

Acetylcholine (ACh)

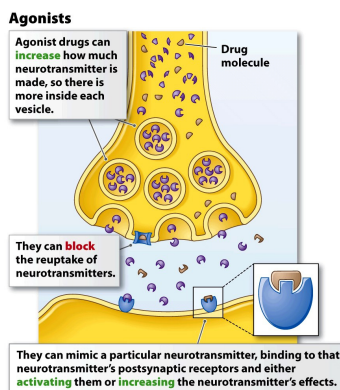
The neurotransmitter responsible for motor control at the junction between nerves and muscles; also involved in mental processes such as learning, memory, sleeping, and dreaming.

(This term is in your book, but not listed as a key term)

Action potential

The neural impulse that travels along the axon and then causes the release of neurotransmitters into the synapse. (page 52)

Agonists



Drugs that enhance the actions of neurotransmitters.

(This term is in your book, but not listed as a key term)

Amygdala

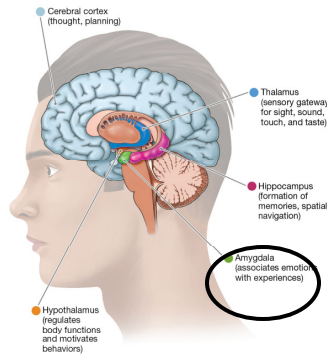
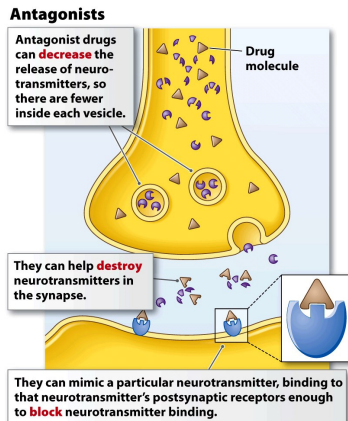


FIGURE 2.16

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A subcortical forebrain structure involved in detecting and responding to threats; it also plays a vital role in learning to associate things with emotional responses in processing emotional information.
(page 65)

Antagonists



Psychological Science, 4/e Figure 3.9 part 2
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Drugs that inhibit the actions of neurotransmitters.

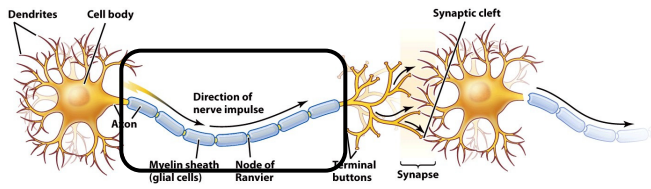
(This term is in your book, but not listed as a key term)

Autonomic nervous system (ANS)

A subdivision of the PNS; it transmits sensory signals and motor signals back and forth between the CNS and the body's glands and internal organs.
(page 77)

PNS = peripheral nervous system
CNS = central nervous system

Axon



Psychological Science, 4/e Figure 3.5
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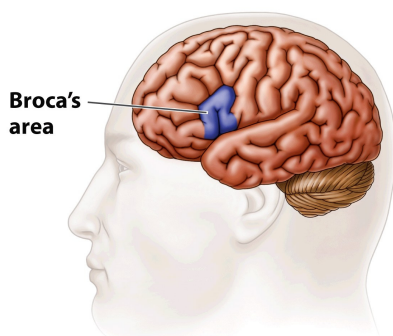
A long, narrow outgrowth of a neuron's cell body that lets the neuron transmit information to other neurons. (page 50)

Brain stem

An extension of the spinal cord; it houses structures that control functions associated with survival, such as breathing, swallowing, vomiting, urination, and orgasm.

(This term is in your book, but not listed as a key term)

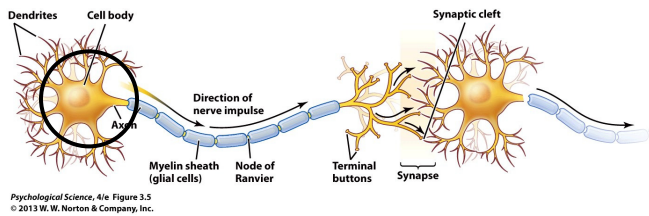
Broca's area



Psychological Science, 4/e Figure 3.15b
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A small portion of the left frontal region of the brain, this area is crucial for producing speech. (page 60)

Cell body

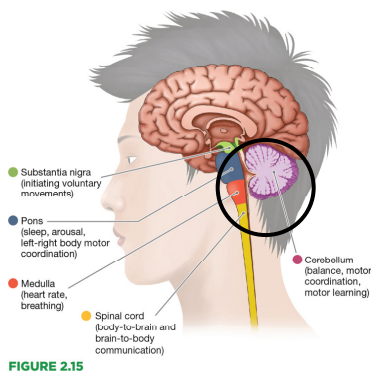


Part of the neuron where information from thousands of other neurons is collected and integrated. (page 50)

Central nervous system (CNS)

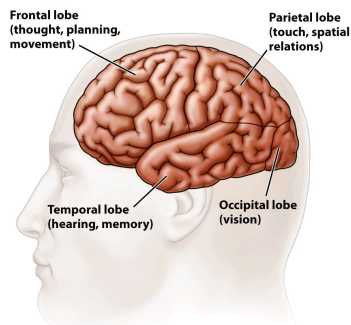
The part of the nervous system that consists of the nerve cells in the brain and spinal cord. (page 48)

Cerebellum



A hindbrain structure behind the medulla and pons; it is essential for motor learning, coordination, and balance. (page 63)

Cerebral cortex



Psychological Science, 4/e Figure 3.19a
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The outer layer of brain tissue, which forms the convoluted surface of the brain; the site of all thoughts, perceptions and complex behaviors.

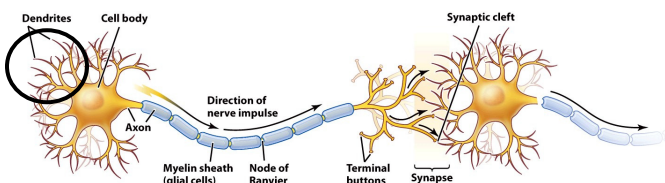
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Corpus Callosum

A massive bridge of millions of axons that connects the hemispheres and allows information to flow between them.

(This term is in your book, but not listed as a key term)

Dendrites



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Branchlike extensions of the neuron's cell body with receptors that receive information from other neurons. (page 50)

Dizygotic twins

(b)

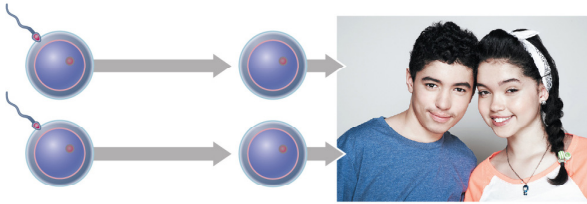


FIGURE 2.31

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Fraternal twins; these siblings result from two separately fertilized eggs, so they are no more similar genetically than nontwin siblings are. (page 83)

Dopamine

A monoamine neurotransmitter involved in motivation, reward, and motor control over voluntary movement.

(This term is in your book, but not listed as a key term)

Electroencephalograph (EEG)

A device that measures electrical activity in the brain.

(This term is in your book, but not listed as a key term)

Endocrine system

A bodily communication system that uses hormones to influence many aspects of the body, mental activity, and behavior. (page 79)

Endorphins

Neurotransmitters involved in natural pain reduction and reward.

(This term is in your book, but not listed as a key term)

Frontal lobes

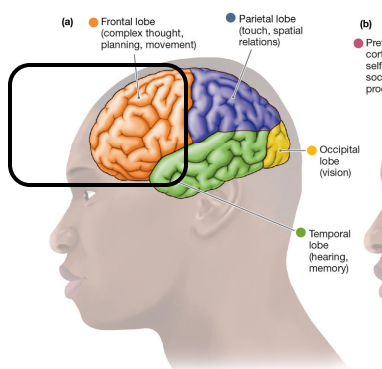


FIGURE 2.17

Regions of the cerebral cortex at the front of the brain; important for movement, planning, and complex processes (rational thought, attention, self-control, social processes, and so on). (page 69)

<p>Functional magnetic resonance imaging (fMRI)</p>	<p>A brain imaging technique that measures changes in the blood's oxygen levels.</p>
<p>GABA</p>	<p>Gamma-aminobutyric acid; the primary inhibitory transmitter in the nervous system.</p> <p>(This term is in your book, but not listed as a key term)</p>
<p>Genes</p>	<p>Units of heredity that help determine an offspring's characteristics. (page 82)</p>

Glutamate

The primary excitatory transmitter in the nervous system.

(This term is in your book, but not listed as a key term)

Gonads

The main endocrine glands involved in sexual behavior: in males, the testes; in females, the ovaries.

(This term is in your book, but not listed as a key term)

Hippocampus

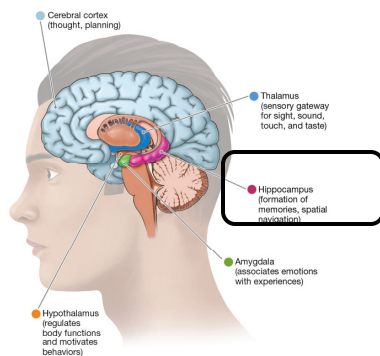


FIGURE 2.16

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A subcortical forebrain structure; it is associated with the formation of new memories and spatial navigation. (page 65)

Hormones

Chemicals released from endocrine glands that travel through the bloodstream to targeted tissues; the tissues are later influenced by the hormones. (page 79)

Hypothalamus

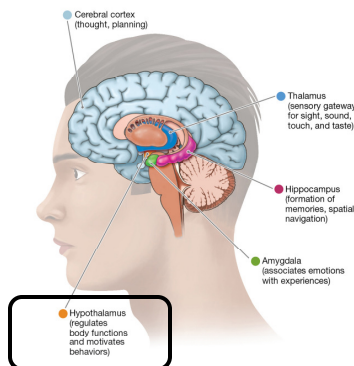


FIGURE 2.16

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A subcortical forebrain structure involved in regulating bodily functions. The hypothalamus also influences basic motivated behaviors. (page 65)

Magnetic resonance imaging (MRI)

A method of brain imaging that uses a powerful magnetic field to produce high-quality images of the brain.

(This term is in your book, but not listed as a key term)

Medulla

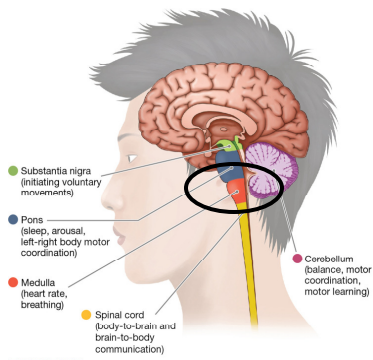


FIGURE 2.15

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A hindbrain structure at the top of the spinal cord; it controls survival functions such as heart rate and breathing. (page 63)

Monozygotic twins

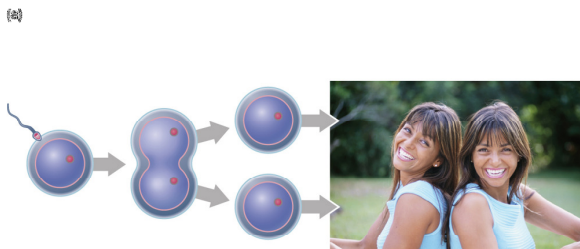
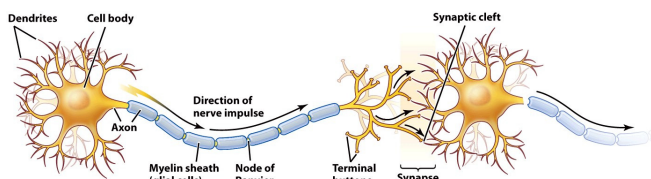


FIGURE 2.31

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Identical twins; these siblings results from on zygote splitting into two, so they share the same genes. (page 83)

Myelin sheath



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A fatty material that covers and insulates some axons to allow for faster movement of electrical impulses along the axon. (page 52)

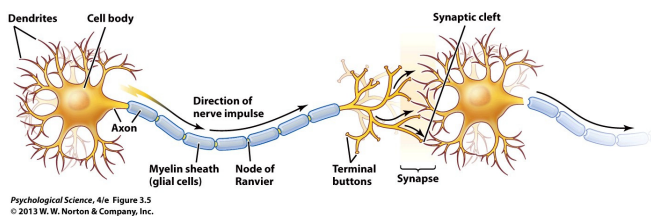
Natural Selection

The basis of evolution; the idea that those who inherit characteristics that help them adapt to their particular environments have an advantage over those who do not. (page 82)

Nervous System

A network of billions of cells in the brain and the body, responsible for all aspects of what you think, feel and do. (page 48)

Neurons



The nerve cells that are the basic units of the nervous system; these cells receive, integrate, and transmit information in the nervous system. Neurons operate through electrical impulses, communicate with other neurons through chemical signals and form neural networks. (page 48)

Neurotransmitters

Chemicals that carry signals from one neuron to another. (page 50)

Norepinephrine

A monoamine neurotransmitter involved in states of arousal and attention.

(This term is in your book, but not listed as a key term)

Occipital lobes

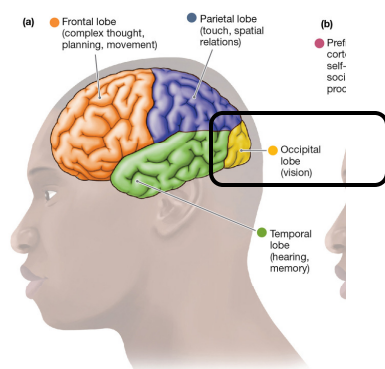


FIGURE 2.17

Regions of the cerebral cortex at the back of the brain important for vision. (page 66)

Parasympathetic division

A division of the autonomic nervous system; it returns the body to its resting state.

(This term is in your book, but not listed as a key term)

Parietal lobes

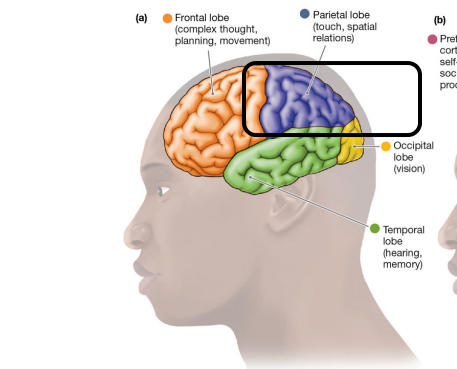


FIGURE 2.17

Regions of the cerebral cortex in front of the occipital lobes and behind the frontal lobes important for the sense of touch and for picturing the layout of spaces in an environment. (page 66)

Peripheral nervous system (PNS)

The part of the nervous system that consists of all the nerve cells throughout the body except those in the brain and spinal cord. (page 48)

Pituitary gland

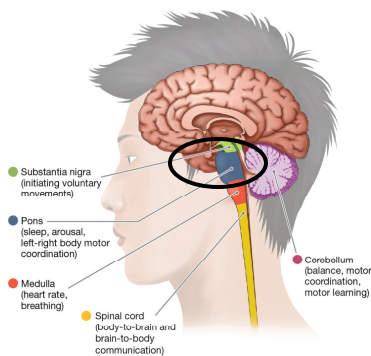
A gland located at the base of the hypothalamus; it sends hormonal signals to other endocrine glands, controlling their release of hormones.

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Plasticity

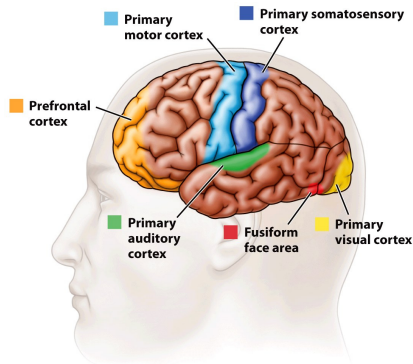
A property of the brain that allows it to change as a result of experience, or injury. (page 86)

Pons



A hindbrain structure above the medulla; it regulates sleep and arousal and coordinates movements of the left and right sides of the body. (page 63)

Prefrontal cortex



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The front most portion of the frontal lobes, especially prominent in humans; important for attention, working memory, decision making, appropriate social behavior, and personality.

(This term is in your book, but not listed as a key term)

Receptors

In neurons, specialized protein molecules on the postsynaptic membrane; neurotransmitters bind to these molecules after passing across the synapse.

(This term is in your book, but not listed as a key term)

Reuptake

The process whereby a neurotransmitter is taken back into the presynaptic terminal buttons, thereby stopping its activity.

(This term is in your book, but not listed as a key term)

Serotonin

A monoamine neurotransmitter important for a wide range of psychological activity, including emotional states, impulse control, and dreaming.

(This term is in your book, but not listed as a key term)

Somatic nervous system

A subdivision of the PNS; it transmits sensory signals and motor signals back and forth between the CNS and the skin, muscles, and joints. (page 77)

PNS = peripheral nervous system
CNS = central nervous system

Split brain

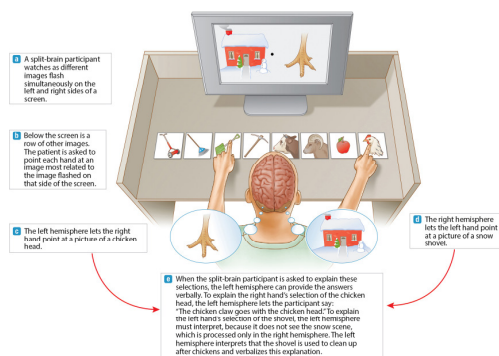


FIGURE 2.25

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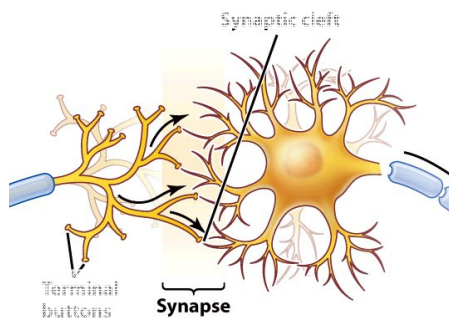
A condition that occurs when the corpus callosum is surgically cut and the two hemispheres of the brain do not receive information directly from each other. (page 72)

Sympathetic division

A division of the autonomic nervous system; it prepares the body for action.

(This term is in your book, but not listed as a key term)

Synapse



The gap between the terminal buttons of a sending neuron and the dendrites of a receiving neuron. (page 50)

Temporal lobes

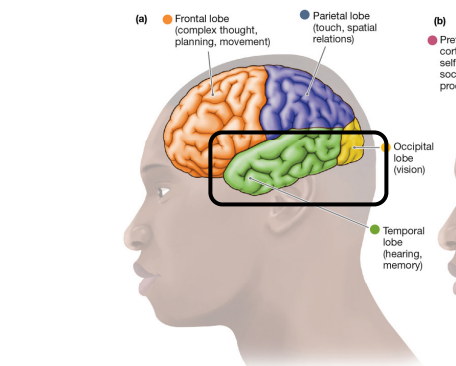
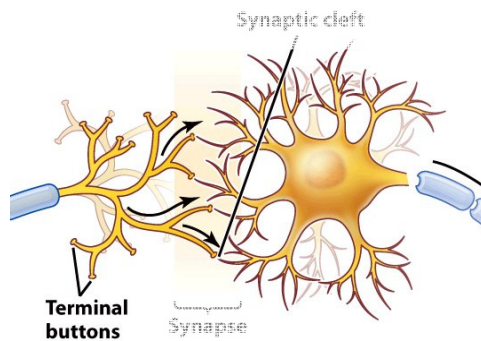


FIGURE 2.17

Regions of the cerebral cortex below the parietal lobes and in front of the occipital lobes important for hearing and for recognizing objects, such as faces. (page 69)

Terminal buttons



Parts of the neuron at the end of axons that release chemical signals from the neuron into the synapse. (page 50)

Thalamus

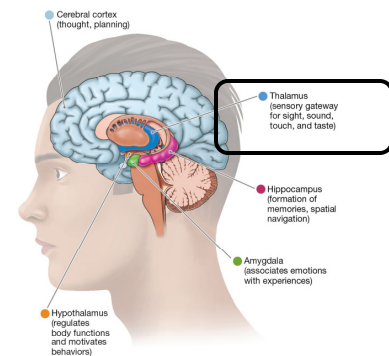


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A subcortical forebrain structure; the gateway to the brain for sight, sound, touch, and taste sensory information before that information reaches the cortex. (page 65)

Notice that smell does NOT go through the thalamus.

Transcranial magnetic stimulation

The use of strong magnets to briefly interrupt normal brain activity as a way to study brain regions.

(This term is in your book, but not listed as a key term)



Warning: not all of the key ideas
are on this list of key terms