

A Closer Look at the Human Brain

The brain is the most complex organ in the human body. It controls mostly everything that the body does, when you are awake and when you are asleep. The brain represents the control center.

The actual word 'brain' was found to be used for the first time in an Ancient Egyptian papyrus dating back to 1700 B.C. This is the first time the word itself was used in any language. However, there is a lot of proof that brain surgeries were performed starting from the Neolithic period, which is the late Stone Age.

The average human brain weighs around 3 pounds (1,300-1,400 grams) and represents 2% of the total body weight. When you are born, the average weight of the brain is 350-400 grams. There is a relation between the weight of the brain and body size. Elephants weigh more than humans. The average brain weight of the elephant is 4,732 grams. The cat brain weighs approximately 30 grams. The brain weight of a goldfish is on average 0.097 grams.

However, there is no relation between the size of the brain and intelligence.

The human brain is mainly 75% water and uses around 20% of the total oxygen in the body. The brain looks like a big sponge that has many wrinkles. It is sort of pink on the outside and white on the inside. If you ever touch a brain, it feels like you are touching jelly.

The brain can be divided into three main parts.

- 1) Forebrain: is the largest and most complex section of the brain. It is the most complex because it has many parts in it. Amongst the different parts of the forebrain are:
 - a. The Cerebrum weighs 85% of the brain. It controls your voluntary muscles. It allows you to reason, draw, listen to music, do math problems, and play video games. It is also where all the information about who you are is stored. It has your memory, your intelligence, your emotions, your ability to speak, the ability to know what is right and what is wrong. All this information is to be found in the lobes of the cerebrum. There are four lobes (frontal, parietal, temporal, occipital) in the cerebrum and each one is responsible for specific information. The cerebrum has two halves, which are called hemispheres. The right hemisphere controls the left side of your body, while the left hemisphere controls the right side of the body.

A Closer Look at the Human Brain (Cont'd)

- b. The Hypothalamus: controls some of the things in the body that happen automatically. Examples of automatic processes in the body are the temperature of the body. The Hypothalamus makes sure that your temperature stays at 98.6° Fahrenheit. If your temperature is above, it tells the body to sweat. If it is below the normal, it makes you shiver. Other processes it controls are thirst, appetite, and sleep.
 - c. The Pituitary Gland: produces and releases hormones into the body. The Pituitary Gland controls the hormones responsible for operations such as growth, metabolism, and digestion of food.
- 2) Midbrain: represents the message center, as it coordinates all the messages going back and forth from the brain to the spinal cord.
- 3) Hindbrain: is located underneath the cerebrum at the back of the brain. It consists of the following:
- a. The Cerebellum: it controls balance, movement, and coordination.
 - b. The Pons and The Medulla: Generally, the Pons and the Medulla together with the midbrain are called the brain stem. The brain stem controls the breathing process, digestion, swallowing, blinking, heart rate, blood pressure. It also receives and relays the messages to and from the brain.

Like all organs in the body, we must make sure that we give it proper care. We must exercise the brain by doing puzzles, listening to music, reading, doing art activities, and even playing video games, as it increases our ability to multitask. In addition, we should eat healthy foods that have minerals, such as calcium, foods with Omega-3 fatty acids, and B Vitamins.

A Closer Look at the Human Brain Questions

Multiple Choice:

1. The adult human brain weighs:
 - a. 3 pounds
 - b. 100 pounds
 - c. 25 pounds
 - d. 8 pounds

2. The brain stem consists of:
 - a. Pons and Medulla
 - b. Pons and Cerebrum
 - c. Pons, Cerebrum, and Medulla
 - d. Pons, Medulla, and Midbrain

3. The largest part of the brain is:
 - a. Forebrain
 - b. Midbrain
 - c. Hindbrain
 - d. None of the above

4. The part that controls solving mathematics, drawing, and moving is:
 - a. Hypothalamus
 - b. Medulla
 - c. Pons
 - d. Cerebrum

Matching:

- | | |
|---------------------|---|
| ___ 5. Cerebrum | a. controls all the messages going back and forth from the brain to the spine |
| ___ 6. Hypothalamus | b. controls voluntary muscles and allows you to reason |
| ___ 7. Midbrain | c. controls body temperature, appetite, and thirst |

True or False:

- ___ 8. There is a relation between the size of the brain and intelligence.
- ___ 9. The Pituitary Gland controls the body temperature.

A Closer Look at the Human Brain Answers

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