



# AJ インターナショナルアカデミー

\*\*\*オンライン 15 分授業\*\*\*

★Quarter Hour Lesson★

## Nervous System and Brain

The nervous system coordinates the function of almost all multicellular animal bodies, including those of humans. The human nervous system is made up of a brain and spinal cord. The whole system controls bodily organs so that they are able to work together.

The brain, which looks like a gray sponge, weighs 1.3 to 1.4 kg approximately 2.9 to 3.1 pounds, for an average adult. It functions as a mother computer for controlling all bodily works, both physical and mental activities. The whole brain is composed of over 100 billion nerve cells, neurons, and trillions supporting cells, glia.

The other component of the nervous system, the spinal cord, is approximately 43 cm long in adult women and 45 cm long in adult men and weighs about 35-40 grams. It has threadlike nerves that branch out to every small organ or body part. From this, the synaptic signals, or an internal signal, are delivered back and forth throughout the body. Once a synaptic message is sent, the brain tells the body how to react.

The largest part of the human brain is called the cerebrum, which consists of two cerebral hemispheres, right and left. The cerebrum coordinates conscious motions from daily actions such as eating to complex activities like playing musical instruments. The cerebrum holds information and is responsible for higher mental activities such as thought, reason, emotion, and memory.

Below the cerebrum is the cerebellum. In Latin, the word cerebellum means "little brain." The cerebellum is in charge of motor control; the movement and tension in muscles. It also maintains equilibrium, or balance, and coordination during physical activities such as walking, running, dancing, or riding a bicycle.

The cerebellum is comprised of a thin outer layer. The outer layer of the cerebellum (cerebellar cortex) has small, compact folds. The cerebellum has uncountable neurons for processing data.

Below the cerebellum, in the lower half of the brainstem, is the medulla oblongata. The medulla is in charge of cardiac, respiratory, vomiting and vasomotor control; heart-beat and blood pressure, the rates of breathing, body temperature, and many other unconscious motions that a person cannot control at his/her own will.



## Reading Comprehension Questions

1. The following is all part of the nervous system except
  - (A) spinal cord.
  - (B) cerebral cortex.
  - (C) cerebellum .
  - (D) cardiac tissues.
  
2. The conscious and complex motions are controlled by
  - (A) spinal cord.
  - (B) brain stem.
  - (C) cerebrum.
  - (D) neurons.
  
3. The word “comprised of “ in the 6<sup>th</sup> paragraph means
  - (A) to create.
  - (B) to controls
  - (C) to consist of.
  - (D) to be sending out
  
4. The spinal cord in women is
  - (A) heavier than that of men.
  - (B) is as long as that of men.
  - (C) is a little shorter than that of men.
  - (D) is smaller than that of men.
  
5. The balance of human is taken care by
  - (A) cerebrum.
  - (B) medulla oblongata.
  - (C) the part below the cerebrum.
  - (D) the lower half of the brain stem.