<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Ablation</td>
<td>Surgical removal of tissue.</td>
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<tr>
<td>Action potential</td>
<td>The nerve impulse.</td>
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<tr>
<td>Adrenal glands</td>
<td>Endocrine glands that arouse the body, regulate salt balance, adjust the body to stress, and affect sexual functioning.</td>
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<tr>
<td>Amygdala</td>
<td>A part of the limbic system associated with fear responses.</td>
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<td>Aphasia</td>
<td>A speech disturbance resulting from brain damage.</td>
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<td>Association areas (association cortex)</td>
<td>All areas of the cerebral cortex that are not primarily sensory or motor in function.</td>
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<tr>
<td>Autonomic nervous system (ANS)</td>
<td>The system of nerves carrying information to and from the internal organs and glands.</td>
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<td>Axon</td>
<td>Fiber that carries information away from the cell body of a neuron.</td>
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<tr>
<td>Axon terminals</td>
<td>Bulb-shaped structures at the ends of axons that form synapses with the dendrites and somas of other neurons.</td>
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<tr>
<td>Brainstem</td>
<td>The lowest portions of the brain, including the cerebellum, medulla, pons, and reticular formation.</td>
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<tr>
<td>Broca’s area</td>
<td>A language area related to grammar and pronunciation.</td>
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<tr>
<td>Central nervous system (CNS)</td>
<td>The brain and spinal cord.</td>
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<tr>
<td>Cerebellum</td>
<td>A brain structure that controls posture, muscle tone, and coordination.</td>
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<tr>
<td>Cerebral cortex</td>
<td>The outer layer of the brain.</td>
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<tr>
<td>Clinical case study</td>
<td>A detailed investigation of a single person, especially one suffering from some injury or disease.</td>
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<tr>
<td>Computed tomographic scan (CT scan)</td>
<td>A computer-enhanced X-ray image of the brain or body.</td>
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<tr>
<td>Corticalization</td>
<td>An increase in the relative size of the cerebral cortex. “Split-brain” operation Cutting the corpus callosum.</td>
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<tr>
<td>Cranial nerves</td>
<td>Major nerves that leave the brain without passing through the spinal cord.</td>
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<tr>
<td>Deep lesioning</td>
<td>Removal of tissue within the brain by use of an electrode.</td>
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<tr>
<td>Dendrites</td>
<td>Neuron fibers that receive incoming messages.</td>
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<tr>
<td>Dominant hemisphere</td>
<td>A term usually applied to the side of a person’s brain that produces language.</td>
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<tr>
<td>Electrical stimulation of the brain (ESB)</td>
<td>Direct electrical stimulation and activation of brain tissue.</td>
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</table>
Electrode: Any device (such as a wire, needle, or metal plate) used to electrically stimulate or destroy nerve tissue or to record its activity.

Electroencephalograph (EEG): A device that detects, amplifies, and records electrical activity in the brain.

Endocrine system: Glands whose secretions pass directly into the bloodstream or lymph system.

Epinephrine: An adrenal hormone that tends to arouse the body; epinephrine is associated with fear. (Also known as adrenaline.)

Facial agnosia: An inability to perceive familiar faces.

Frontal lobes: Areas of the cortex associated with movement, the sense of self, and higher mental functions.

Functional MRI (fMRI): MRI technique that records brain activity.

Growth hormone: A hormone, secreted by the pituitary gland, that promotes body growth.

Handedness: A preference for the right or left hand in most activities.

Hippocampus: A part of the limbic system associated with storing memories.

Hormone: A glandular secretion that affects bodily functions or behavior.

Hypothalamus: A small area of the brain that regulates emotional behaviors and motives.

Ion channels: Tiny openings through the axon membrane.

Lateralization: Differences between the two sides of the body, especially differences in the abilities of the brain hemispheres.

Limbic system: A system in the forebrain that is closely linked with emotional response.

Lobes of the cerebral cortex: Areas on the left and right cortex bordered by major fissures or defined by their functions.

Localization of function: The research strategy of linking specific structures in the brain with specific psychological or behavioral functions.

Magnetic resonance imaging (MRI): An imaging technique that results in a three-dimensional image of the brain or body, based on its response to a magnetic field.

Medulla: The structure that connects the brain with the spinal cord and controls vital life functions.

Melatonin: Hormone released by the pineal gland in response to daily cycles of light and dark.

Mirror neuron: A neuron that becomes active when a motor action is carried out and when another organism is observed carrying out the same action.

Myelin: A fatty layer coating some axons.
Negative after-potential
A drop in electrical charge below the resting potential.

Nerve
A bundle of neuron axons.

Neural networks
Interlinked collections of neurons that process information in the brain.

Neurilemma
A layer of cells that encases many axons.

Neurogenesis
The production of new brain cells.

Neurological soft signs
Subtle behavioral signs of brain dysfunction, including clumsiness, an awkward gait, poor hand-eye coordination, and other perceptual and motor problems.

Neuron
An individual nerve cell.

Neuropeptides
Brain chemicals, such as enkephalins and endorphins, that regulate the activity of neurons.

Neuroplasticity
The capacity of the brain to change in response to experience.

Neurotransmitter
Any chemical released by a neuron that alters activity in other neurons.

Norepinephrine
Both a brain neurotransmitter and an adrenal hormone that tends to arouse the body; norepinephrine is associated with anger. (Also known as noradrenaline.)

Occipital lobes
Portion of the cerebral cortex in which vision registers in the brain.

Oxytocin
A hormone, released by the pituitary gland, that plays a broad role in regulating pregnancy, parenthood, sexual activity, social bonding, trust, and even reducing stress reaction.

Parasympathetic branch
The branch of the ANS that quiets the body.

Parietal lobes
Areas of the cortex in which bodily sensations register.

Peripheral nervous system (PNS)
All parts of the nervous system outside the brain and spinal cord.

Pineal gland
Gland in the brain that helps regulate body rhythms and sleep cycles.

Pituitary gland
The “master gland” whose hormones influence other endocrine glands.

Pons
An area on the brainstem that acts as a bridge between the medulla and other structures.

Positron emission tomography (PET)
An imaging technique that results in a computer-generated image of brain activity, based on glucose consumption in the brain.

Prefrontal area (prefrontal cortex)
The very front of the frontal lobes; involved in sense of self, reasoning, and planning.

Primary auditory area
Part of the temporal lobe in which auditory information is first registered.
Primary motor area
(primary motor cortex)
A brain area associated with control of movement.

Primary somatosensory area
(primary somatosensory cortex)
A receiving area for body sensations.

Primary visual area
The part of the occipital lobe that first receives input from the eyes.

Receptor sites
Areas on the surface of neurons and other cells that are sensitive to neurotransmitters or hormones.

Reflex arc
The simplest behavior, in which a stimulus provokes an automatic response.

Resting potential
The electrical charge of a neuron at rest.

Reticular activating system (RAS)
A part of the reticular formation that activates the cerebral cortex.

Reticular formation (RF)
A network within the medulla and brainstem; associated with attention, alertness, and some reflexes.

Saltatory conduction
The process by which nerve impulses conducted down the axons of neurons coated with myelin jump from gap to gap in the myelin layer.

Sensory neuron
A neuron that carries information from the senses toward the CNS.

Sidedness
A combination of preference for hand, foot, eye, and ear.

Soma
The main body of a neuron or other cell.

Somatic nervous system (SNS)
The system of nerves linking the spinal cord with the body and sense organs.

Spinal nerves
Major nerves that carry sensory and motor messages in and out of the spinal cord.

Subcortex
All brain structures below the cerebral cortex.

Sympathetic branch
The branch of the ANS that arouses the body.

Synapse
The microscopic space between two neurons, over which messages pass.

Temporal lobes
Areas of the cortex that include the sites in which hearing registers in the brain.

Thalamus
A brain structure that relays sensory information to the cerebral cortex.

Threshold
The point at which a nerve impulse is triggered.

Thyroid gland
Endocrine gland that helps regulate the rate of metabolism.

Visual agnosia
An inability to identify seen objects.

Wernicke’s area
A temporal lobe brain area related to language comprehension.