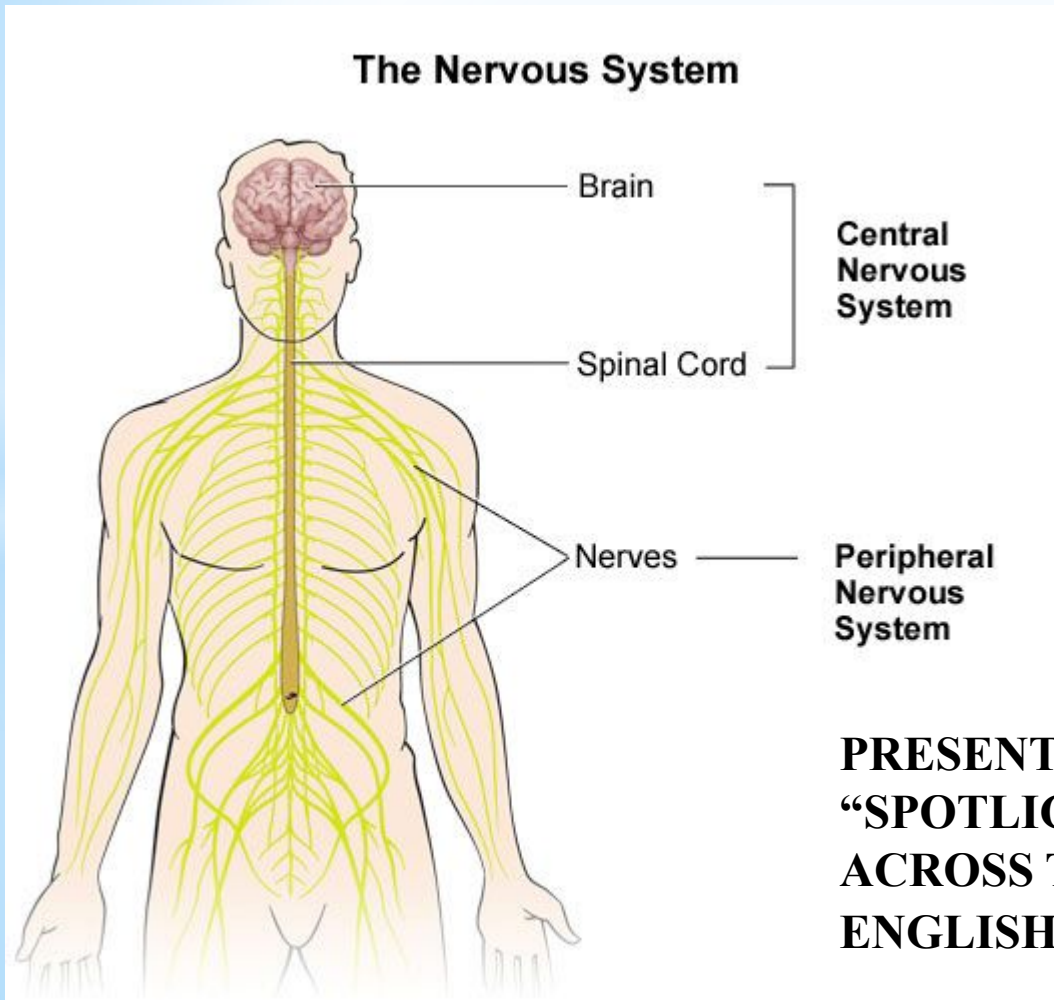
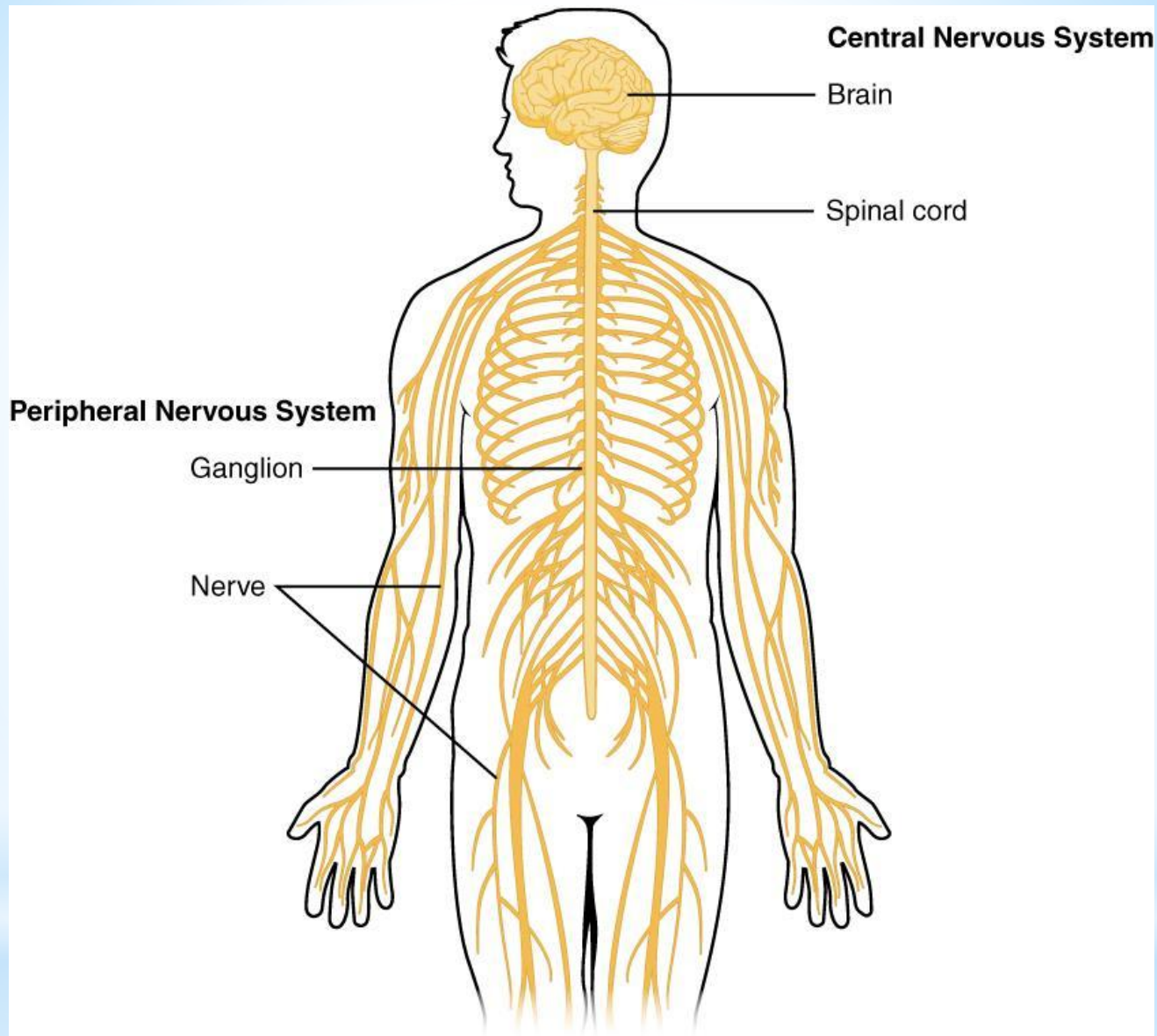


*The nervous system



**PRESENTATION FOR THE 11-TH FORM
“SPOTLIGHT 11” MODULE 2 LESSON 8
ACROSS THE CURRICULUM: SCIENCE
ENGLISH TEACHER: OLGA DOLGOVA**



Central Nervous System

Brain

Spinal cord

Peripheral Nervous System

Ganglion

Nerve

* It consists of the brain, the spinal cord, which runs from the brain and down through your backbone, and a gigantic network of nerves

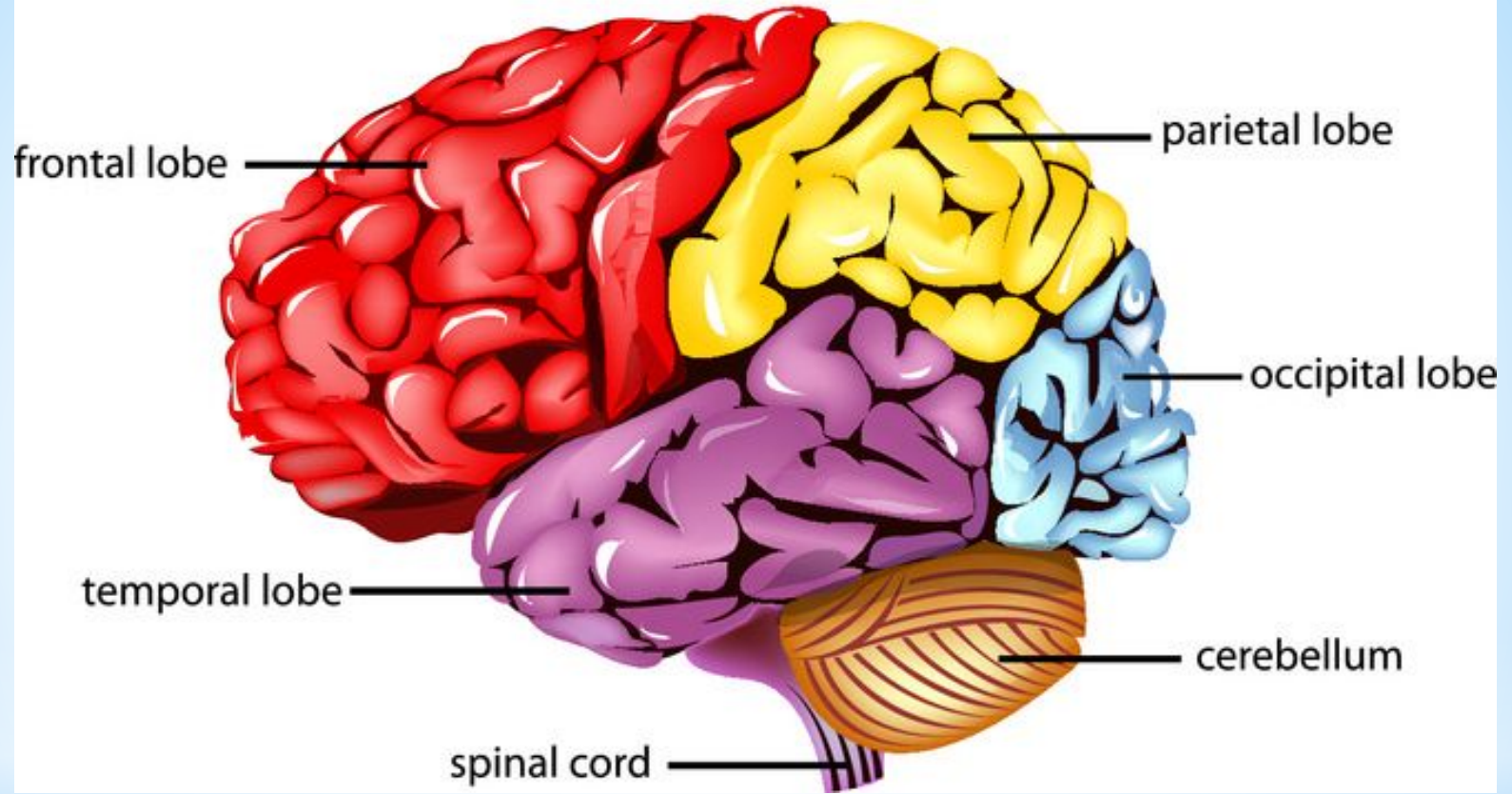


The brain is like the central computer for the nervous system. It receives messages from different parts of the body, and then tells the body how to react.



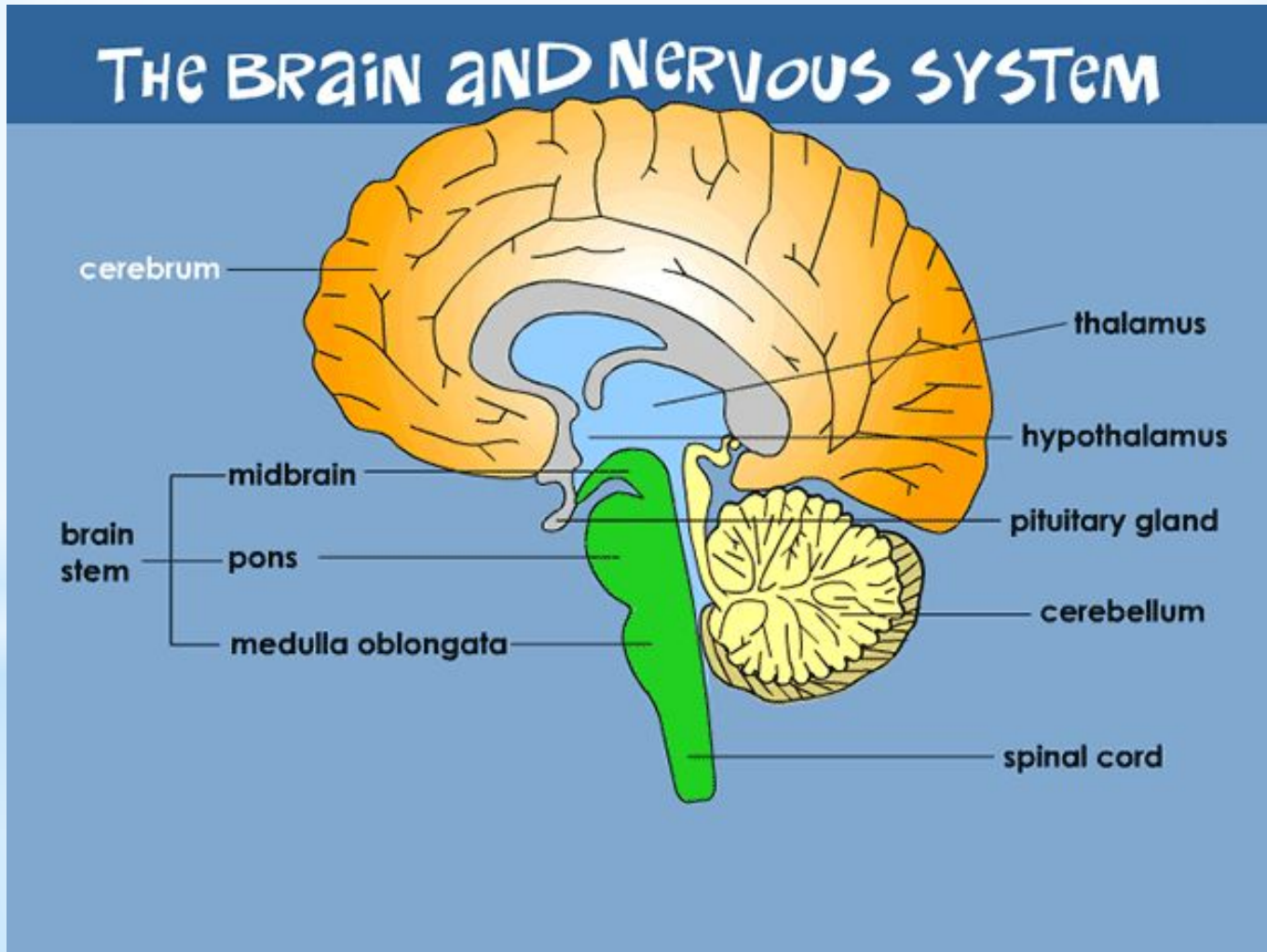
If you touch a hot pan by accident, for example, the nerves in your skin form a message of pain. The message gets passed on through the nerves in the spinal cord to the nerves in the brain. The brain takes this message, translates it, then sends a message back telling the muscles to pull your hand away from the heat. This all happens in less than a second!

Parts of the Human Brain

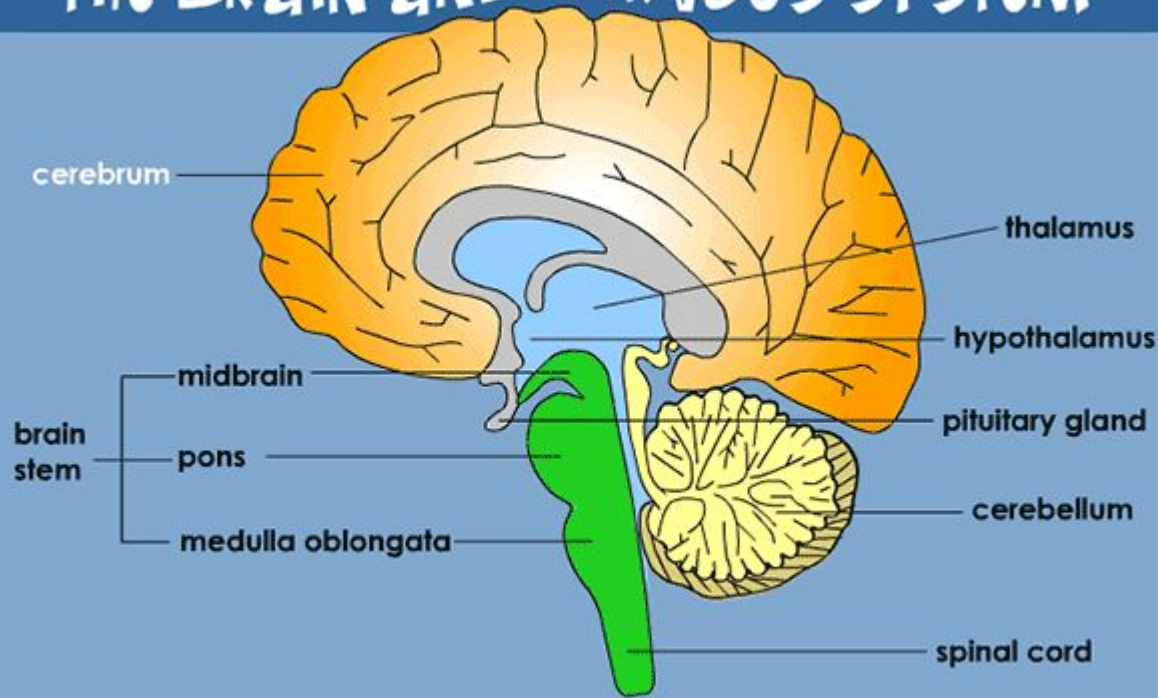


The brain is a very complex organ with many different parts.

The biggest part is the cerebrum, responsible for intelligence, memory, personality, emotion, speech and the ability to feel and move.

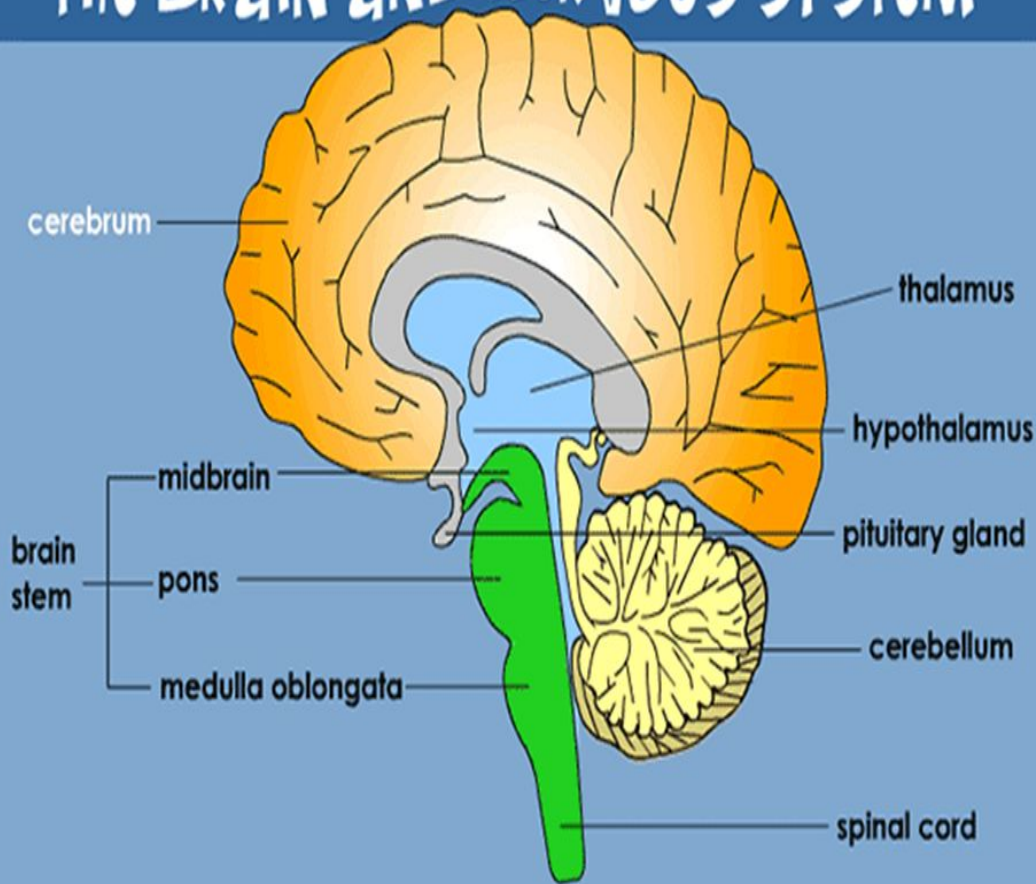


THE BRAIN AND NERVOUS SYSTEM



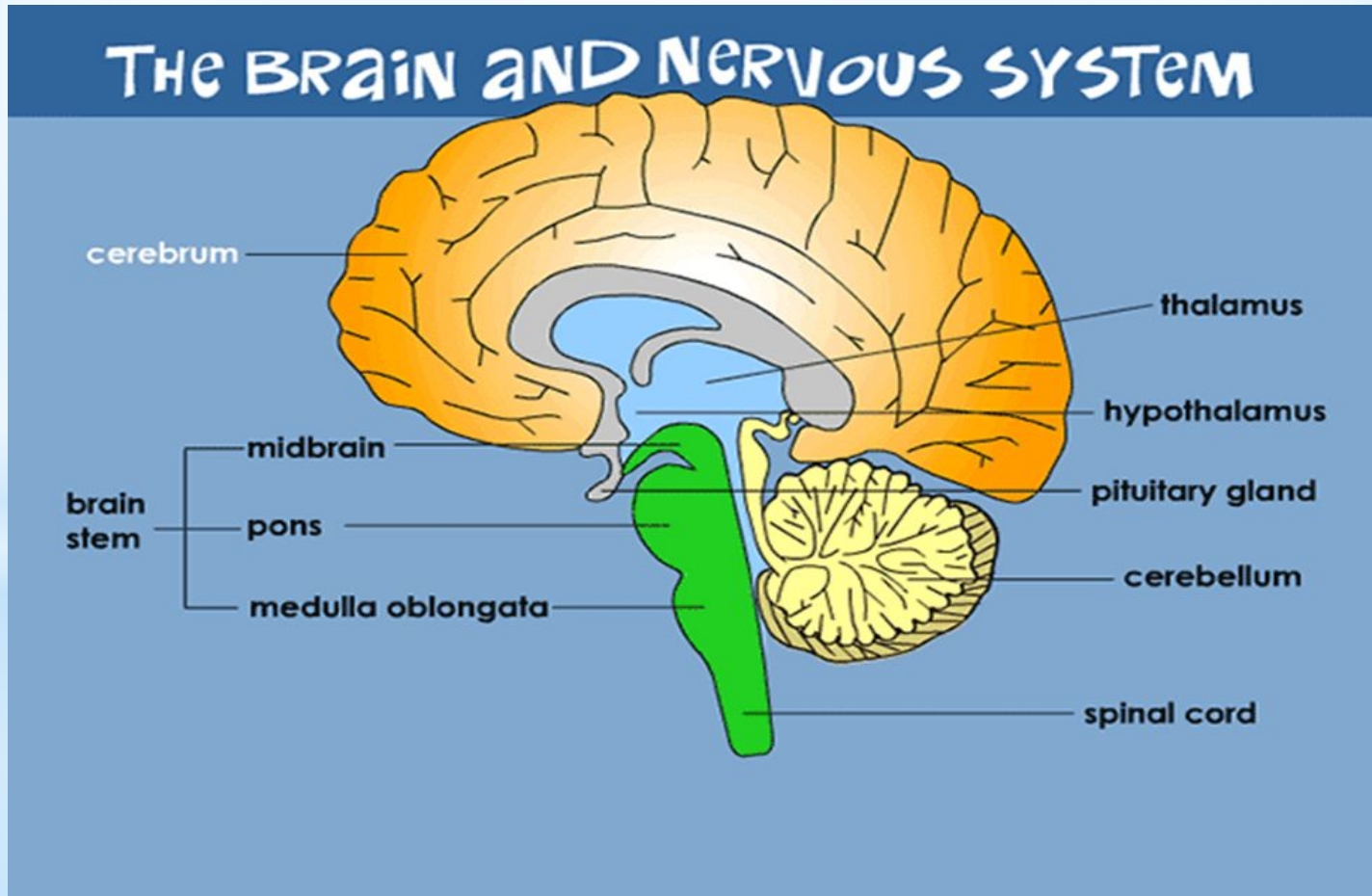
Next is the smaller cerebellum, controlling balance, movement and coordination, and the brain stem. This is responsible for taking in, sending out and coordinating all of the brain's messages - just like a secretary! It also controls many automatic body functions such as breathing, heart rate and digestion.

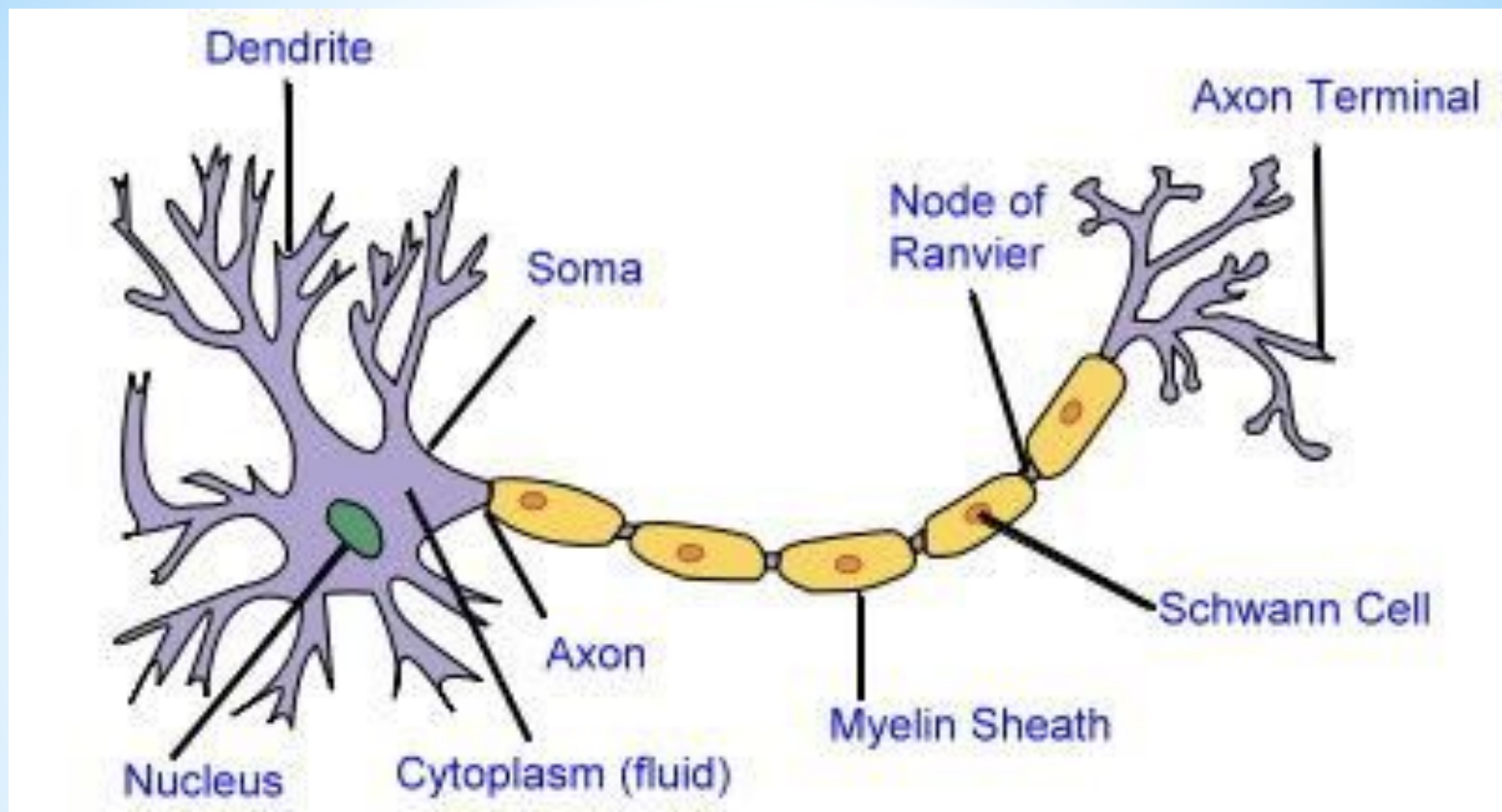
THE BRAIN AND NERVOUS SYSTEM



The thalamus carries messages from the sensory organs like the eyes, ears, nose and fingers to the cerebrum, and the hypothalamus controls other automatic processes such as body temperature and appetite.

Lastly, there is the tiny pituitary gland, which produces and releases hormones to control growth, metabolism, our response to stress, and many other things.





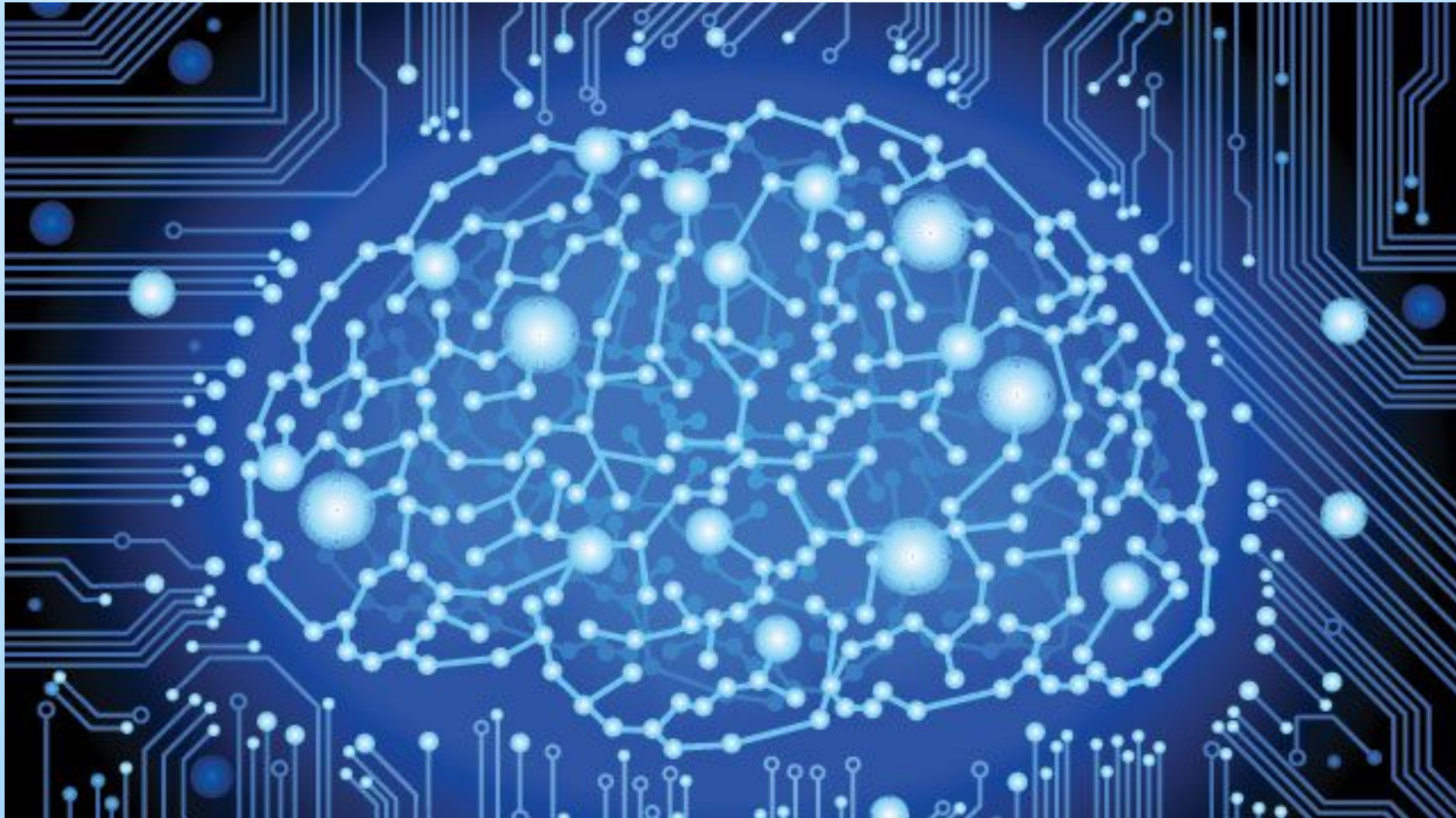
Nerve cells, or neurons, are like long, thin threads with fingers, called dendrites, at each end. The dendrites of one neuron almost touch the dendrites of the next neuron.

When a neuron is stimulated, by heat, touch or sound, for example, or by some other message, it actually generates a tiny electrical signal.

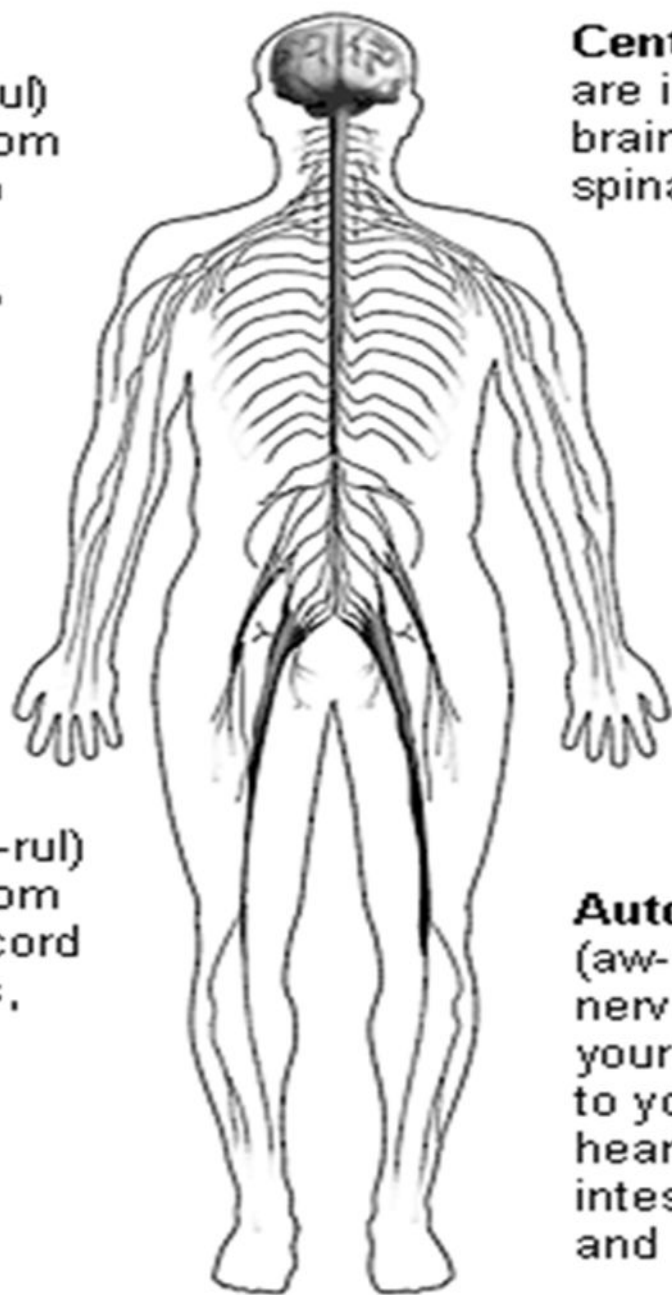


This releases chemicals that enable the signal to be passed on from the dendrites of one neuron to the next, until the message reaches the brain.

The brain alone contains around 100 billion neurons!



Cranial
(KRAY-nee-uh)
nerves go from
your brain to
your eyes,
mouth, ears,
and other
parts of
your head.



Central nerves
are in your
brain and
spinal cord.

Peripheral
(puh-RIF-uh-rul)
nerves go from
your spinal cord
to your arms,
hands, legs,
and feet.

Autonomic
(aw-toh-NOM-ik)
nerves go from
your spinal cord
to your lungs,
heart, stomach,
intestines, bladder,
and sex organs.

The Nervous System

Quiz

1 Name the three parts of the nervous system.

2 Which part of the body controls the nervous system?

3 What is the biggest part of the brain called?

4 Which part of the brain controls balance, movement and coordination, and the brain stem?

5 Which part of the brain carries messages from the sensory organs?

6 Which part of the brain is responsible for metabolism?

7 Which part of the brain controls such body functions as breathing, heart rate and digestion.

8 What is another name for 'nerve cells'?

9 How many nerve cells does the human brain contain?

a) brain

b) nerves

c) 100 billion

d) pituitary gland

e) cerebrum

f) cerebellum

g) thalamus

h) hypothalamus

i) neurons

j) spinal cord