

Vocabulary: Senses



Vocabulary

- Auditory cortex – a section of the brain that receives and processes auditory (sound) signals from the ear.
 - The auditory cortex is located on the temporal lobe of the cerebral cortex, which is on the outside of the brain above the ears.
- Auditory nerve – a nerve that carries sound signals from the cochlea to the brain.
- Cerebrum – the “wrinkly” area that forms most of the outer part of the brain.
 - The cerebrum is responsible for the integration of complex neural signals and the initiation and coordination of voluntary activity in the body.
- Cone – a light-sensing cell embedded in the retina at the back of the eye in vertebrates.
 - Cones are responsible for color vision.
 - Humans have three types of cones that respond to red, green, and blue light.
 - Cones work best in bright light.
- Gustatory cortex – a section of the brain that receives and processes taste signals from the mouth and tongue.
 - The gustatory cortex is located on the inferior frontal gyrus of the frontal lobe, which is near the front of the brain.
- Hair cells – sensory receptors in the ear that convert sound vibrations to neural signals.
 - The tectorial membrane vibrates hair bundles on the hair cells.
 - In response to vibration, the hair cells produce an electrical signal that is carried through the auditory nerve to the brain.
- Hypothalamus – a section of the brain, located below the thalamus, that controls many unconscious functions including body temperature, thirst, hunger, and sleep.
- Involuntary – done without conscious control.
 - Essential processes, such as breathing, heart contractions, and blood flow, are involuntary and controlled by the nervous system.
- Nerve impulse – a signal that is transmitted along a nerve fiber.
 - Nerve cell membranes depolarize and repolarize along the length of the neuron to propagate the signal.
- Neural pathway – a series of connected nerves along which an electrical impulse travels through the body.

- Neuron – a cell that is able to transmit neural impulses (signals) from one part of the body to another.
- Olfactory cortex – a section of the brain that receives and processes olfactory (smell) signals from the nose.
 - The olfactory cortex is located in the temporal lobe, towards the center of the brain near the ears.
- Olfactory bulb – a structure located above the nose that receives signals from the sensory neurons in the nose and sends those signals to the olfactory cortex in the brain for processing.
- Optic nerve – a nerve behind the eye that transmits signals from the retina to the brain.
- Rod – a light-sensing cell embedded in the retina at the back of the eye in vertebrates.
 - Rod cells are more sensitive to dim light than cone cells.
 - Rod cells cannot distinguish between different colors of light.
- Sensory neuron – a neuron that converts stimuli from the environment to internal electrical signals.
- Somatosensory cortex – a section of the brain that receives and processes sensory stimuli from the skin, muscles and joints.
 - The somatosensory cortex is located in the parietal lobe, which is on the top, of the brain above the ears.
 - The somatosensory cortex detects and interprets information on touch, temperature, pressure, and pain.
- Somatosensory nerve – a nerve that carries touch signals from the body to the brain.
- Spinal cord – a bundle of neurons inside the spine that connects nearly all parts of the body below the head to the brain.
- Stimulus – a detectable change in the internal or external environment.
- Thalamus – a part of the brain through which sensory impulses are passed before reaching the cerebral cortex.
 - The thalamus is located near the center of the brain.
 - The thalamus also plays a role in the regulation of consciousness, alertness, and sleep.
- Visual cortex – a section of the brain that receives and processes visual (light) signals from the eye.
 - The visual cortex is located in the occipital lobe of the cerebral cortex, which is on the back of the brain.

