the two cerebral hemispheres.
Critical period	A limited time span in the development of an organism when it is optimal for certain capacities to emerge because the organism is especially responsive to certain experiences.
Dendrites	Branchlike parts of a neuron that are specialized to receive information.
Efferent nerve fibers	Axons that carry information outward from the central nervous system to the periphery of the body.
Electrical stimulation of the brain (ESB)	Sending a weak electric current into a brain structure to stimulate (activate) it.
Endocrine system	A group of glands that secrete chemicals into the bloodstream that help control bodily functioning.

Endorphins	Internally produced chemicals that resemble opiates in structure and effects.
Epigenetics	The study of heritable changes in gene expression that do not involve modifications to the DNA sequence.
Family studies	Scientific studies in which researchers assess hereditary influence by examining blood relatives to see how much they resemble each other on a specific trait.
Fitness	The reproductive success (number of descendants) of an individual organism relative to the average reproductive success of the population.
Forebrain	The largest and most complicated region of the brain, encompassing a variety of structures, including the thalamus, hypothalamus, limbic system, and cerebrum.
Genes	DNA segments that serve as the key functional units in hereditary transmission.
Glia	Cells found throughout the nervous system that provide various types of support for neurons.
Hindbrain	The part of the brain that includes the cerebellum and two structures found in the lower part of the brainstem: the medulla and the pons.
Hormones	The chemical substances released by the endocrine glands.
Hypothalamus	A structure found near the base of the forebrain that is involved in the regulation of basic biological needs.
Lesioning	Destroying a piece of the brain.
Limbic system	A densely connected network of structures roughly located along the border between the cerebral cortex and deeper subcortical areas.
Midbrain	The segment of the brain stem that lies between the hindbrain and the forebrain.
Mirror neurons	Neurons that are activated by performing an action or by seeing another monkey or person perform the same action.
Myelin sheath	Insulating material that encases some axons.
Natural selection	Principle stating that heritable characteristics that provide a survival reproductive advantage are more likely than alternative characteristics to be passed on to subsequent generations and thus come to be “selected” over time.
Nerves	Bundles of neuron fibers (axons) that are routed together in the peripheral nervous system.
Neurogenesis	The formation of new neurons in the brain.
Neurons	Individual cells in the nervous system that receive, integrate, and transmit information.

Neurotransmitters	Chemicals that transmit information from one neuron to another.
Oxytocin	A hormone released by the pituitary gland, which regulates reproductive behaviors.
Parasympathetic division	The branch of the autonomic nervous system that generally conserves bodily resources.
Peripheral nervous system	All those nerves that lie outside the brain and spinal cord.
Pituitary gland	The “master gland” of the endocrine system; it releases a great variety of hormones that fan out through the body, stimulating actions in the other endocrine glands.
Polygenic traits	Characteristics that are influenced by more than one pair of genes.
Postsynaptic potential (PSP)	A voltage change at the receptor site on a postsynaptic cell membrane.
Resting potential	The stable, negative charge of a neuron when it is inactive.
Reuptake	A process in which neurotransmitters are sponged up from the synaptic cleft by the presynaptic membrane.
Soma	The cell body of a neuron; it contains the nucleus and much of the chemical machinery common to most cells.
Somatic nervous system	The system of nerves that connect to voluntary skeletal muscles and to sensory receptors.
Split-brain surgery	A procedure in which the bundle of fibers that connects the cerebral hemispheres (the corpus callosum) is cut to reduce the severity of epileptic seizures.
Sympathetic division	The branch of the autonomic nervous system that mobilizes the body’s resources for emergencies.
Synapse	A junction where information is transmitted from one neuron to the next.
Synaptic cleft	A microscopic gap between the terminal button of one neuron and the cell membrane of another neuron.
Terminal buttons	Small knobs at the end of axons that secrete chemicals called neurotransmitters.
Thalamus	A structure in the forebrain through which all sensory information (except smell) must pass to get to the cerebral cortex.
Twin studies	A research design in which hereditary influence is assessed by comparing the resemblance of identical twins and fraternal twins with respect to a trait.