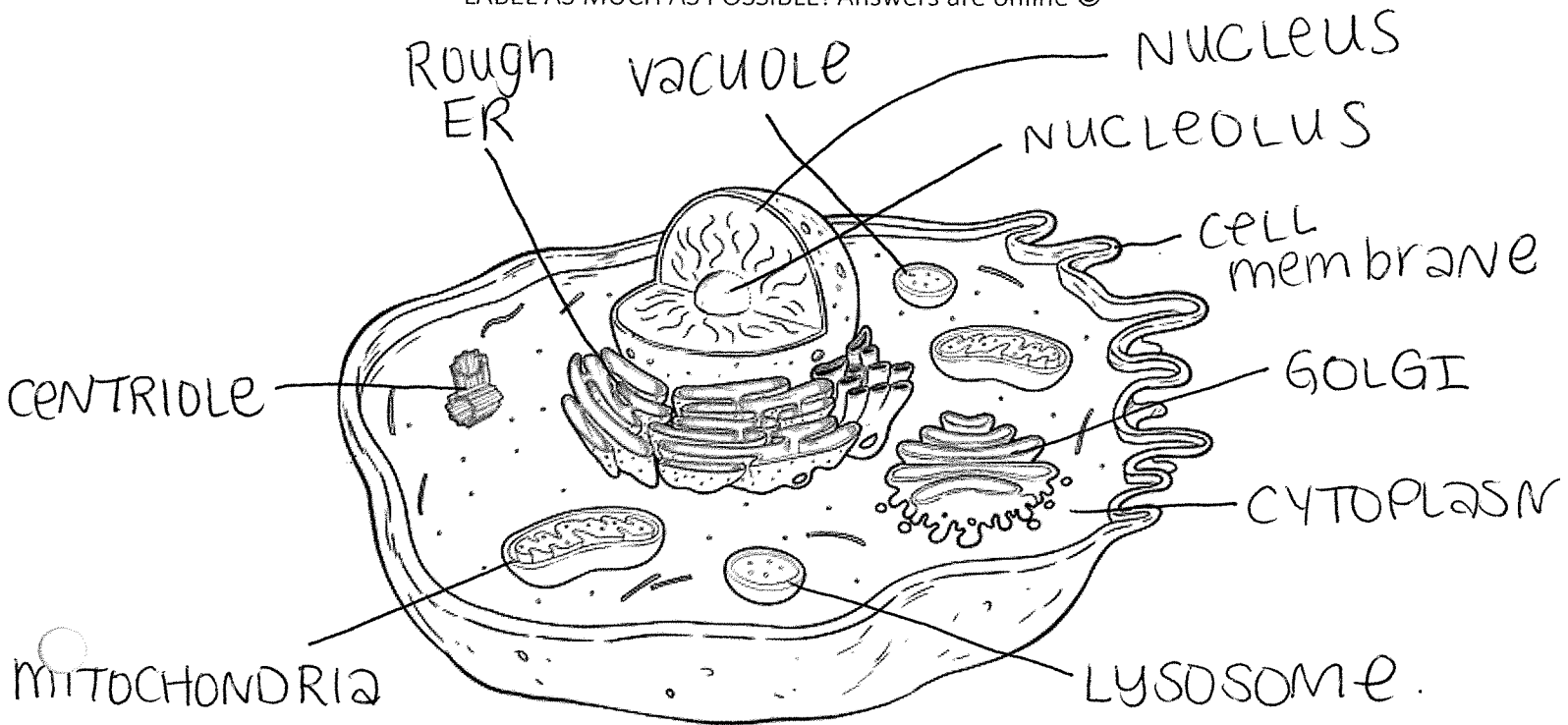
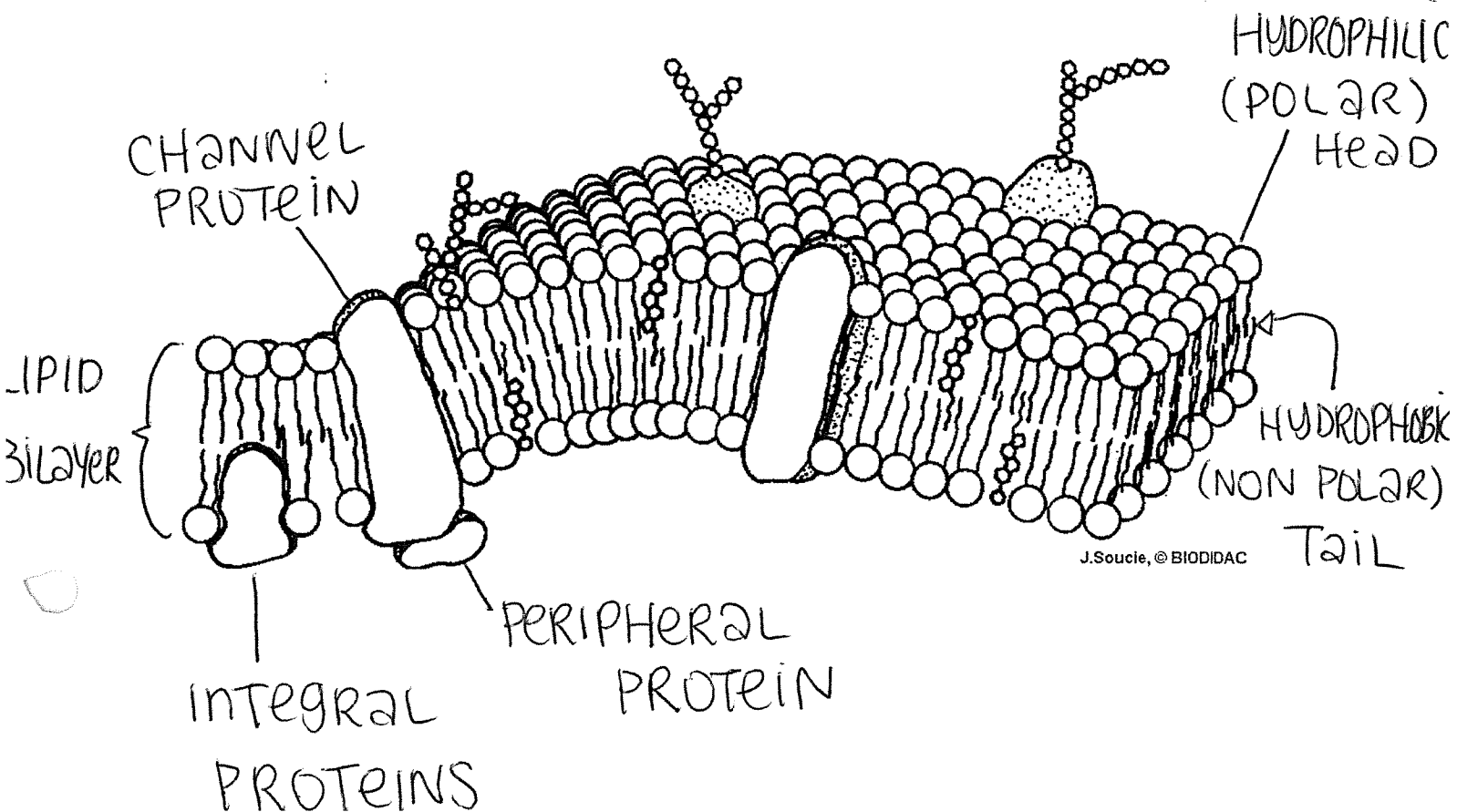


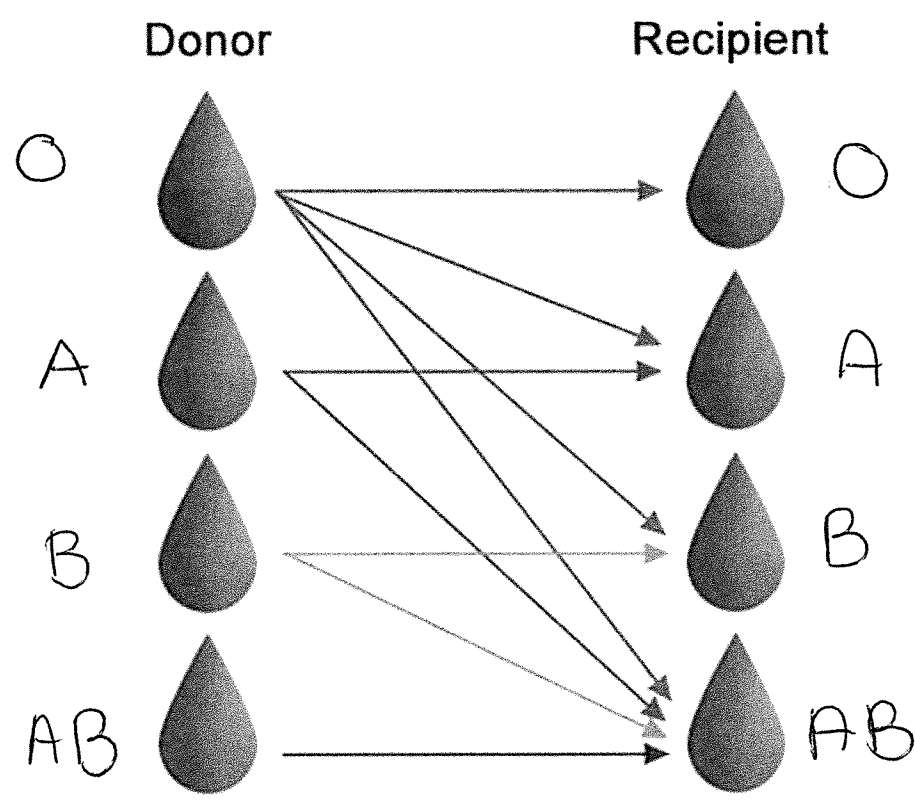
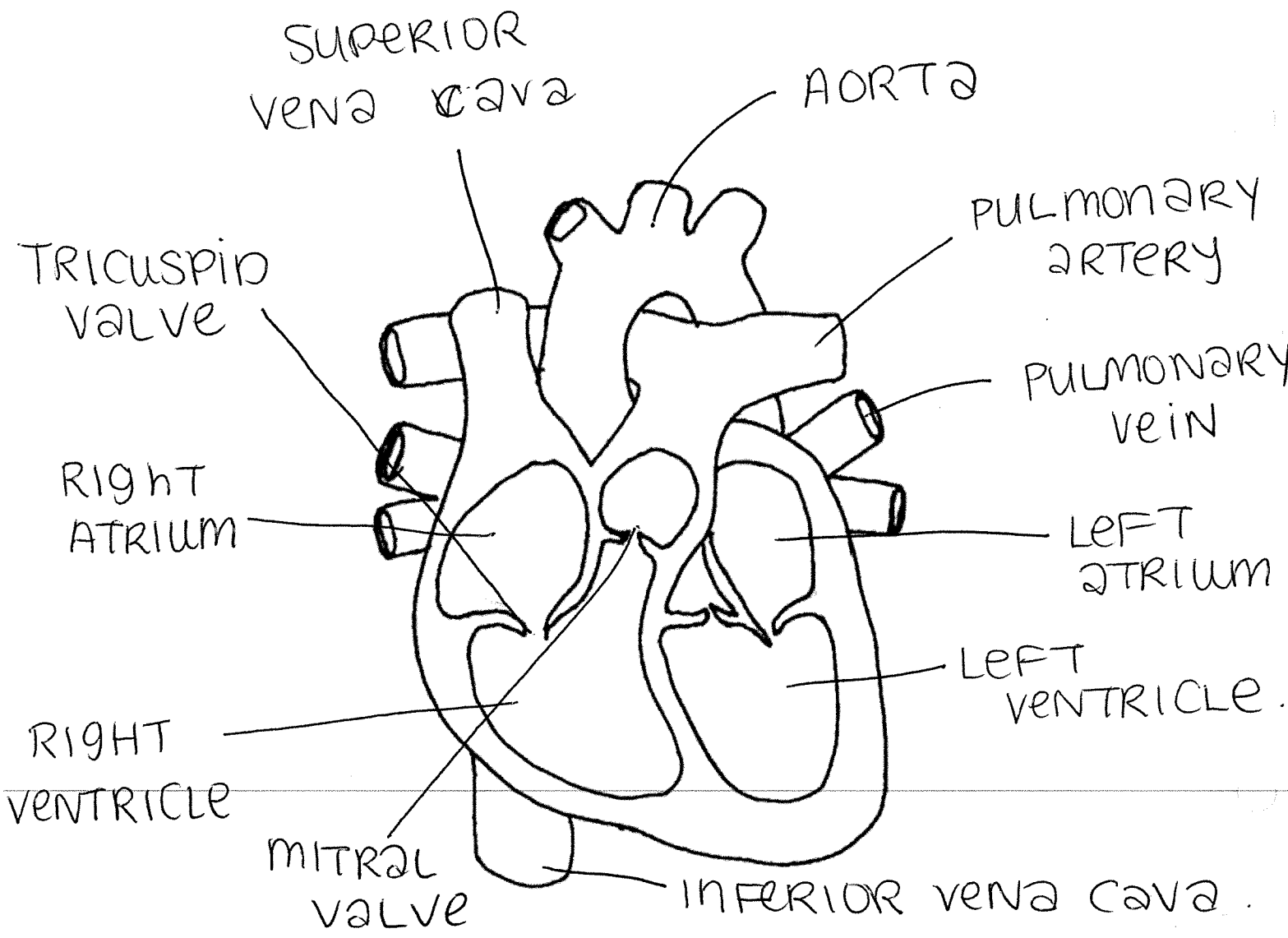
DIAGRAMS TO KNOW

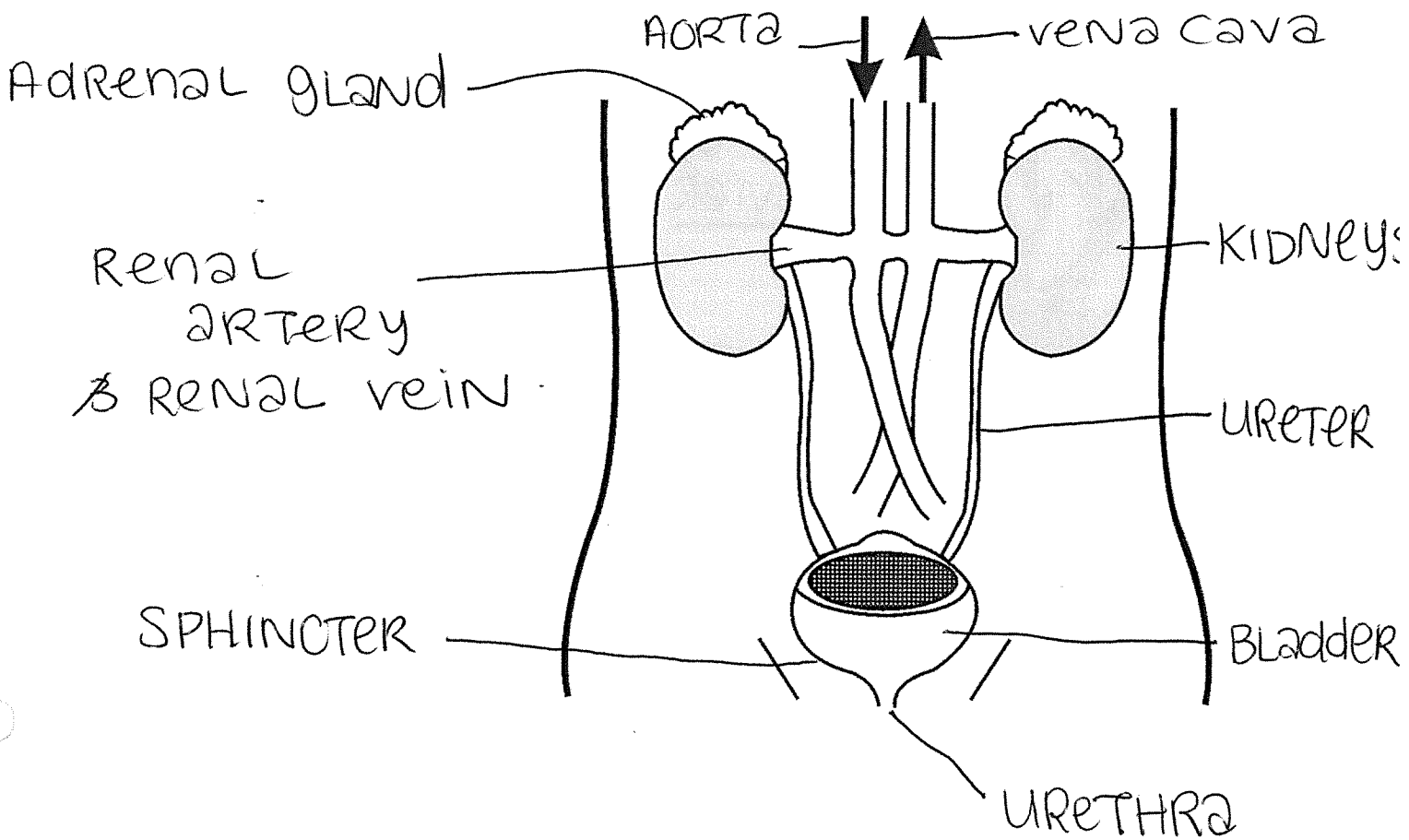
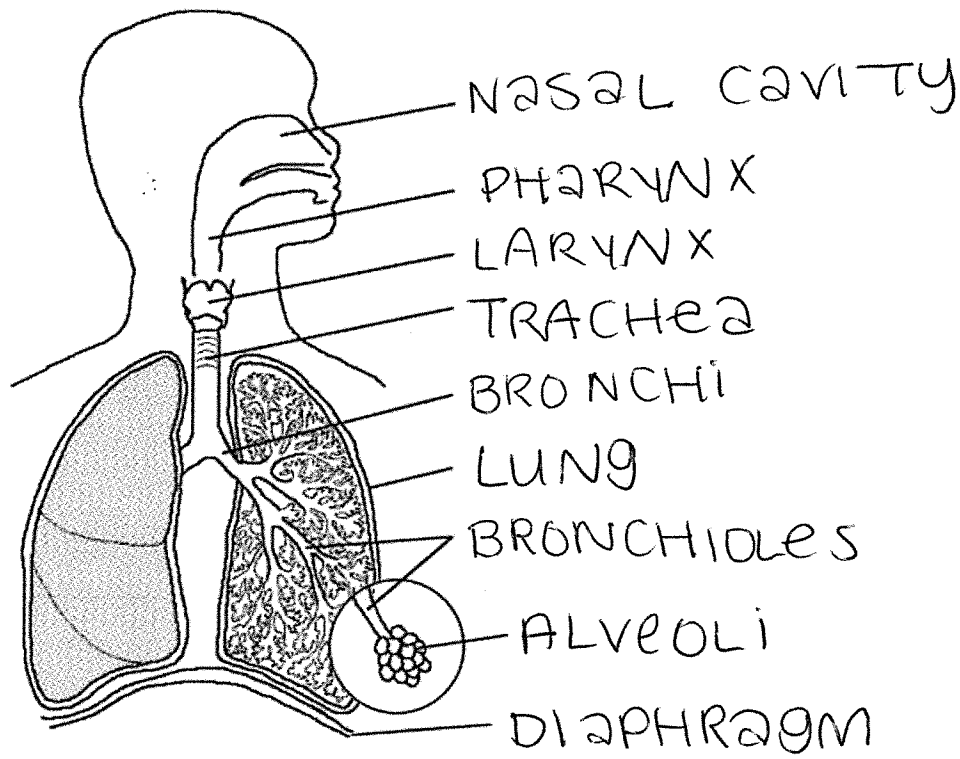
LABEL AS MUCH AS POSSIBLE! Answers are online ☺

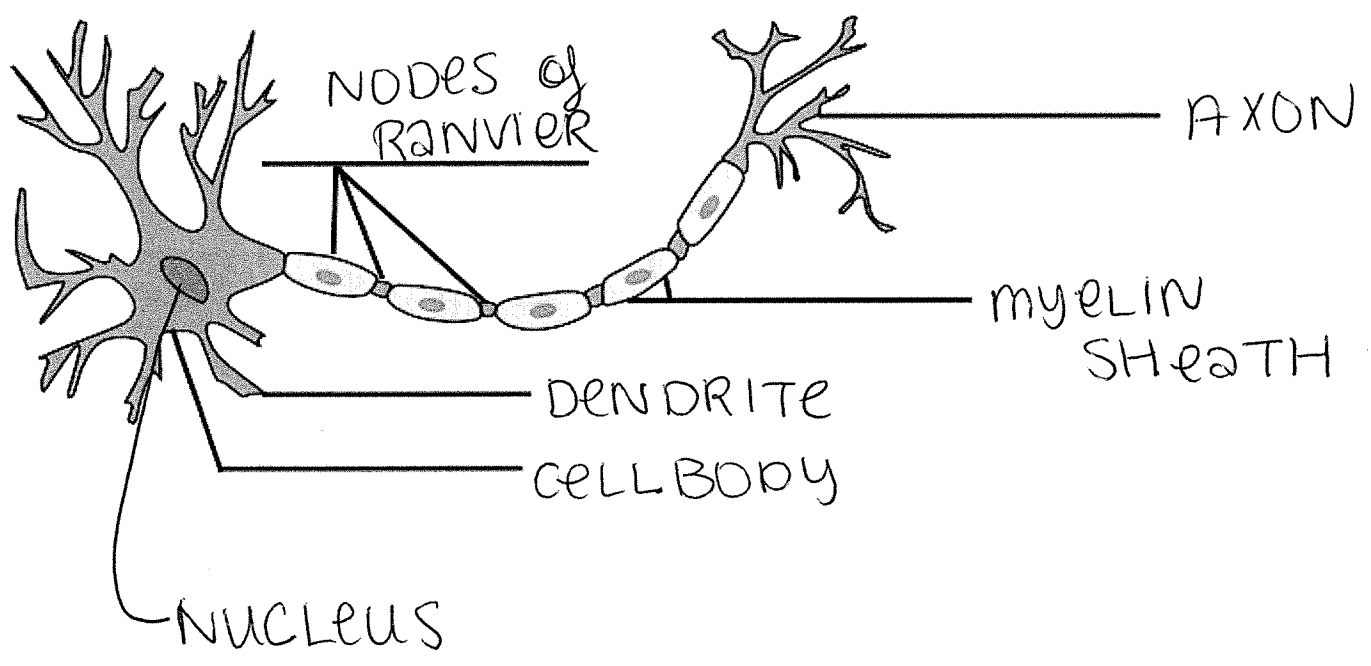
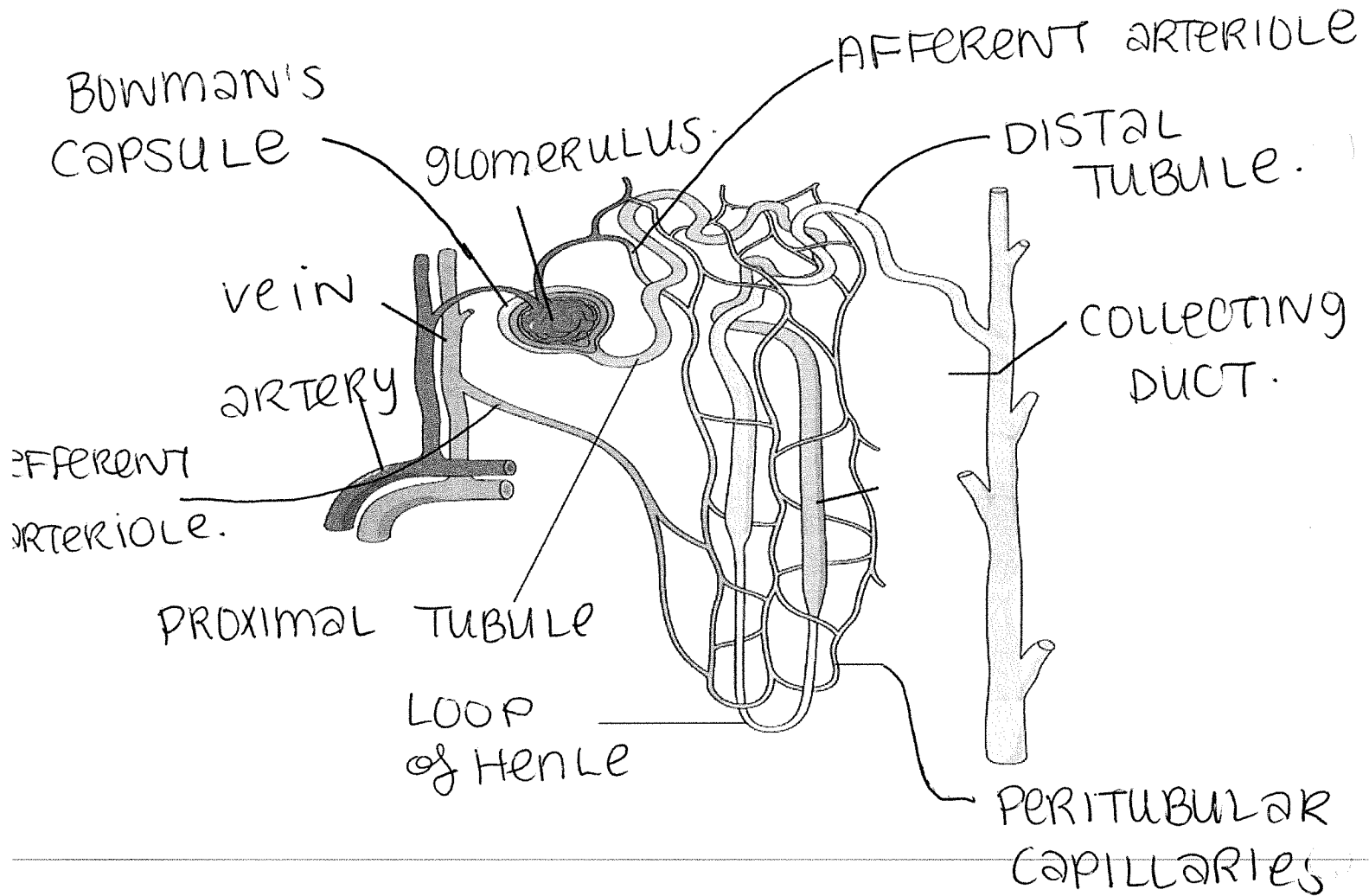


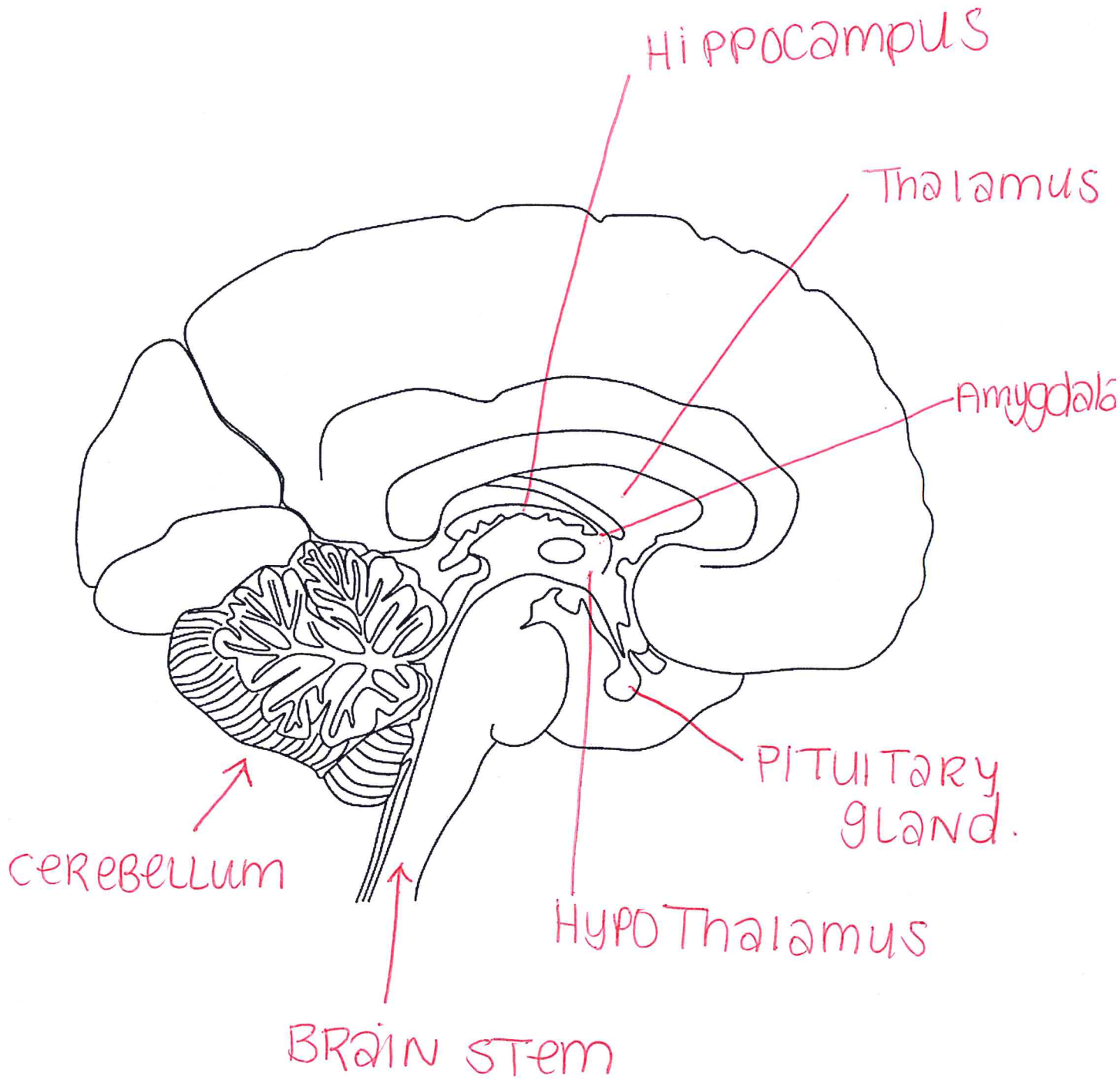
www.filmvanderwall.com
Animal Cell Diagram - Copyright © Dutch Renaissance Press LLC











Hippocampus

Thalamus

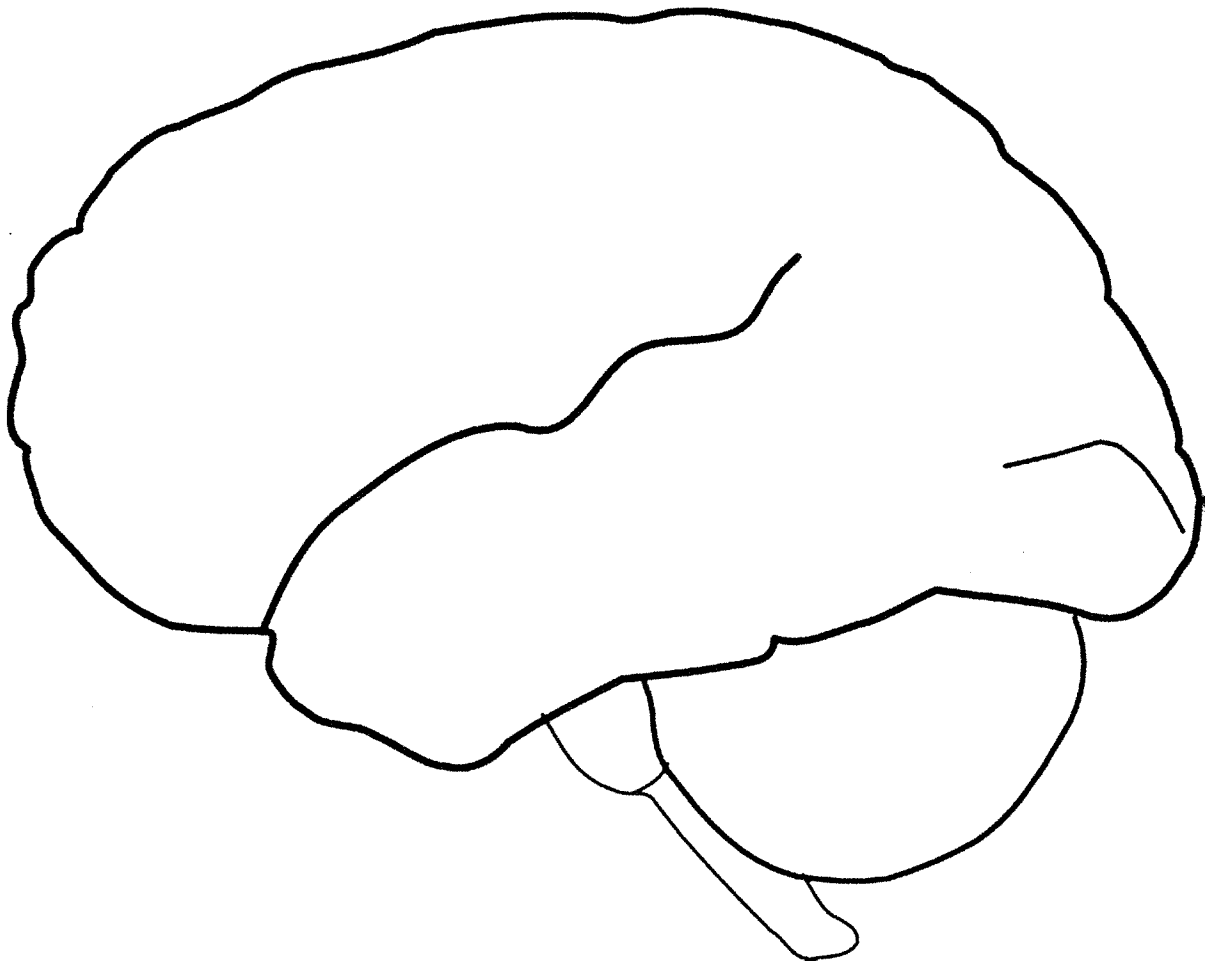
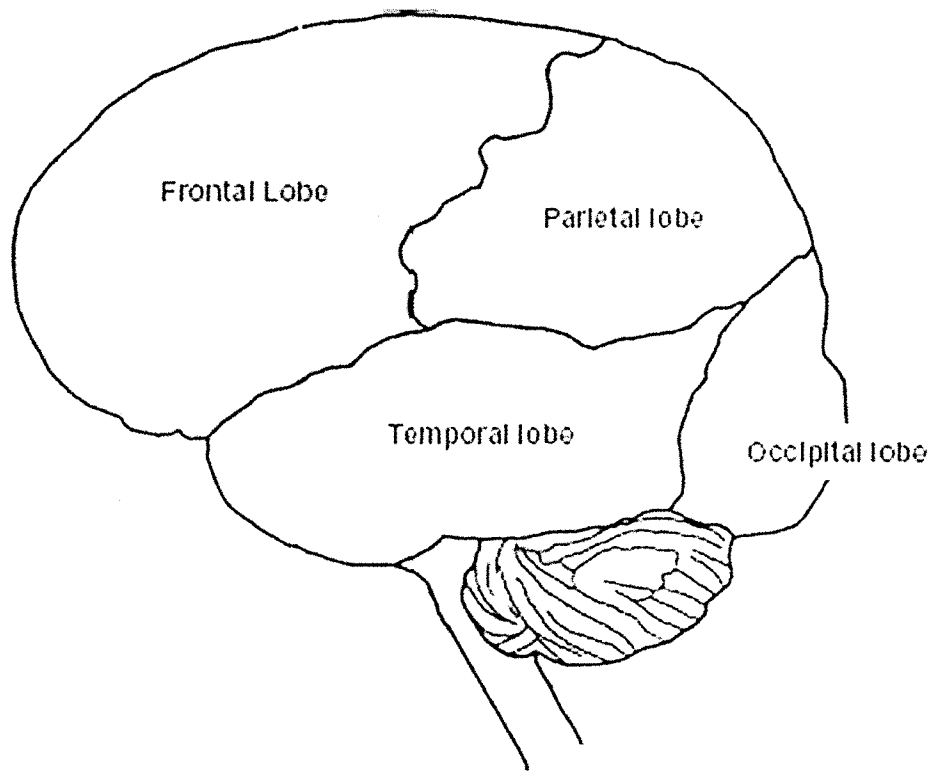
Amygdala

PITUITARY gland.

HYPOTHALAMUS

BRAIN STEM

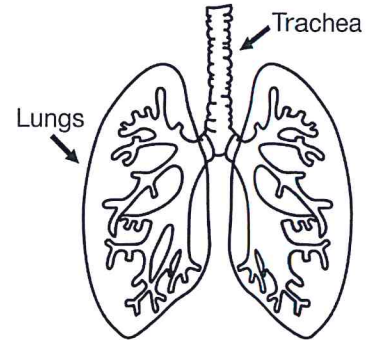
CEREBELLUM



ANSWER KEY

Your Lungs

by Cynthia Sherwood



1. Where are your lungs located?

in your chest, behind your rib cage

2. Complete the graphic organizer.

Type of air that your lungs remove from your blood cells	Type of air that your lungs put into your blood cells
<u>carbon dioxide</u>	<u>oxygen</u>

3. What is your trachea?

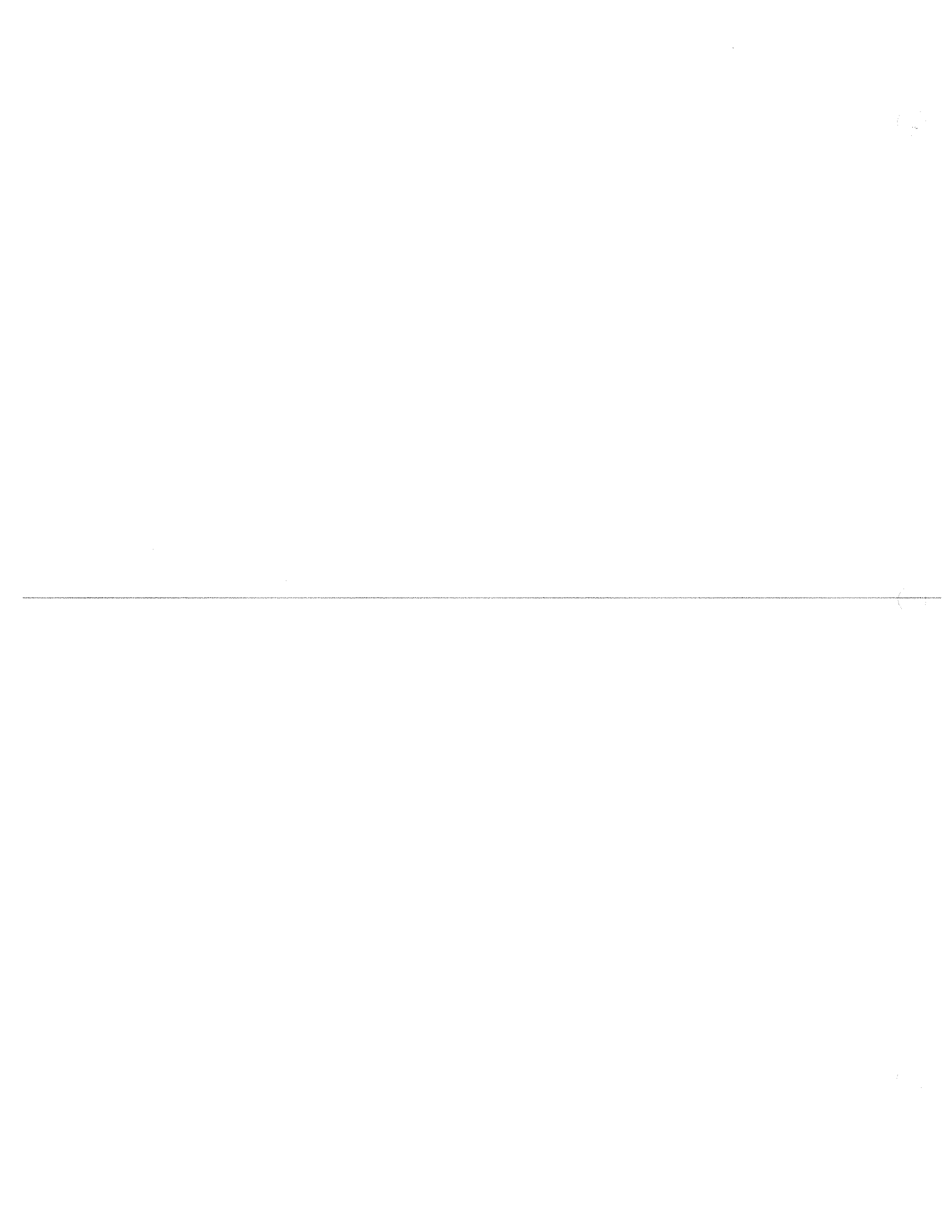
Your trachea is also known as your windpipe. It is a tube that air travels through to get from your mouth/nose to your lungs.

4. What do lungs look like when they've been damaged from smoking?

They can look gray or have black spots on them.

5. Why does asthma make it hard for people to breathe?

Asthma narrows the breathing tubes.



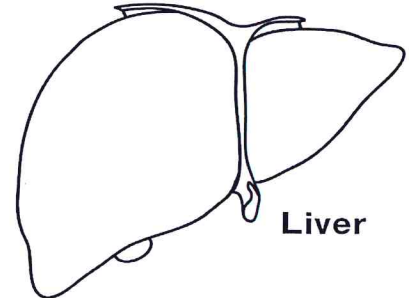
ANSWER KEY

Your Liver

by Cynthia Sherwood

1. Where is your liver located?

under your ribs on the right side



2. Complete the graphic organizer.

Three Major Functions of Your Liver		
1. Makes bile to help you break down the food you eat	2. Cleans your blood by removing dangerous chemicals from your body	3. Makes and stores fuels for you to use when you need extra energy

3. What can you do to take care of your liver?

Eat healthy foods, drink lots of water, exercise, avoid drinking alcohol and avoid smoking cigarettes.

4. Circle the things that your liver does.
Cross out the things that your liver does not do.

a. cleans your blood

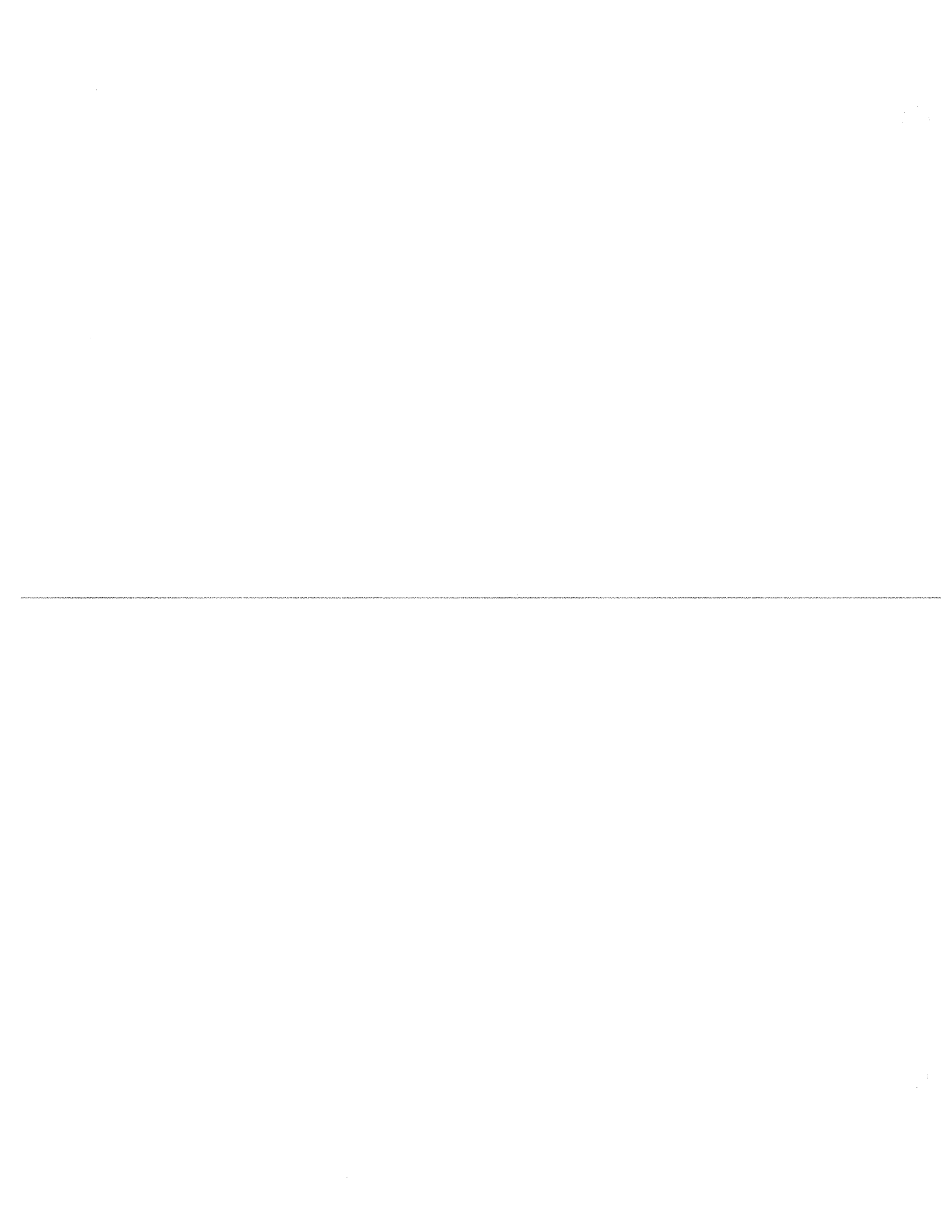
b. ~~moves blood around your body~~

c. makes a chemical called bile

d. stores extra energy for your body

e. ~~puts oxygen in your blood~~

f. makes antibodies that kill germs



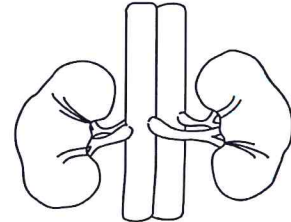
ANSWER KEY

Your Kidneys

by Cynthia Sherwood

1. Where are your kidneys located?

on your lower back



2. How big is a kidney?

about as big as your fist

3. How do your kidneys help your blood?

they filter your blood and removes things your body does not need

4. Which is the best synonym for the word filter? a

a. clean

b. create

c. blood

d. fill

5. What is your bladder?

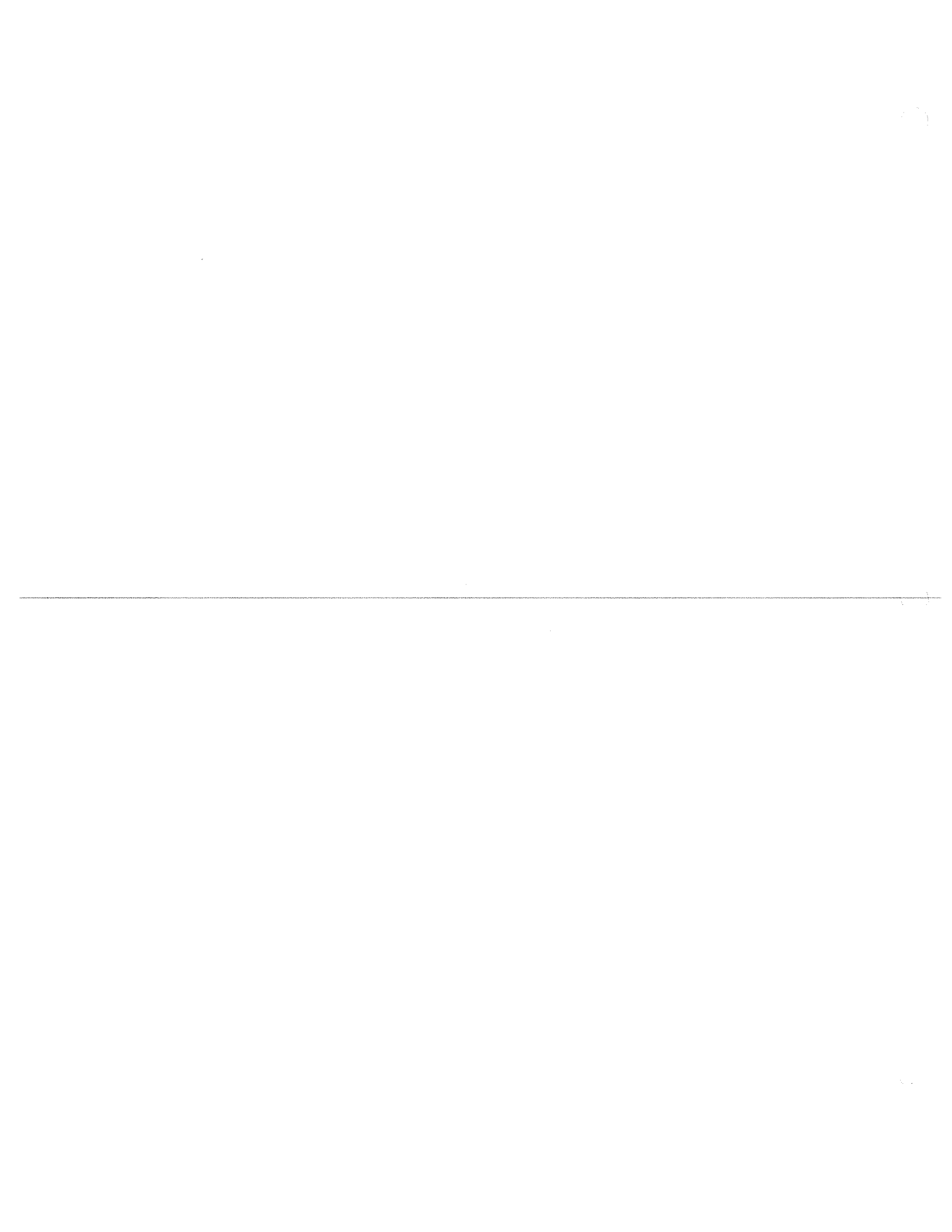
a storage pouch that holds urine

6. What three things can doctors do for a person whose kidneys do not work properly?

a. They can remove a kidney (because you only need one).

b. They can use a machine to clean the blood (dialysis).

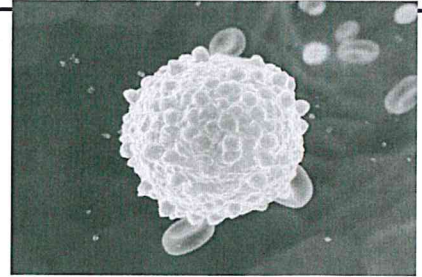
c. A new kidney can be transplanted into the sick person's body.



ANSWER KEY

Immune Troops! Move In!

by Shauna Hutton



1. What does your immune system do? c
- a. makes you sick
 - b. keep your brain sharp
 - c. **protect your from illness**
 - d. make energy for your body

2. Define the word *antigen*. Give 3 examples of antigens.

An antigen is any foreign substance in your body that makes the immune system attack it. Antigens can be pollen, a virus, or bacteria.

3. According to this article, your immune system works much like... b
- a. the ocean
 - b. **an army**
 - c. an engine in a car
 - d. a computer

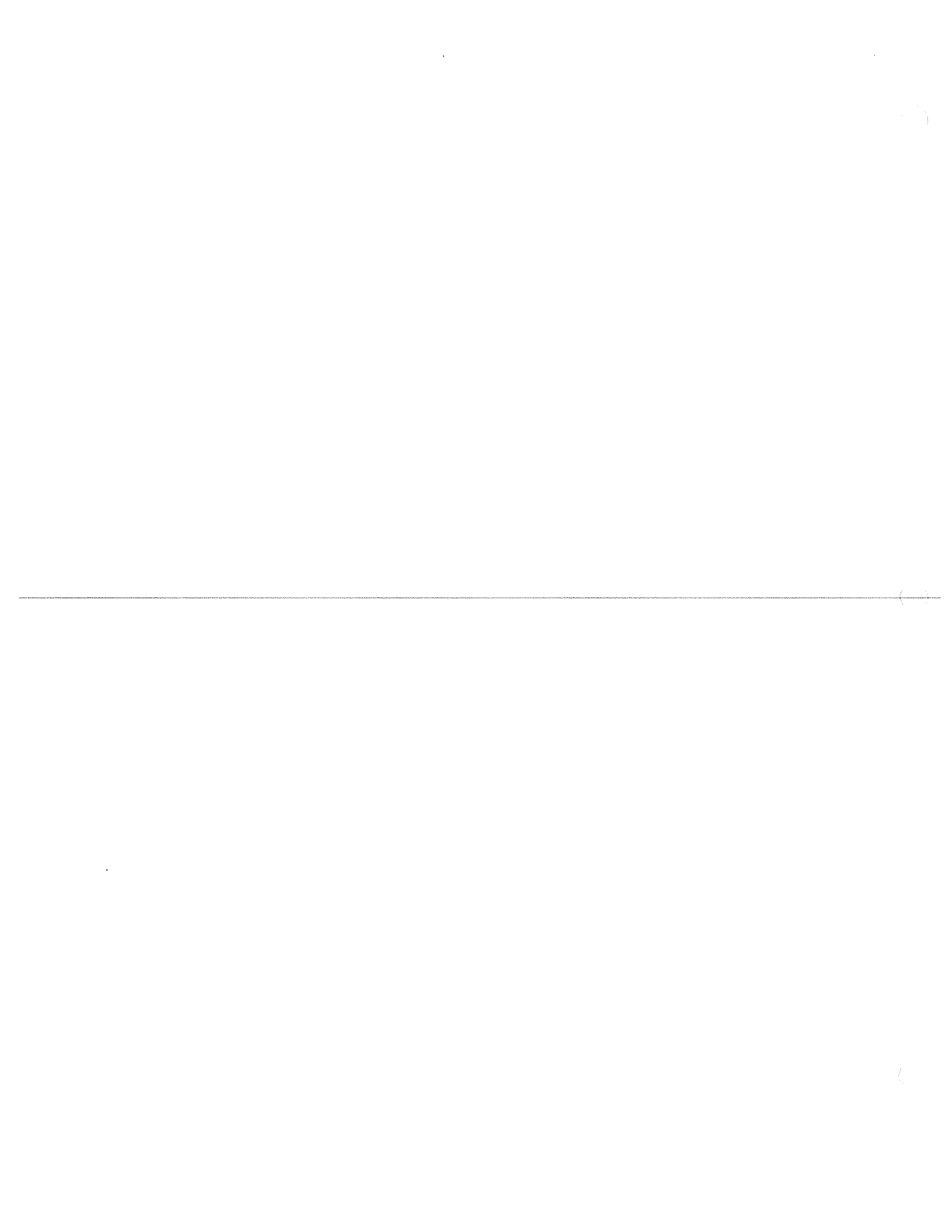
4. Where are white blood cells made? a
- a. **in your bones**
 - b. in your thymus
 - c. in your brain
 - d. in your heart

5. B and T cells are both... d
- a. phagocytes
 - b. bacteria
 - c. antigens
 - d. **lymphocytes**

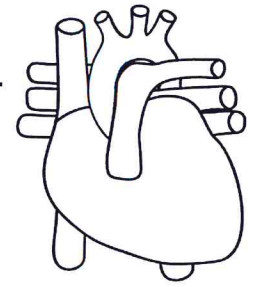
5. What can you do to keep your immune system strong?

To keep your immune system strong, you should get plenty of sleep and eat nutritious foods.

Now try this: Draw a comic strip that shows white blood cells attacking a virus in the bloodstream.



ANSWER KEY



Your Heart

by Cynthia Sherwood

1. Where is your heart located?

To the left of the center of your chest.

2. What does your heart do for your body?

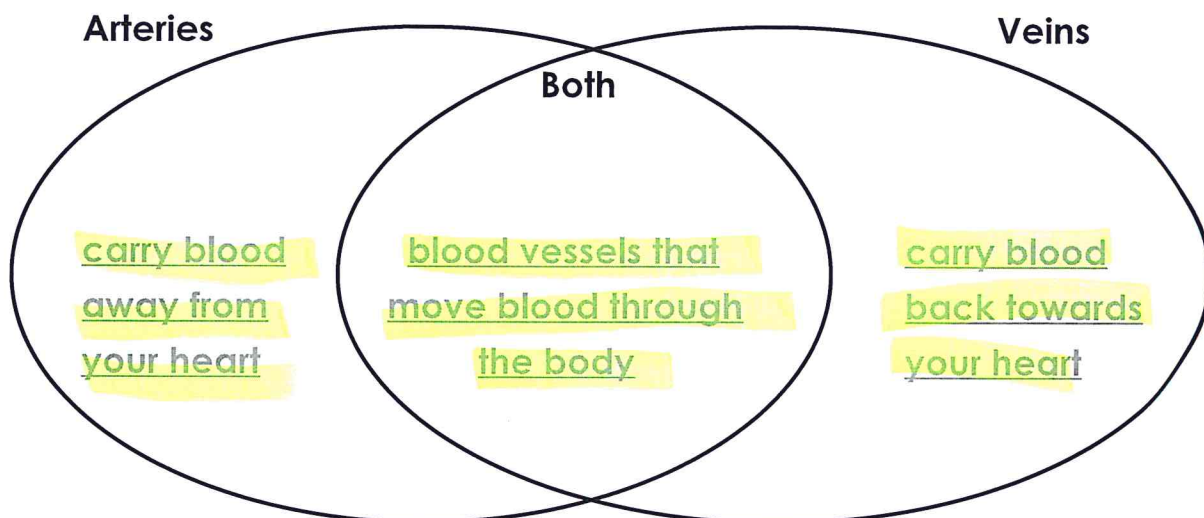
It is a pump that moves blood through your body.

3. How is the left side of your heart different from the right side?

The right side receives blood from your body and pumps it into your lungs.

The left side receives blood from the lungs and pumps it into your body.

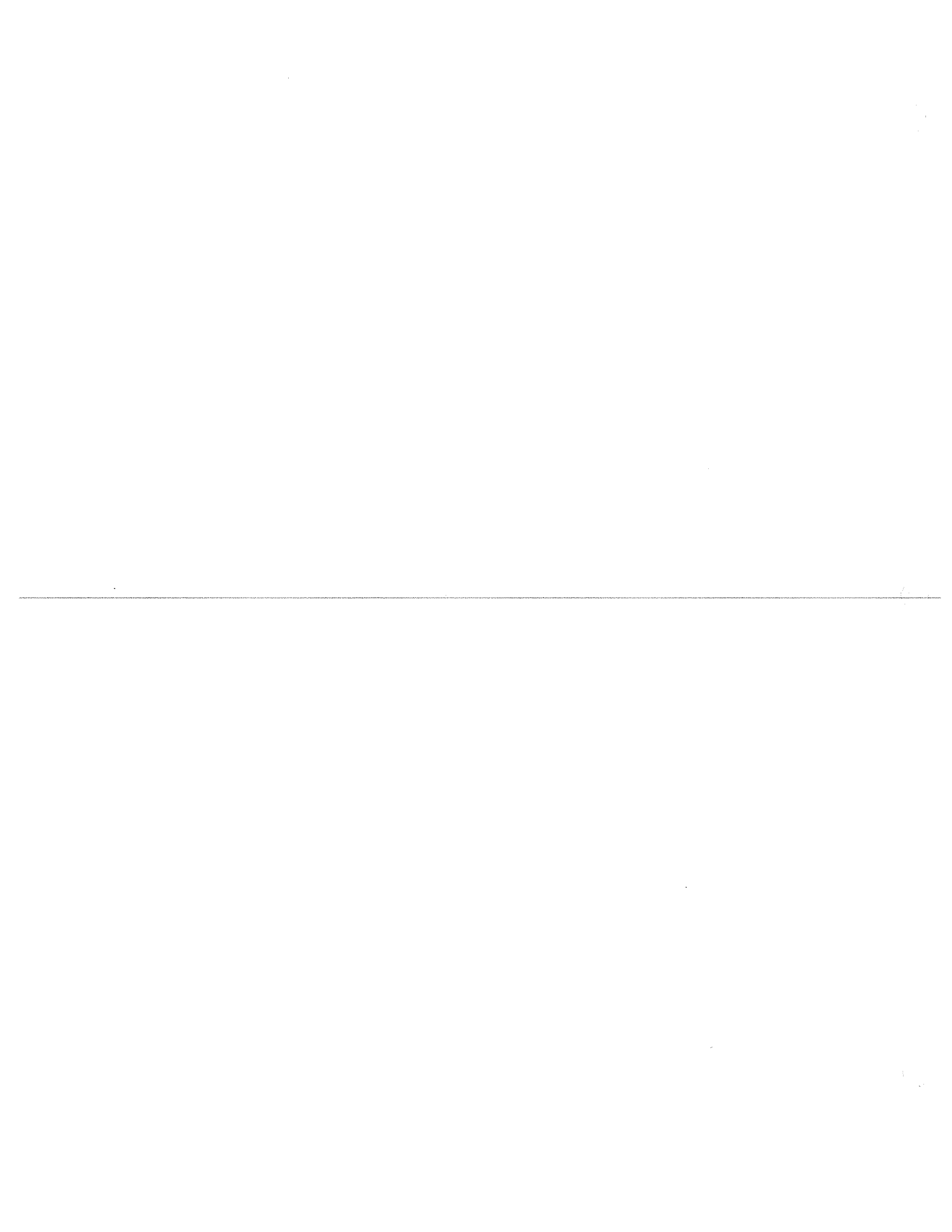
4. Complete the Venn diagram to compare and contrast the functions of arteries and veins.



5. What are some things you can do to keep your heart healthy?

Eat healthy foods, such as whole grains, fruits, vegetables, and lean proteins.

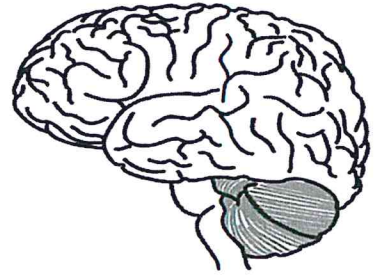
Exercise to keep your blood pumping hard.



ANSWER KEY

Your Brain

by Cynthia Sherwood



1. According to the information in the article, what does your brain look like and how much does it weigh?

Your brain looks like a wrinkled, wet sponge. It weighs about three pounds.

2. Which part of your brain controls your memory?

cerebrum

3. Which part of your brain automatically controls parts of your body without you having to think about them?

brain stem

4. Which part of your brain controls feelings, like happiness, sadness, frustration, and anger?

amygdala

5. Why does the author say that your cerebrum seems "mixed up"?

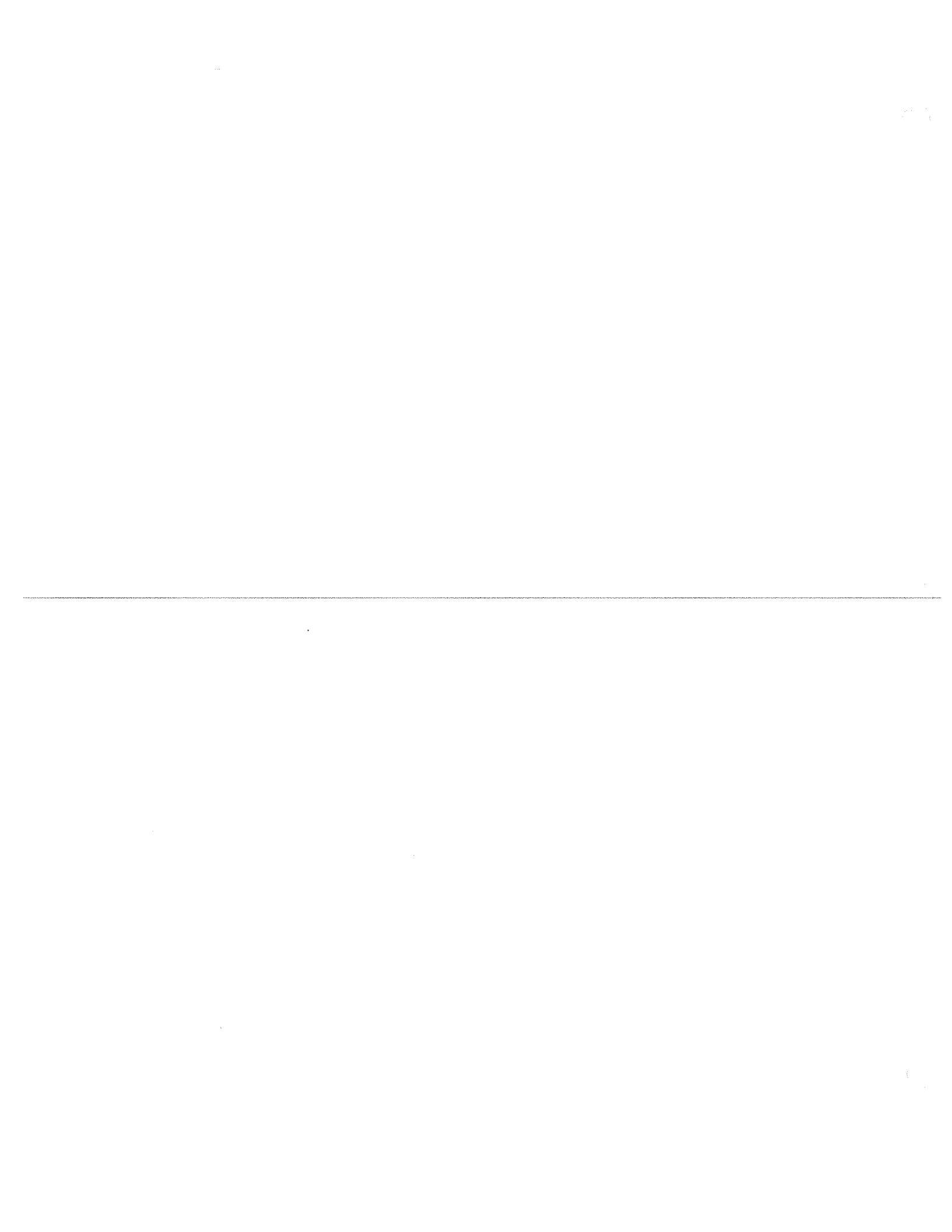
The left side of your cerebrum controls the right side of your body, and the right side controls the left half of your body.

6. Your brain is made of nerve cells. What do nerve cells do?

Nerve cells send and receive electrical signals that direct all of your body's activities.

7. Which statement from the article is an opinion? c

- a. Even your feelings come from your brain.
- b. Sometimes, your brain controls your body without you even thinking about it.
- c. **You should be glad you have a human brain.**
- d. Every day your brain produces 70-thousand thoughts.



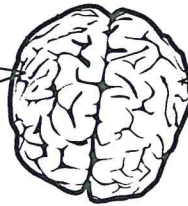
Cerebral Cortex:

- Largest part of the brain
- Most highly developed part of the brain
- Controls thinking, perceiving, and understanding language
- Corpus callosum connects the two hemispheres

Hemispheres of the cerebral cortex:

Left Hemisphere

- Controls the right side of the body
- Responsible for mathematical ability, problem solving, language, and decision-making



Right Hemisphere

- Controls the left side of the body
- Responsible for artistic expression and understanding relationships in space

Lobes of the cerebral cortex:

Parietal Lobe

- Located below the crown of the head
- Processes sensory information from the whole body (information about pain, touch, and pressure)

Frontal Lobe

- Located right behind the forehead
- Responsible for initiating and coordinating motor movements and higher cognitive skills like problem solving and thinking



Occipital Lobe

- Located in the back of the brain, against the skull
- Processes all the visual information coming into the brain

Temporal Lobe

- Located behind the temples and just above the ears
- In charge of making sense of the information you hear
- Integrates information from various senses, such as smell and vision

Hypothalamus:

- Controls body temperature, hunger, and thirst

Cerebellum:

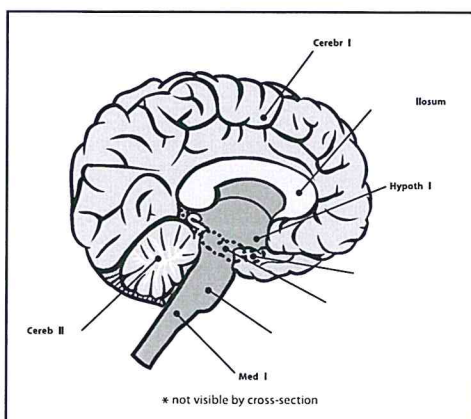
- Controls posture, movement, and the sense of balance

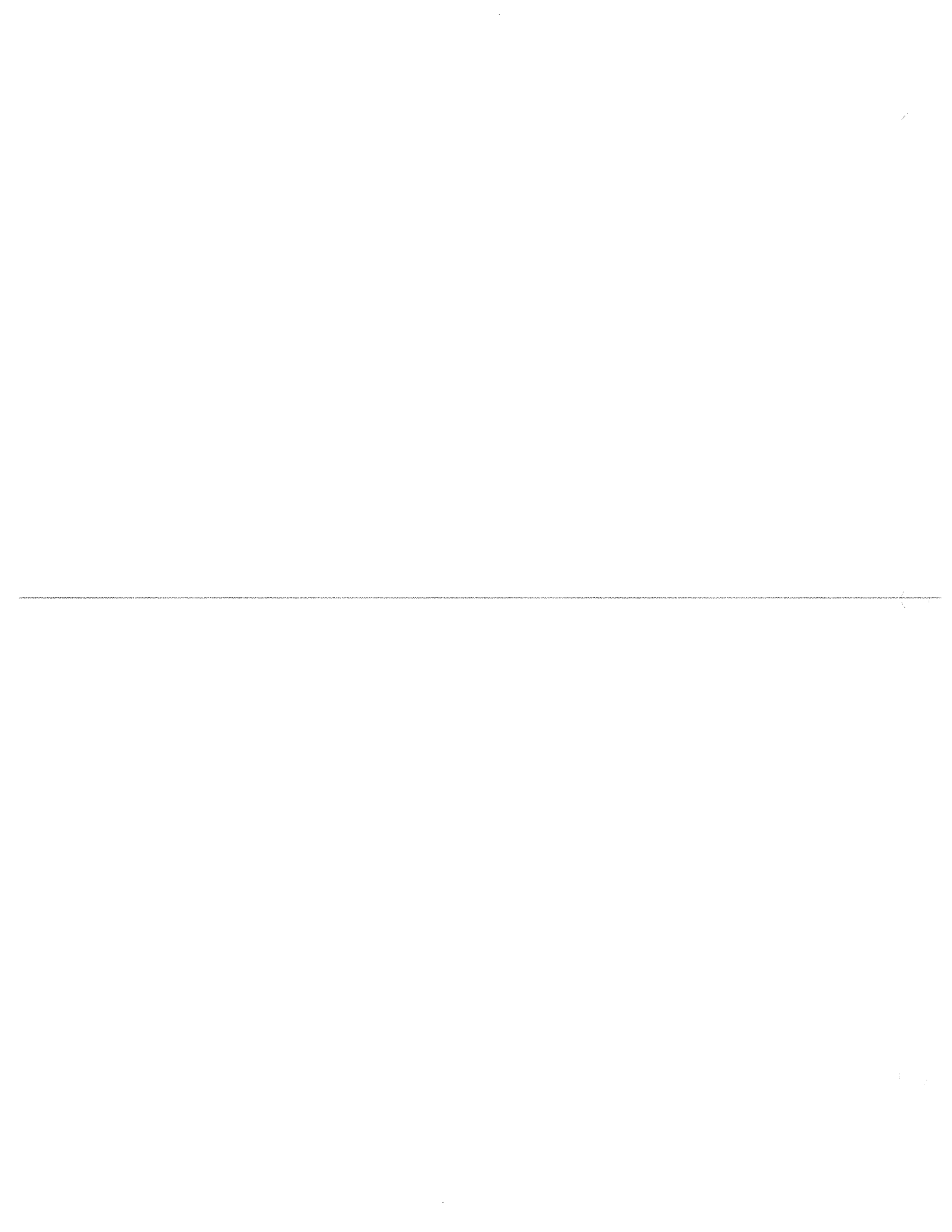
Brain Stem:

- Brain's most primitive part
- Controls simple reflexes, such as coughing, sneezing, and digestion
- Two main parts—pons and medulla
 - **Pons** contains the fibers that connect the cerebral cortex with the cerebellum and spinal cord; also controls sleeping, awakening, and dreaming
 - **Medulla** controls heart rate, respiration, and blood pressure; connects the brain to the spinal cord

Limbic System: two main parts—hippocampus and amygdala

- **Hippocampus** controls learning and memory
- **Amygdala** plays an important role in emotional behavior

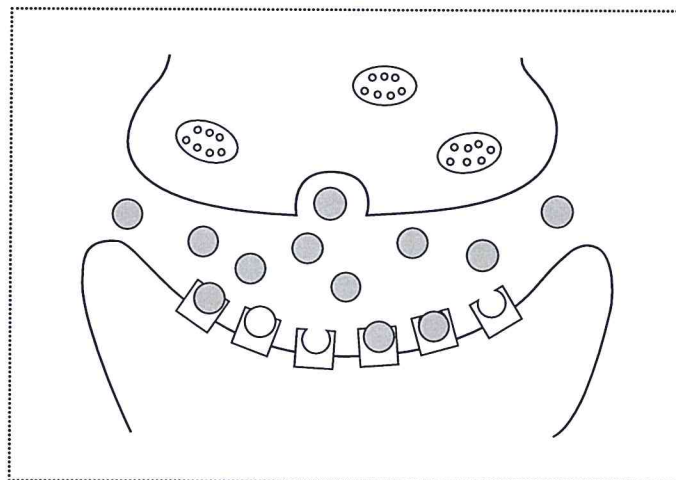


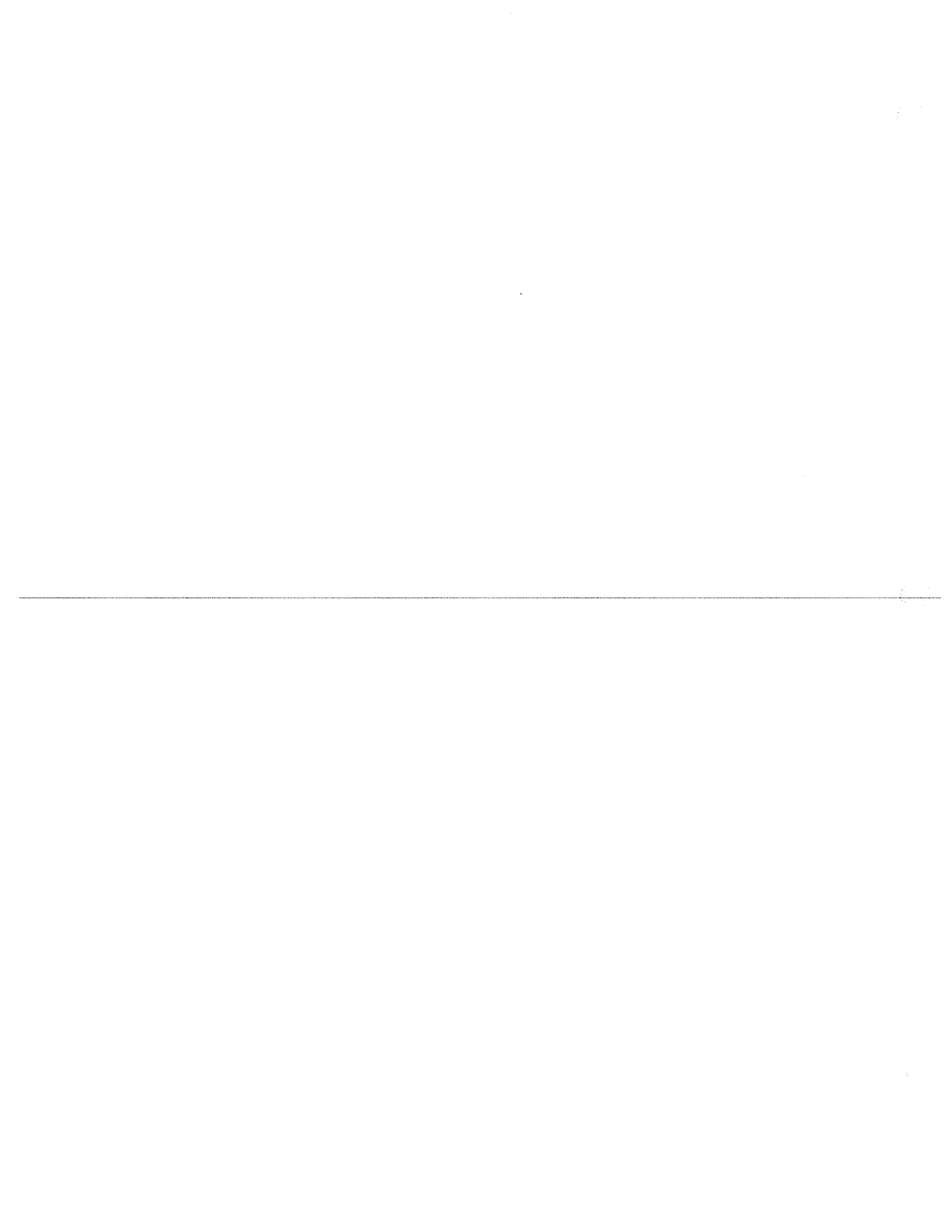


Neurotransmission Scavenger Hunt

Answer Key

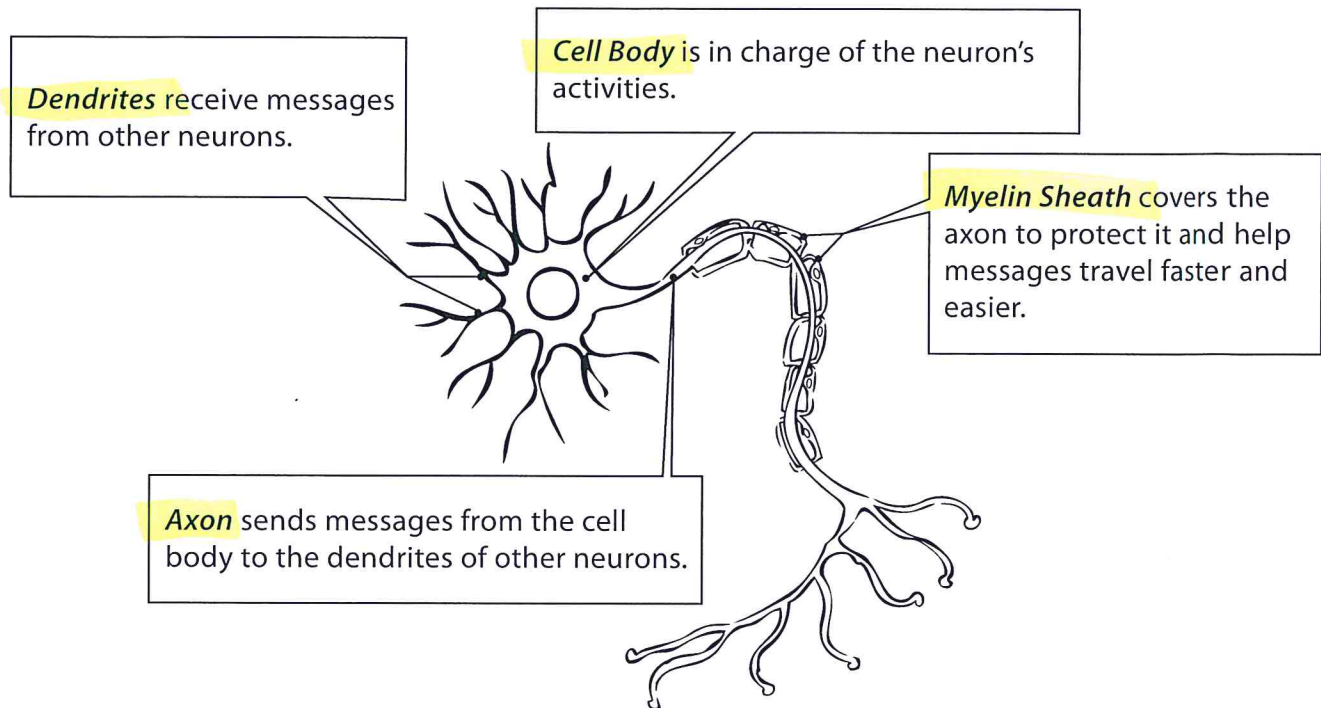
1. The number of neurons in the brain is about 100 billion.
2. The parts of neurons that send messages are the axons, and the parts of neurons that receive messages are the dendrites.
3. The space between the dendrites of one neuron and the axon of another neuron is called the synapse.
4. The nucleus of a neuron is where genetic material is stored.
5. Neurons that send information from sensory organs, such as the skin or eyes, to the central nervous system are called sensory (or afferent) neurons.
6. Neurons that send information from the central nervous system to muscles or glands are called motor (or efferent) neurons.
7. Poisons that affect neurotransmission are called neurotoxins.
8. In the year 1921, a man named Otto Loewi first discovered neurotransmitters during an experiment with two frog hearts.
9. Glial cells are brain cells that do many important things that help neurons, including bringing nutrients to neurons, insulating parts of neurons, and digesting parts of dead neurons.





Neurotransmission Fact Sheet

The brain and nervous system are made of billions of nerve cells, called neurons. Neurons have three main parts: cell body, dendrites, and axon. The axon is covered by the myelin sheath.



The transfer of information between neurons is called *neurotransmission*.

This is how neurotransmission works:

1. A message travels from the dendrites through the cell body and to the end of the axon.
2. The message causes the chemicals, called neurotransmitters, to be released from the end of the axon into the synapse. The neurotransmitters carry the message with them into the synapse. The synapse is the space between the axon of one neuron and the dendrites of another neuron.
3. The neurotransmitters then travel across the synapse to special places on the dendrites of the next neuron, called receptors. The neurotransmitters fit into the receptors like keys in locks.
4. Once the neurotransmitter has attached to the receptors of the second neuron, the message is passed on.
5. The neurotransmitters are released from the receptors and are either broken down or go back into the axon of the first neuron.

