

I AM
FEARFULLY
AND
WONDERFULLY
MADE





This unit develops awareness in these areas:

My Heart
My Stomach

My Intestines
My Brain

This unit is designed to be used in grades one, two, and three. You may adapt it for use with other levels. Included in the unit is a sampling of activities for emphasis and to check comprehension. Before using this unit with your students, you will need to duplicate both sections of the torso found at the end of this unit for each student. Assemble them and mount in an accessible place.

Suggestions: Watch *Nova – The Body Human*, on Public Television. Check local listings.

Books: World Book Encyclopedia Childcraft
The Macmillan Book of the Human Body, by Mary Elting
Ministry of Healing, by E. G. White

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VOCABULARY

Artery	tube carrying blood from the heart.
Blood	red fluid, consisting of plasma, red and white blood cells, etc., that circulates through the heart, arteries, and veins of the vertebrates.
Circulation	the movement of blood out of and back to the heart through the arteries and veins.
Digest	to change food in the mouth, stomach, and intestines, into a form that can be absorbed through the body.
Heart	muscular organ which makes the blood circulate.
Intestine	tube through which food from the stomach passed for further digestion.
Neuron	a nerve cell.
Skull	bony case covering the brain.
Sphincter	a ring-shaped muscle that surrounds a natural opening in the body and can close or open it by expanding or contracting.
Stomach	stretchy bag where food goes from the mouth.
Villi	tiny finger-like projections.



I AM FEARFULLY AND WONDERFULLY MADE

Look around at your classmates. What do you all have in common: eyes, ears, noses, arms, legs? Yes, you're right. Now, in what ways are you different from your classmates? The color of your eyes, the shape of your face, the length of your hair, or your height.

Eyes, ears, noses, arms, and legs are all parts of our bodies. These are visible parts, or parts that can be seen. There are parts of our bodies that cannot be seen, which are also very important.

The color of your eyes, the shape of your face, the length of your hair, and your height, are all determined by the genes which you inherited from your parents. The type of food you eat, the amount of rest and exercise that you get, and the size of your parents, all help make you tall or short, thin or fat.

Your body is made up of several parts like a machine. Though it is not a machine, the body can be compared to one. A machine does work and the body works too. The parts of a machine help it to work; likewise, the parts of the body enable it to function.

This body, however, is far superior to any machine that exists. It replaces certain worn-out cells and heals itself after small cuts and other injuries. The body has many parts that work constantly. Two of those organs are the kidneys and the heart. Machines often stop working and have to be fixed by someone. Have you ever seen a car raise its hood and repair its engine? No. Neither have I.

Take a close look at some of your body's organs. See how wonderfully they work.





MY BRAIN

My brain is my body's headquarters, or main office. It works hard. My brain looks like a wrinkled walnut shell. It is bigger now than when I was a baby. When I become an adult, it will weigh between two and three pounds.

My brain is soft and can be easily damaged. It is protected by a very hard bone, called my skull. I can actually feel my skull at the top of my head. My brain sits right under my skull.

My brain receives messages from every organ in my body. Messages are sent out from my brain to all of those organs. The neurons carry the messages. A neuron is a nerve cell that carries messages all over my body. There are many of them. I have the same number of neurons in my brain as when I was born.

Some of these messages to my body can travel through a cable that runs down my back. This cable is called the spinal cord. Messages from my brain travel quickly through my body.

My brain enables me to see, to hear, to think, to move, and to breathe. My brain helps me talk, smell, sit, laugh, and do many other things. My brain is my control station.



MY BRAIN

Play a game of Simon Says. Help the student recognize how quickly the brain processes the information.



Have a race across the schoolyard. Help the students to observe the way all the body parts work together.

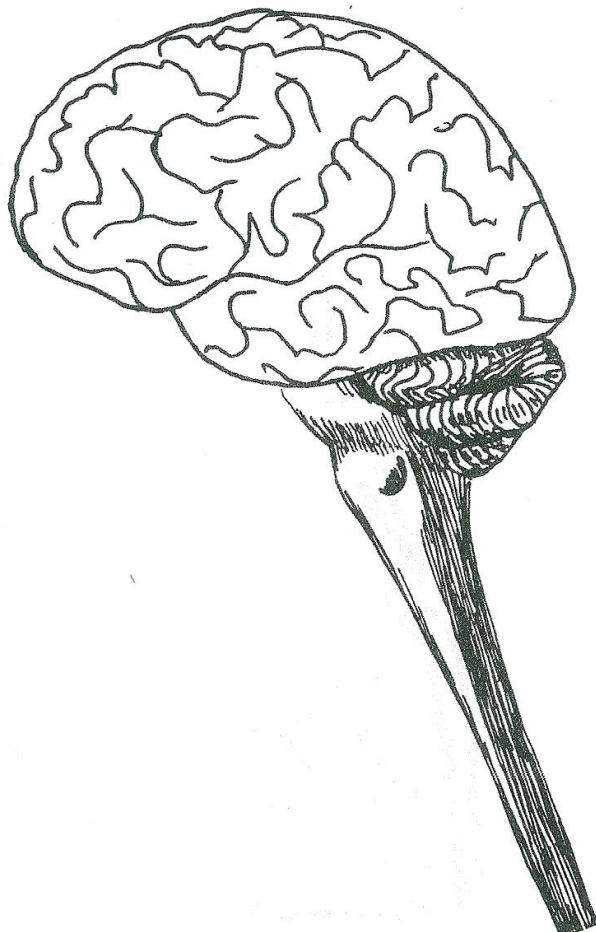


Together with the students, make a list of do's and don'ts for a healthy body. Include rest, exercise, drinking water, and positive thoughts.



MY BRAIN

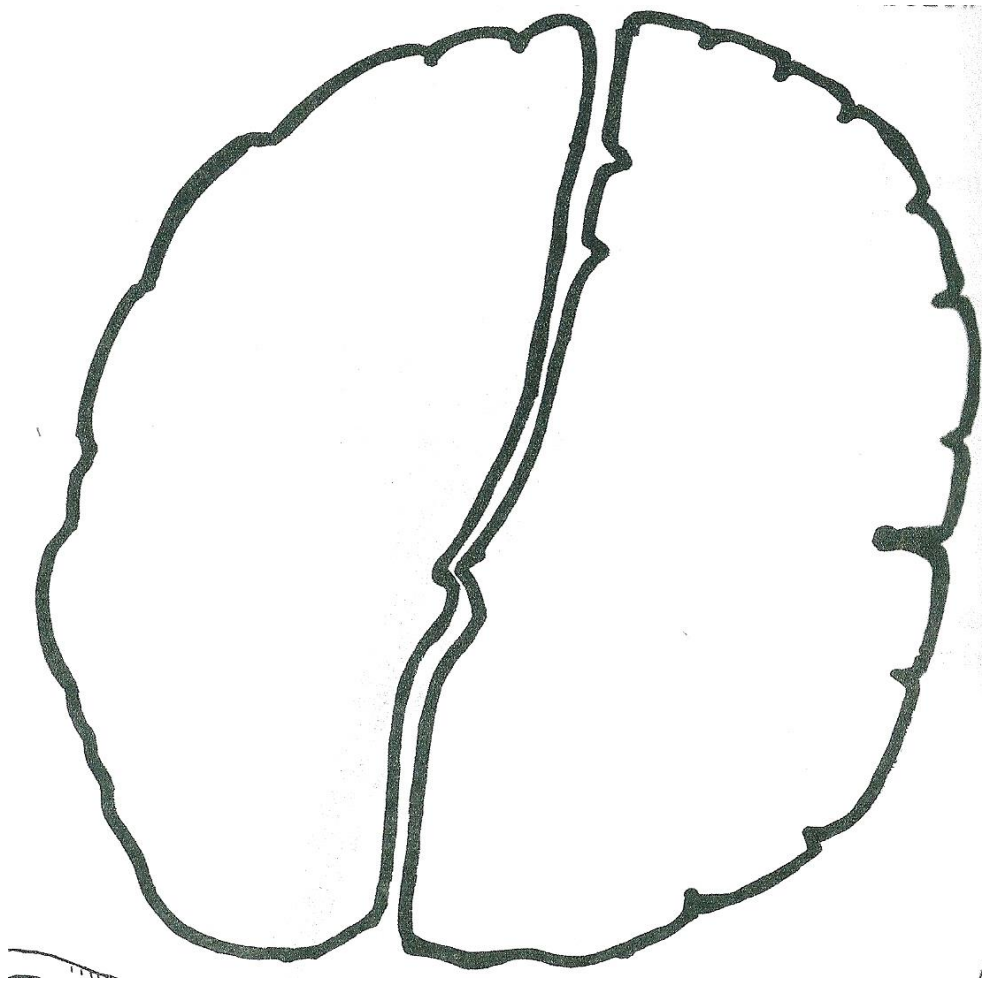
Color the brain gray.
Color the spinal cord gold.
Cut it out.
Glue it in the head of your body.





MY BRAIN

Here is a diagram of the brain. This is how the brain looks from above. It is divided into two hemispheres. Write the words “left” and “right” on the correct sections. Look up “Brain” in the encyclopedia. Can you tell which of your actions are controlled by the right? List them under the correct headings on the brain below.





MY HEART

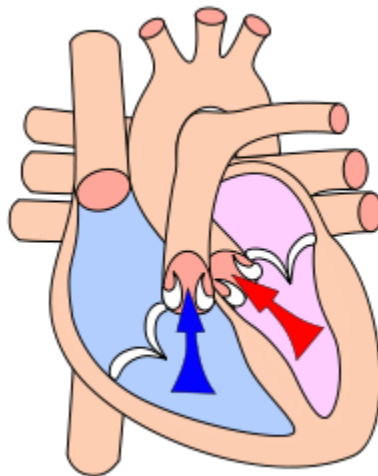
My heart is a kind of pump made of muscle that squeezes and relaxes, again and again. Each time it squeezes, blood is pushed through tubes, called arteries, to every part of my body. My heart is about the size of my fist and hangs in the center of my chest.

My heart works all the time, even when I am sleeping. It pumps blood that is full of oxygen and food. This fresh blood travels to all my cells and feeds them. My blood also bathes my cells. It collects all the carbon dioxide and other things they can't use. My blood moves back to the heart through tubes called veins.

This blood is pumped to my lungs. My lungs take out the carbon dioxide and replace it with fresh, clean oxygen. Then my blood goes back to my heart, where it is pumped out again. It then travels to all parts of my body. This trip from the heart, around my body and back, takes about one minute. This is circulation.

My heart can be heard beating all the time. This is because it is working, and valves inside my heart are opening and closing. The valves are like doors letting the blood in and out of my heart.

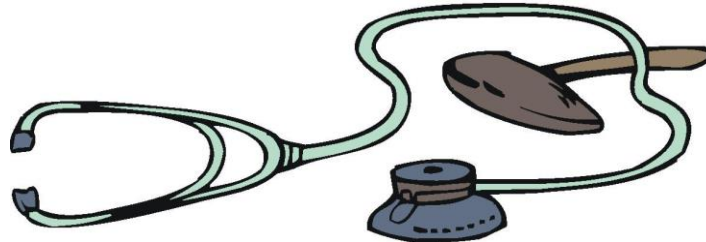
The ka-thump, ka-thump sound in my chest lets me know that my heart is working to send the blood around my body. Regular exercise helps me care for my heart. I must care for my heart.





HEARTY HINTS

Have students listen to each other's hearts with a stethoscope and count the number of heartbeats in a minute.



Invite an individual who has survived a heart attack to visit the class and tell of his or her experience. Have class prepare questions beforehand.



Measure the difference in pulse and breathing rates after resting, walking, and running. Point out that exercise strengthens muscles and will strengthen the heart.



MY HEART

The Bible makes many references to the heart. Find these texts and write the verses on the lines provided.

1 Samuel 16:7

Psalms 119:11

Proverbs 4:23

Proverbs 21:1

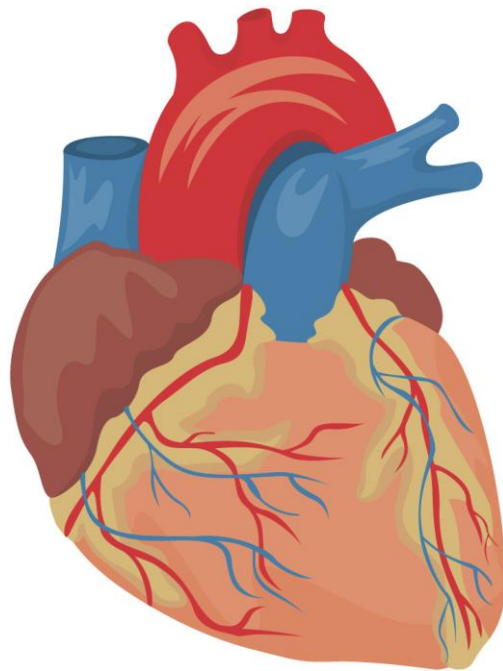
Isaiah 35:4

Matthew 5:8



Challenge:

See how many more Bible texts you can find that speak about the heart. List them below. Trade your list with a classmate. Who has the longer list?



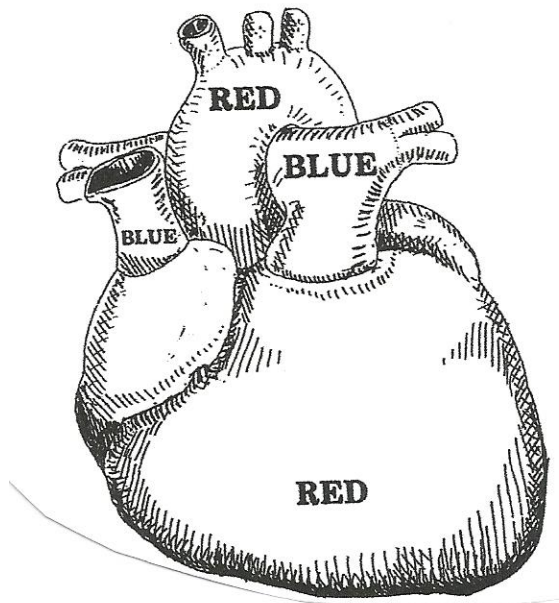


MY HEART

The heart has several parts. Look at the pictures of the heart in the encyclopedia. List some of the parts below:

Write a poem to your heart on a separate piece of paper.

Color heart red and blue.
Arteries (red) carry oxygen.
Veins (blue) carry carbon dioxide.
Cut out the heart below.
Paste heart onto your paper torso.





MY STOMACH

My teeth cut, crush, and grind food into little bits, but these bits are still too big for the cells of my body to use. So the bits of food slide down a tube, named the esophagus, into my stomach. This short trip takes about ten seconds.

My stomach is like a bag with elastic slides that collects the food I eat. In my stomach are little glands that make special juices. The juices wait for my food to enter my stomach. They go to work immediately and break the bits of food into even smaller particles. Each juice works on a different type of food.

Meanwhile, my stomach cannot sit still. There are three bands of strong muscle in my stomach that squeeze and churn and mash and grind the food into smaller bits. This is called digestion.

My stomach keeps the food inside for a few hours. There is a little door, called the sphincter, at the top of my stomach. This door closes to keep the food inside.

When my stomach has done all the work it can, another door at the bottom of my stomach opens to let the digested food come out. This food now travels to my small intestine. Now that the food is gone, my stomach shrinks like an empty balloon.





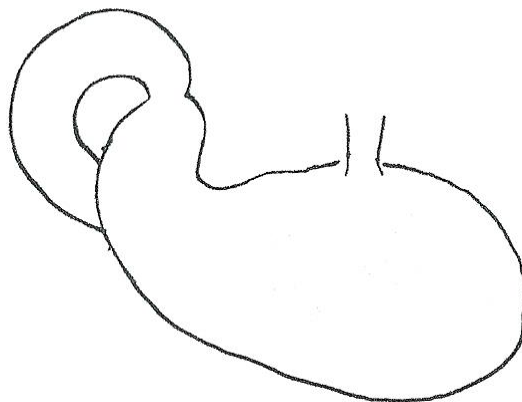
MY STOMACH

Use an encyclopedia or the internet and research “stomach.” Find and record three differences between the human stomach and the stomach of a sheep.

Using your research information, write a story about your life as the stomach. You may use this story starter.

I am Mindy’s stomach.....

Color the stomach orange.
Cut it out.
Position stomach in the body.





STARCH SEARCH

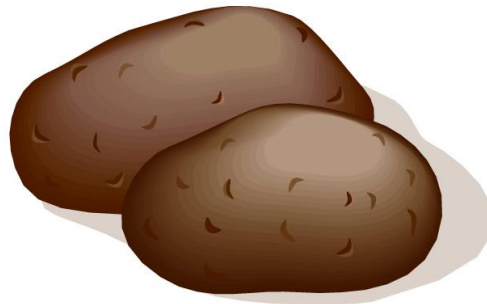
Some foods contain starch. Our bodies need to have some starch every day.

Find out if a food contains starch.

Materials: Examples of different foods, such as white bread, sugar, corn, potato, butter
Small bottles of iodine
Dropper
Sheets of newspaper.

Method:

1. List foods to be tested on the chart.
2. Place items on the newspaper.
3. Put a small drop of iodine on each food sample. Do not get any of the iodine on your skin or clothing. Watch to see if the iodine will turn the food dark blue or black. If the food turns black, it contains starch.
4. Put a check mark on the chart to show whether or not the food contains starch.





STARCH SEARCH

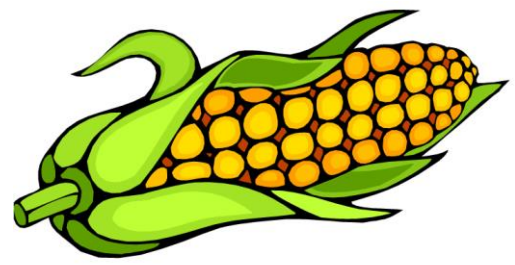
NAME OF FOOD	STARCH	
	Yes	No
Sugar		
Potato		
Lettuce		
Corn		
Butter		
White Bread		

Results:

- How many foods have starch? _____

- What kinds of foods had starch? _____

- What did you learn? _____





MY SMALL AND LARGE INTESTINES

My small intestine is about twenty feet long. My food is pushed slowly along the twists and turns of my small intestine. The muscle wall of my small intestine does the pushing.

Digestion continues as the food passes through my small intestine. Several digestive enzymes break up the food into even smaller particles. The food remains in my small intestine for four to eight hours until it is digested.

By the time food leaves the first section of my small intestine, it has been completely digested. It is now ready to go into my blood and feed my body. There are millions of tiny, hairy finger-like things called villi in the walls of my intestine. My villi absorb all the usable food and pass it to my blood. Then the villi help pass the waste down to my large intestine.

My large intestine gets waste materials from my small intestine. This is a bigger, fatter tube than the small intestine. It is about 5 feet long. My large intestine absorbs the water and minerals from the waste as it is pushed through. The waste stays in my large intestine for ten to twelve hours. Then the solid waste is pushed out of my body through my rectum.

Food takes about twenty-four hours to travel from my mouth to my rectum. My small and large intestines do a lot of work digesting and absorbing the food that I eat. They are very important to me.



MY INTESTINES

FIELD TRIP: Visit the local butcher or farm, Observe the intestines of an animals, e.g. a cow.

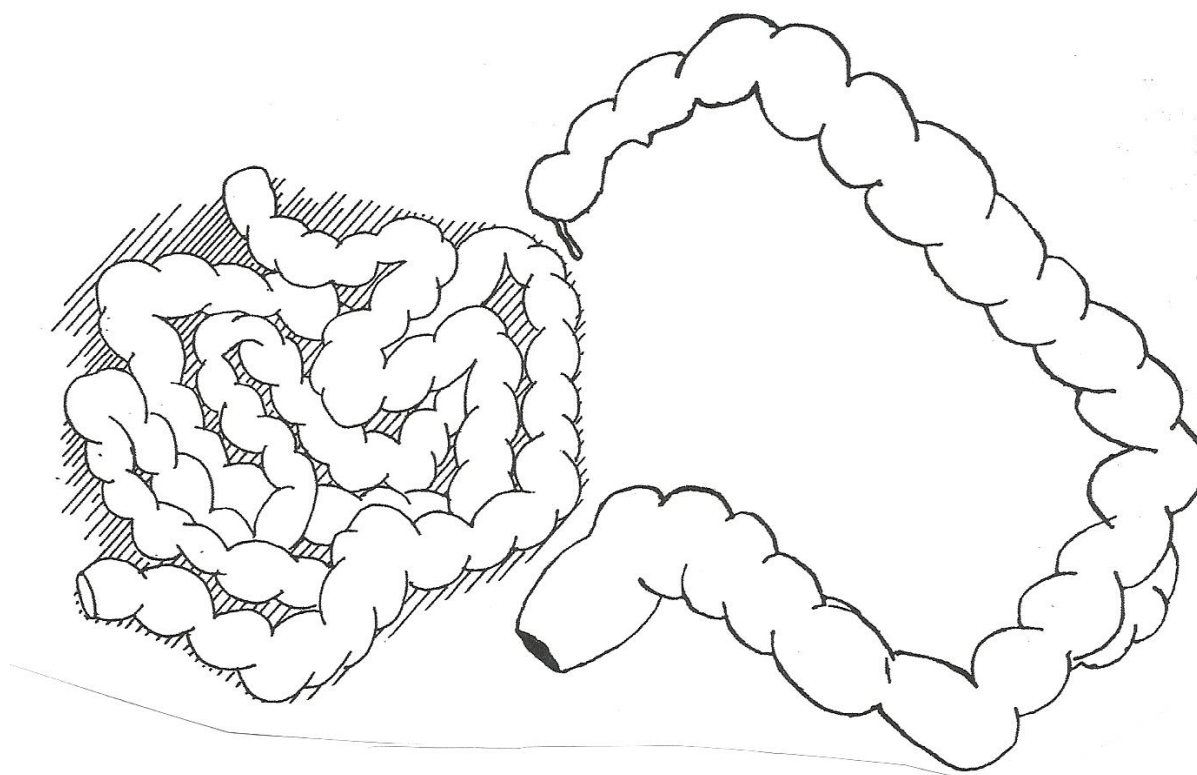
IN THE CLASSROOM: With paper machè, make a model of the small and large intestines. Display in the classroom center.

Color the small intestine yellow.

Color the large intestine pink.

Cut them out.

Glue them on the body.





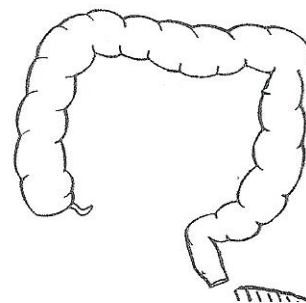
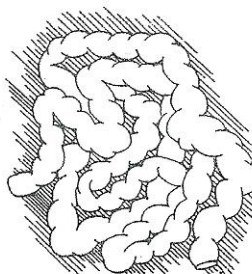
MY INTESTINES

Write the correct name on the body part. Cut apart these pictures. Glue them in the boxes in the order food goes through them.

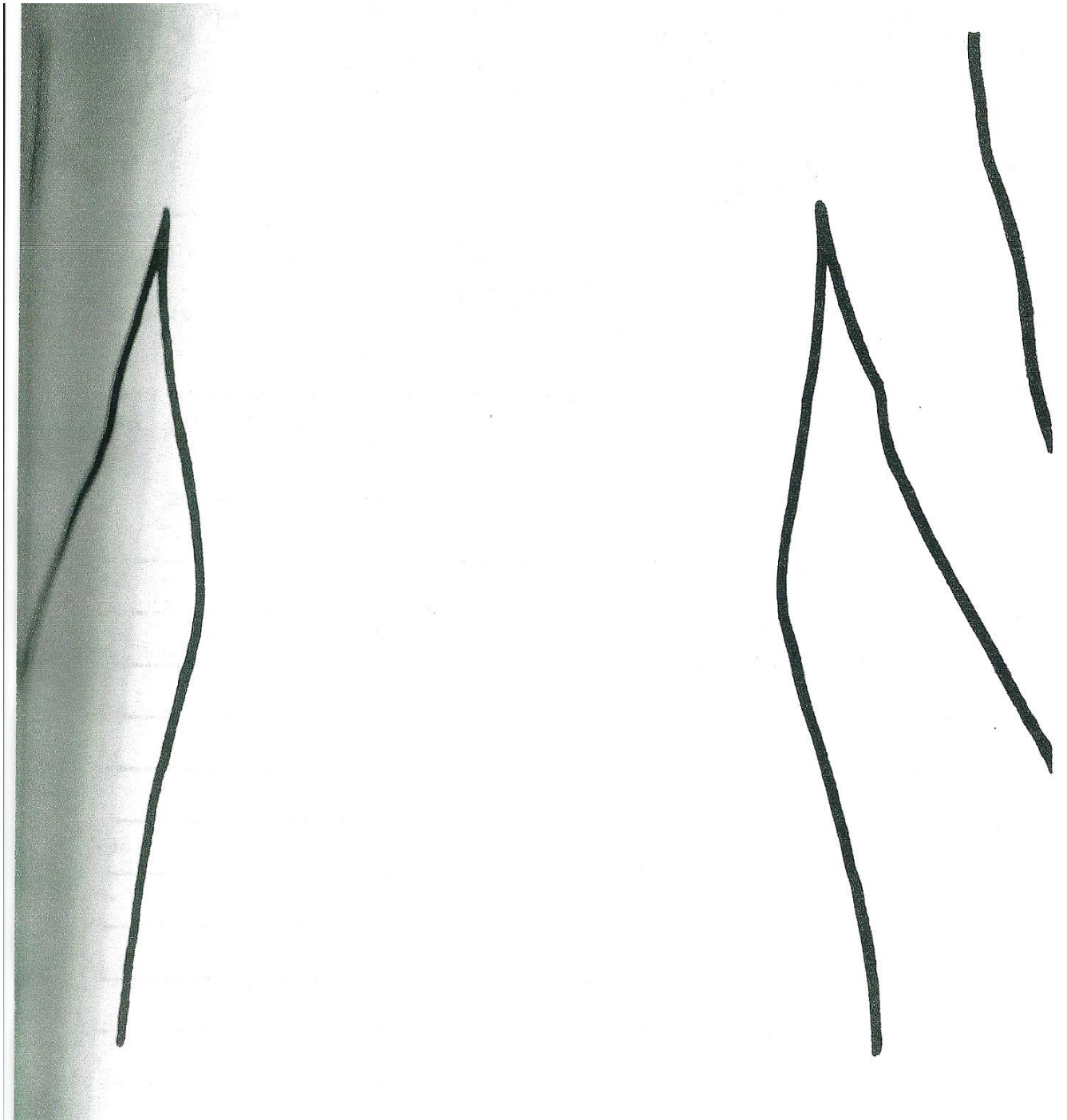
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REVIEW

Directions: Explain, in the correct order, what happens when food is eaten. Use these words to help you explain.

STOMACH SMALL INTESTINES LARGE INTESTINES MOUTH



TEST YOUR KNOWLEDGE

Directions: Read each sentence carefully. Some words are missing. Find the word below that makes the most sense in each sentence and print that word in the blank where it belongs.

Brain
Heart

Intestine
Stomach

1. My _____ is a strong pump that moves blood through my body.
2. My _____ receives the food from my stomach and absorbs the usable material.
3. My _____ works hard. It is like a computer that answers my questions and sends messages all over my body.
4. My _____ is like a bag with elastic sides that collect the food I eat.

Can you find the answers?

5. I am a long tube similar to a garden hose. I am all bent out of shape. I am the _____.
6. I work like a computer, only better. I answer questions and send information all over the body. I have two halves. I am the _____.
7. I look like a body. I have elastic sides. I churn everything that is put inside of me. I am the _____.
8. I do a lot of squeezing in one day. I can be heard working. I need exercise to keep me fit. I am the _____.



BODY TRIVIA

A great deal of gas develops in the intestine when bacteria digest a certain kind of sugar in beans. Pressure from a lot of the gas may sometimes cause sharp pain. (The gas doesn't smell very good, either.) Can you guess why airplane pilots in World War II, during the 1940's, were forbidden to eat beans? In an airplane high above the earth, the outside air pressure on the body decreases, so gas inside the body can expand and press harder. Pain from the extra pressure might have surprised a pilot into losing control of the plane.

- You are taller in space than on Earth. In space, gravity does not pull you down. So your bones can spread apart at the joints, and you are as much as half an inch taller.
- Sometimes a bone isn't really a bone. The funny bone is a nerve that lies close to the bone on your elbow.
- Your smallest bone is in your ear. Your largest bone is in your thigh.

The Macmillan Book of the Human Body, by Mary Elting



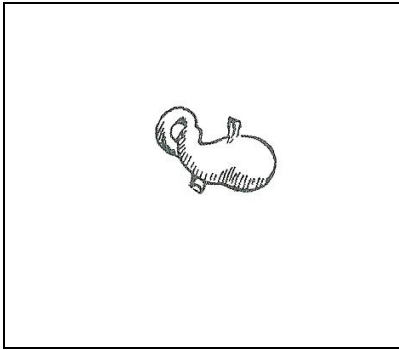
My Intestine

Key

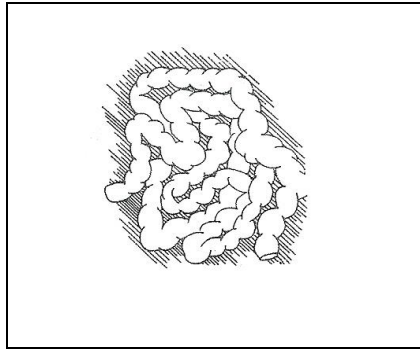
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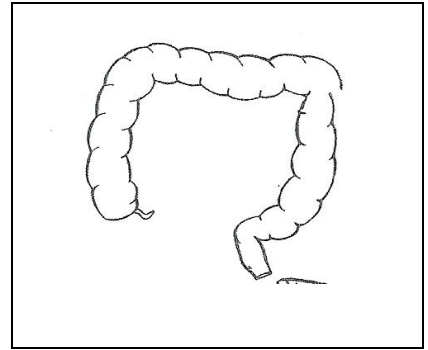
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2



3





TEST YOUR KNOWLEDGE

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Brain
Heart

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Stomach

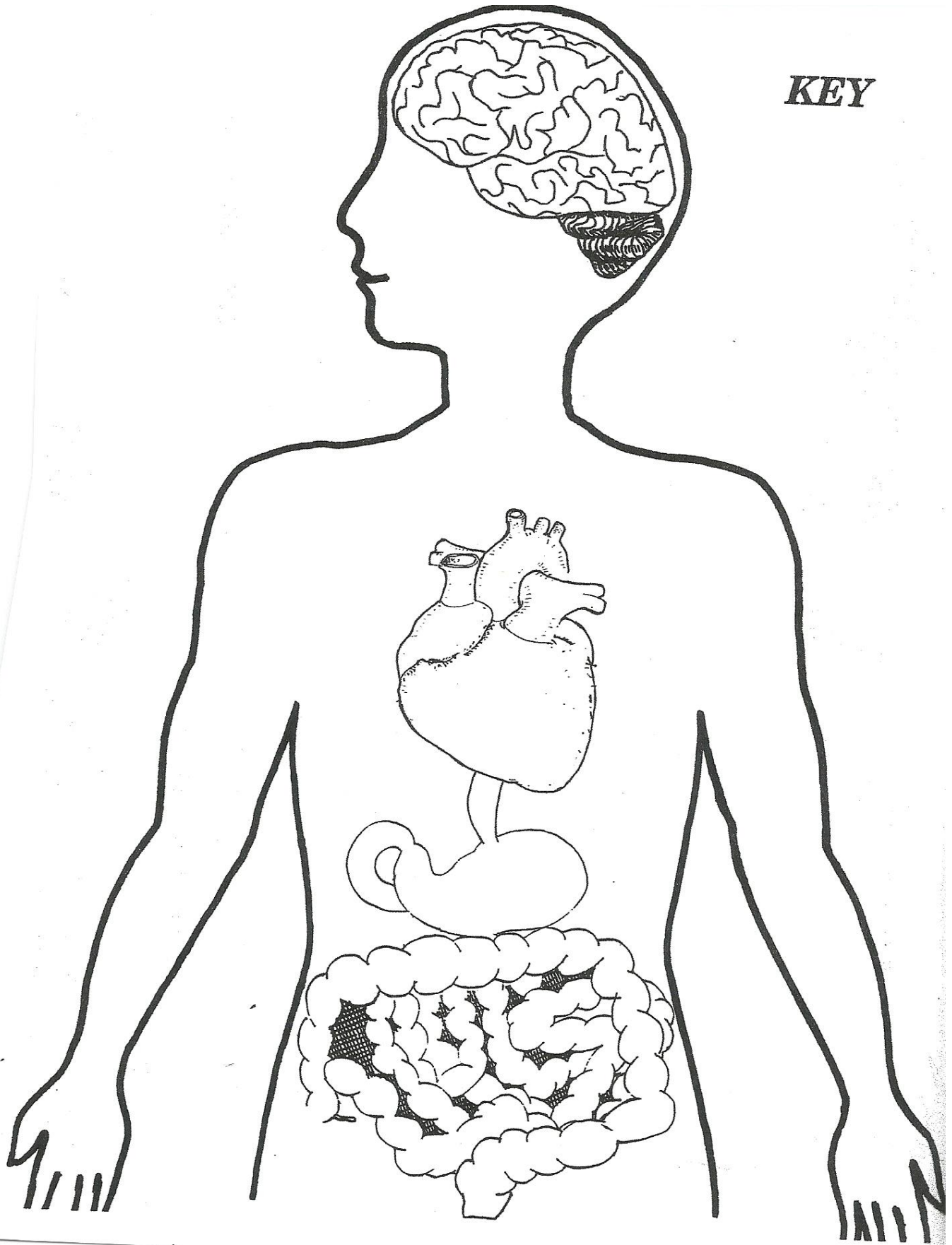
1. My heart is a strong pump that moves blood through my body.
2. My intestine receives the food from my stomach and absorbs the usable material.
3. My brain works hard. It is like a computer that answers my questions and sends messages all over my body.
4. My stomach is like a bag with elastic sides that collects the food I eat.

Can you find the answers?

5. I am a long tube similar to a garden hose. I am all bent out of shape. I am the intestines.
6. I work like a computer, only better. I answer questions and send information all over the body. I have two halves. I am the brain.
7. I look like a body. I have elastic sides. I churn everything that is put inside of me. I am the stomach.
8. I do a lot of squeezing in one day. I can be heard working. I need exercise to keep me fit. I am the heart.



KEY





MY HEALTHY CHECKLIST

I need to try to answer “yes” to all of these questions every day!

<u>Yes</u>	<u>No</u>	
_____	_____	1. Did I get plenty of sleep so my body could rest?
_____	_____	2. Did I drink plenty of water?
_____	_____	3. Did I eat the food that was best for my body?
_____	_____	4. Did I stand and sit straight, so my back won't hurt and my body will work better?
_____	_____	5. Did I exercise to help my muscles, heart, and other body parts work better?
_____	_____	6. Did I exercise my brain by thinking and learning?
		7. Did I try to be happy all day so my body won't be sad?

How many “Yes“ Answers? _____

How many “No” Answers? _____

My name _____

Today's Date _____