**Anatomy and Function**

**Cerebrum**

The [cerebrum](https://www.healthline.com/human-body-maps/cerebrum-right-and-left) is the largest part of the brain. It’s divided into two halves, called hemispheres. The two hemispheres are separated by a groove called the interhemispheric fissure. It’s also called the longitudinal fissure.

Each hemisphere of the cerebrum is divided into broad regions called lobes. Each lobe is associated with different functions:

* **Frontal lobes.** The frontal lobes are the largest of the lobes. As indicated by their name, they’re located in the front part of the brain. They coordinates high-level behaviors, such as motor skills, problem solving, judgment, planning, and attention. The frontal lobes also manage emotions and impulse control.
* **Parietal lobes.** The parietal lobes are located behind the frontal lobes. They’re involved in organizing and interpreting sensory information from other parts of the brain.
* **Temporal lobes.** The temporal lobes are located on either side of the head on the same level as the ears. They coordinate specific functions, including visual memory (such as facial recognition), verbal memory (such as understanding language), and interpreting the emotions and reactions of others.
* **Occipital lobes.** The occipital lobes are located in the back of the brain. They’re heavily involved in the ability to read and recognize printed words, along with other aspects of vision.

**Cerebellum**

The [cerebellum](https://www.healthline.com/human-body-maps/cerebellum) is located in the back of the brain, just below the occipital lobes. It’s involved with fine motor skills, which refers to the coordination of smaller, or finer, movements, especially those involving the hands and feet. It also helps the body maintain its posture, equilibrium, and balance.

**Diencephalon**

The diencephalon is located at the base of the brain. It contains the:

* [thalamus](https://www.healthline.com/human-body-maps/thalmus)
* epithalamus
* [hypothalamus](https://www.healthline.com/human-body-maps/hypothalamus)

The thalamus acts as a kind of relay station for signals coming into the brain. It’s also involved in consciousness, sleep, and memory.

The epithalamus serves as a connection between the limbic system and other parts of the brain. The limbic system is a part of the brain that’s involved with emotion, long-term memory, and behavior.

The hypothalamus helps maintain homeostasis. This refers to the balance of all bodily functions. It does this by:

* maintaining daily physiological cycles, such as the sleep-wake cycle
* controlling appetite
* regulating [body temperature](https://www.healthline.com/health/thermoregulation)
* controlling the producing and release of hormones

**Brain stem**

The brain stem is located in front of the cerebellum and connects to the spinal cord. It consists of three major parts:

* **Midbrain.**The midbrain helps control eye movement and processes visual and auditory information
* **Pons.**This is the largest part of the brain stem. It’s located below the midbrain. It’s a group of nerves that help connect different parts of the brain. The [pons](https://www.healthline.com/human-body-maps/pons) also contains the start of some of the cranial nerves. These nerves are involved in facial movements and transmitting sensory information.
* **Medulla oblongata.**The [medulla oblongata](https://www.healthline.com/human-body-maps/medulla-oblongata) is the lowest part of the brain. It acts as the control center for the function of the heart and lungs. It helps regulate many important functions, including breathing, sneezing, and swallowing.

