

Difference Between Brain and Cerebrum

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Key Difference - Brain vs Cerebrum

The brain is one of the main organs of the [central nervous system](#). It coordinates all the reactions related to [perception](#), [cognition](#), [attention](#), memory, and action in our body. The cerebrum is the largest and the uppermost part of the brain which is responsible mainly for higher mental functions such as [consciousness](#), [thought](#), [reason](#), [emotion](#), and memory (all voluntary actions in the body). The cerebrum is composed of two cerebral hemispheres which are symmetrical and known as the left and right cerebral hemispheres. The **key difference** between brain and the cerebrum is that **brain is the central organ of the central nervous system and cerebrum is the largest part of the brain.**

What is Brain?

Brain is the center or the central organ of the central nervous system which is located in our head. And it is the most complex organ in our body which controls every action and reactions we do. The brain is composed of five major components; cerebrum, [cerebellum](#), [brain stem](#), [pituitary gland](#), and [hypothalamus](#). Cerebrum is the largest part of the brain which accounts for approximately 85% of the total weight of the brain. Cerebrum mainly controls the voluntary muscle movements. It is responsible for memory, thoughts, reasoning, etc.

Cerebellum is located at the back of the brain below the cerebrum. It is mainly responsible for body balance, [movement](#), and coordination. The cerebellum is small in size but a very important part of the brain. The brain stem is also an important part which connects the brain to the [spinal cord](#), and it is responsible for control of all the [involuntary muscles](#). It is also responsible in performing all functions which you need to stay alive such as breathing, digesting foods, circulating blood, etc. The pituitary gland secretes [hormones](#) that are necessary for growth and other functions. The hypothalamus controls the body temperature. It works as an inner [thermostat](#) in your body.

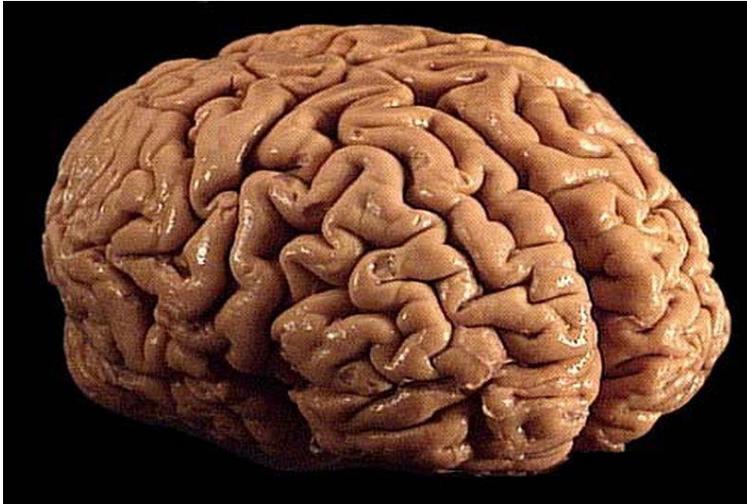


Figure 01: Brain

The brain is composed of two types of nerve cells called [neurons and glial cells](#). Neurons are the most important specialized cells in the brain which primarily transmit the electrochemical signals to and from the brain.

What is Cerebrum?

Cerebrum is the largest part of the brain which is located in the uppermost region of it. It is composed of two hemispheres which are symmetrical that are known as the left and right cerebral hemispheres. Cerebrum occupies 85% of the brain weight, and it coordinates all the higher mental functions of the body such as reasoning, thinking, emotions, memory, touch, vision, learning, hearing, etc. The surface of the cerebrum appears as a folded structure which contains approximately 70% of the total neurons. This folded structure of cerebrum provides more surface area for neurons to reside in the [skull](#) and perform higher functions. Left and right hemispheres are also called a left brain and right brain. Each cerebral hemisphere controls the higher functions of the opposite side of the body.

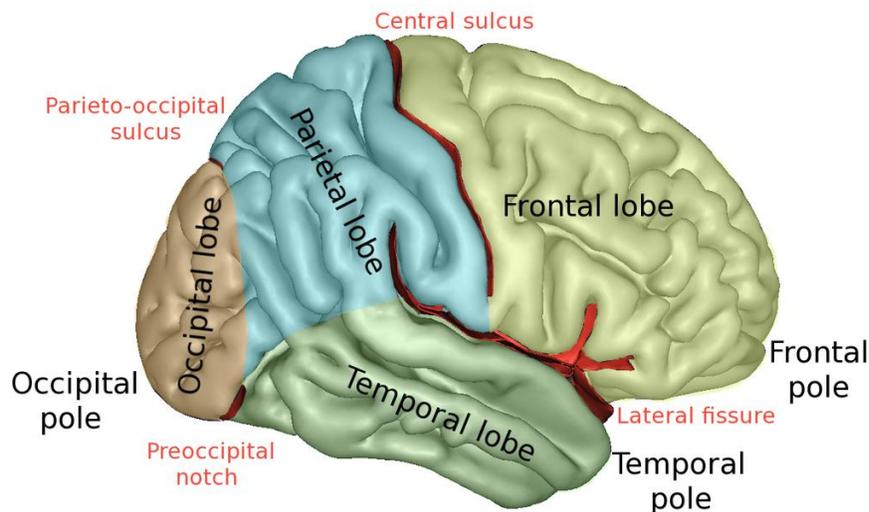


Figure 02: Cerebrum

Cerebral hemispheres have distinct lobes. Each has four lobes (frontal, temporal, parietal, and occipital) which are again dividing into small areas which serve very specific functions in the body. The cerebrum is composed of two types of [tissues](#) named [gray matter and white matter](#).

What are the Similarities Between Brain and Cerebrum?

- Brain and the cerebrum are parts of the central nervous system.
- Both are responsible for transmission of nerve impulses in the body.

What is the Difference Between Brain and Cerebrum?

Brain vs Cerebrum	
The brain is the center or the main organ of the central nervous system.	The cerebrum is the largest part of the brain.
Structure	
Brain is an organ.	Cerebrum is a part of an organ.
Function	
Brain controls all functions of the body.	Cerebrum controls higher mental functions of the body.
Location	
Brain is located in the head and protected by the skull.	Cerebrum is located in the uppermost region of the brain.
Components	
Brain is composed of five main components; cerebrum, cerebellum, brainstem, pituitary gland and hypothalamus.	Cerebrum is composed of two components namely, left and right hemispheres.

Summary - Brain vs Cerebrum

Brain is the main organ which controls all functions of our body. It is a part of the central nervous system and located inside the skull. Skull protects the brain from injuries. There are five major components of the brain. There are also two types of cells neurons and glial cells which are responsible for signal transmission throughout the body. Cerebrum is the uppermost and largest part of the brain which divides into two left and right symmetrical hemispheres. It is

responsible for the higher mental functions of the body such as thinking, reasoning, memory, consciousness, emotion, etc. This is the difference between brain and cerebrum.

Reference:

1. "Brain." Wikipedia, Wikimedia Foundation, 18 Dec. 2017. [Available here](#)
2. "Anatomy of the Brain." Brain Anatomy, Anatomy of the Human Brain. [Available here](#)

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2. 'LobesCapsLateral' By Sebastian023, ([CC BY-SA 3.0](#)) via [Commons Wikimedia](#)

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