Understanding the Human Body

Show your fifth grader how the human body is interconnected with these corporeal worksheets. She'll learn how the different organs and bodily systems function to keep us on the go.

Table of Contents

Name Date

YOUR BODY: THE BRAIN

While scientists, surgeons and doctors have mapped and studied every part of the body, there is still not much we know about the **human brain**. Your brain is a powerful, complex, clever organ that deals with hundreds of messages around you. The brain receives messages from many, many **nerve cells** all through your body. These messages are sparked when you see, hear, smell, touch, taste and move in your world. **Nerve fibers** across your body are like computer wires, where information can travel all the way from your little toe to the nerve cells in your brain.

The brain is split into **two hemispheres**, and each hemisphere controls a side of your body. Interestingly, the left side of your brain controls the right side of your body, while the right hemisphere controls the left side of your body.

Scientists have sectioned the brain into different lobes, based on how they interact with the information around you. The **frontal lobe** helps you talk, plan ahead, smell, and even solve problems. You can recognize faces and what people are saying because of the **temporal lobe**. The **parietal lobe** assists with your sense of taste and how you move, while the **occipital lobe** allows you to see.

Your brain is an important organ that helps you live, so be sure to protect it with the right safety gear when you bike or play sports! **Brain safety is smart safety.**

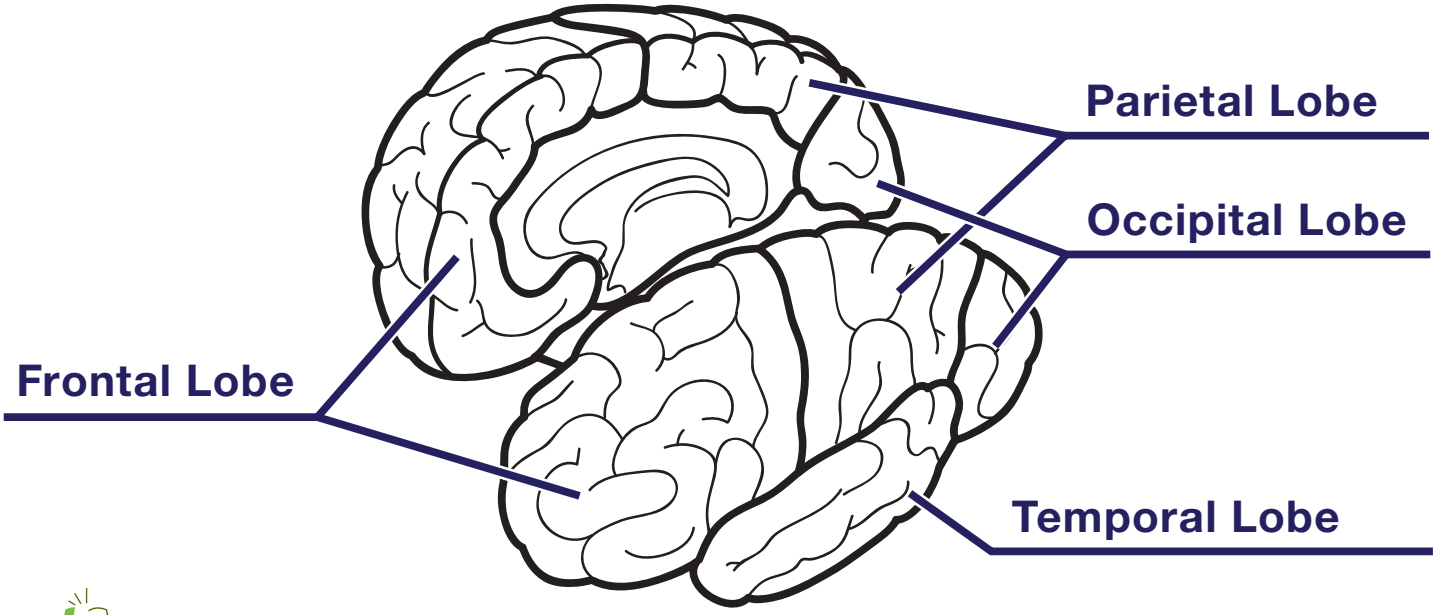
You will need crayons, markers, or colored pencils for the following activity.

1. You use this part of the brain to talk, smell, plan and solve problems. Color this brain lobe **green**.

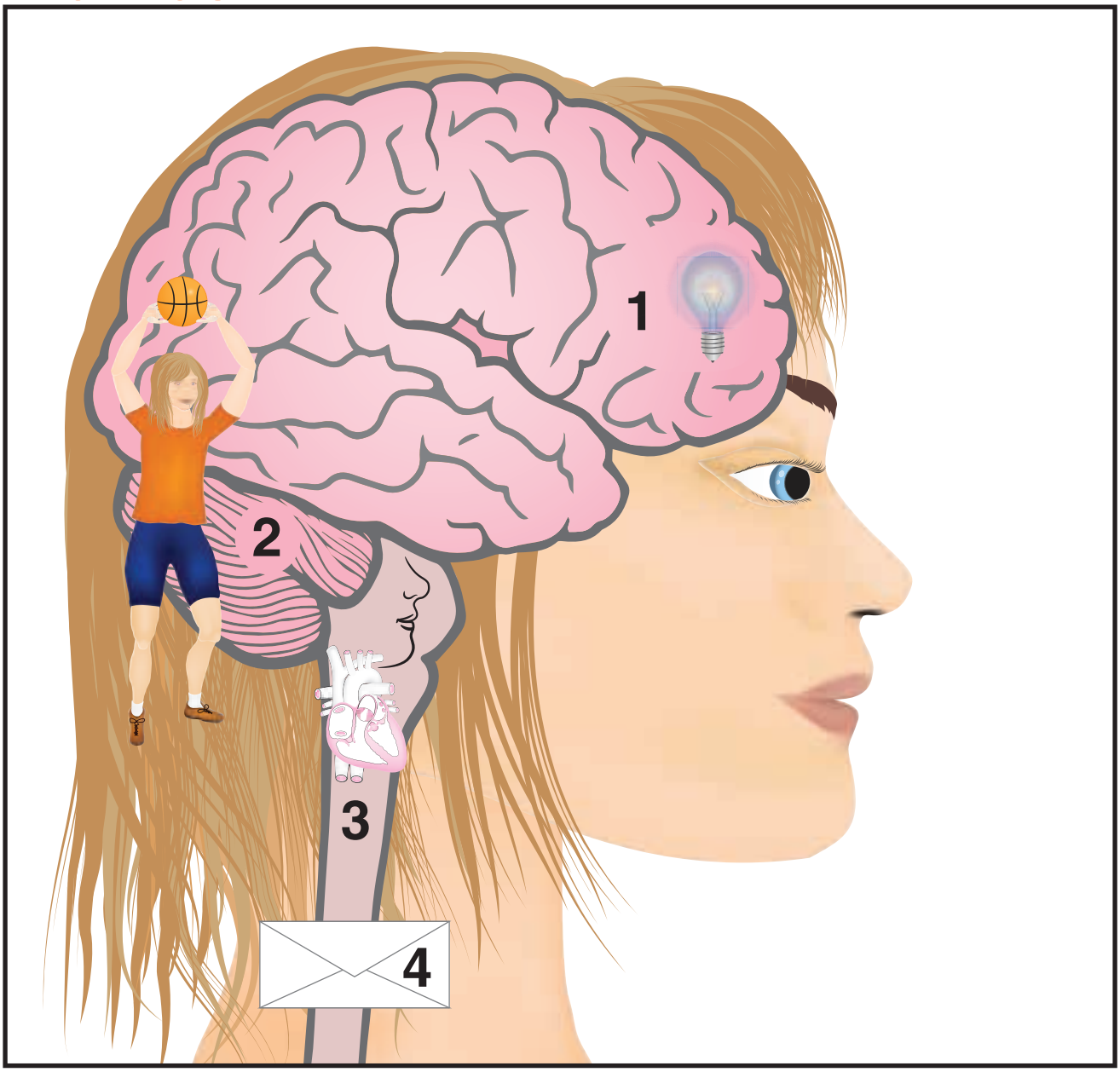
2. Color the brain lobe that controls your vision **red**.

3. This part of the brain controls your hearing. Color the brain lobe **yellow**.

4. Color the brain lobe that helps you move and taste food **blue**.



Brainiac



Directions: Use the clues in the picture to figure out what the different parts of the brain do. Match the part of the brain to the definition.

1. cerebrum	a. a bundle of nerves that sends messages to your brain
2. cerebellum	b. the thinking part of the brain
3. brain stem	c. controls balance, movement, and coordination
4. spinal cord	d. keeps you breathing, digesting food, and blood circulating

Name Date

YOUR BODY: THE HEART

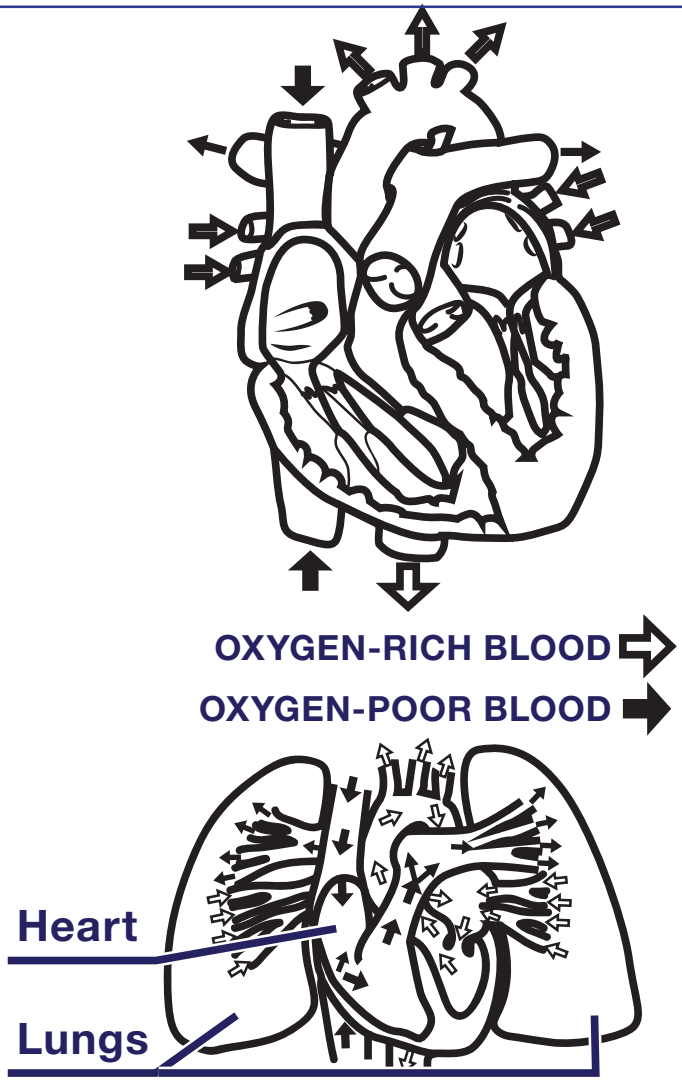
Your heart is roughly the same size as a peach, living just behind your ribs and tucked near the left lung.

The heart is made up of **four parts**. The bottom two chambers of your heart are called the **right ventricle** and the **left ventricle**. The **right atrium** and the **left atrium** are the two chambers at the top. The left and the right sides of your heart are two pumps joined by muscle tissue.

Your heart is made up of strong muscles that pump blood around the body by beating. When your heart beats, it's actually squeezing and relaxing, pulling **oxygen-poor blood** from your body and pushing it into your lungs, where the blood cells pick up more oxygen as you breathe. The heart then pulls in and pumps out the **oxygen-rich blood**, where it travels around your body.

Small valves that connect the heart to your blood vessels open and shut with each **heartbeat**, so that the blood can only move in one direction.

Eating right and **exercising** can help keep your heart happy and healthy. Be sure to **sleep well** and **have lots of fun** by moving around, making your heart healthy for adulthood!



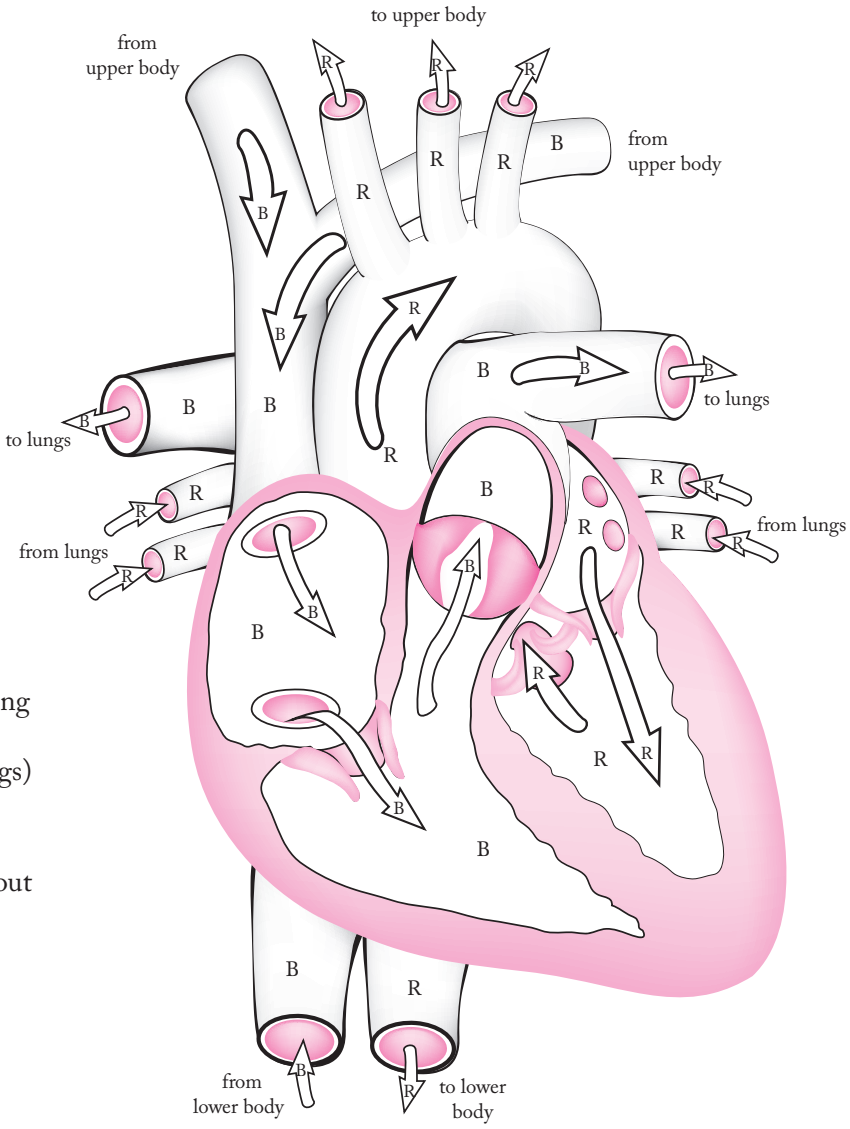
Answer the following questions, using complete sentences:

1. What are some interesting facts about the human heart you learned today?

2. Describe at least two ways to keep your heart healthy.

How does blood flow through the heart?

Directions: Check out the diagram below that shows how blood circulates around the heart. Color in the veins and arteries the correct color to give yourself a better idea of what happens when your heart pumps blood.



R=red
(blood carrying oxygen from the lungs)

B=blue
(blood without oxygen)

Extra Activity: Put your pointer finger and middle finger on the vein on the right side of your neck, right under your jaw bone. Find your pulse. Set a stop watch for 1 minute, and count how many times your heart beats. Write that number down.

_____

Now, run in place for one minute. When you are done, find your pulse, set the stop watch for 1 minute, and count how many times your heart beats now.
Write that number down.

_____

Was there a difference between the two times? _____

Why? _____

Name Date

YOUR BODY: LUNGS

No other planet in our solar system contains air like ours. The air in our planet contains **oxygen**, which is what humans and animals need to survive. Your **lungs** help take in that oxygen and share it with the rest of your body.

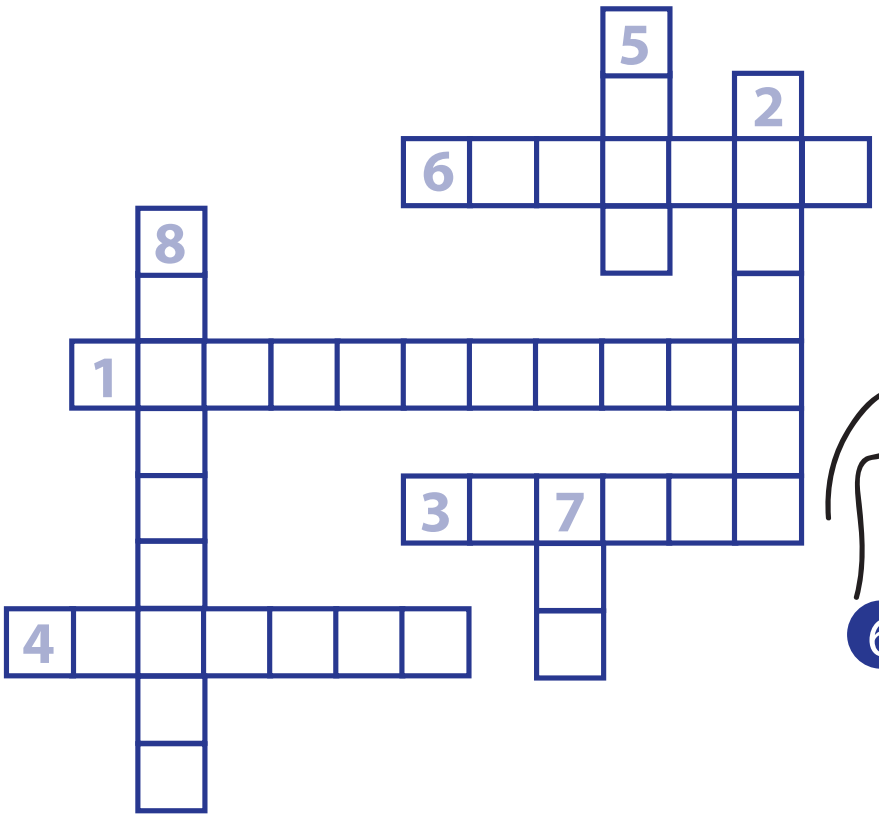
Your body has **two lungs**, and they are the second largest organs in your body (the largest organ is your **skin**). They work together with your **heart** to draw in oxygen, which is carried by **red blood cells** across your body.

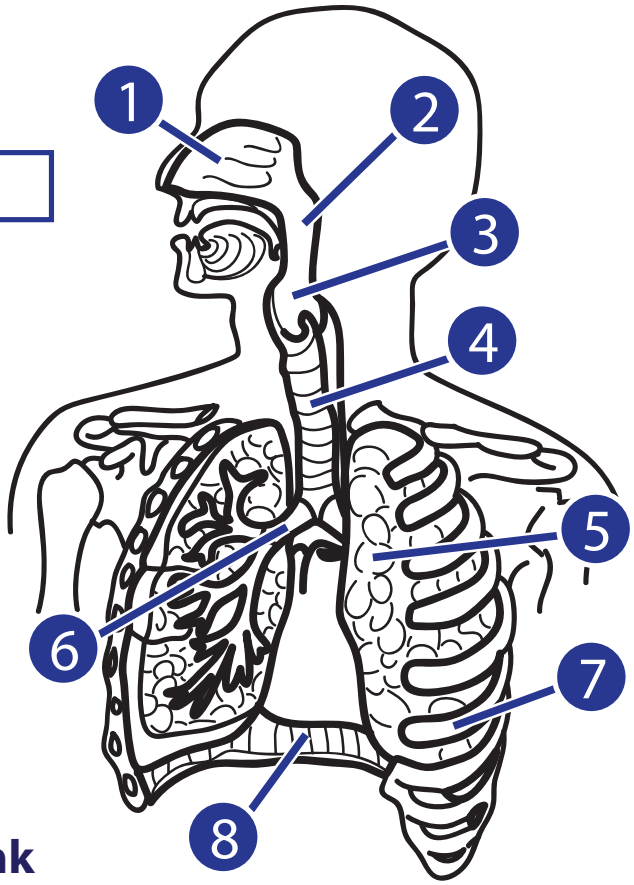
A large muscle called the **diaphragm** works with your lungs to get air in and out of your body. It rests just below your lungs, near the upper part of your belly.

When you breathe in (**inhale**), air travels through your **nasal cavity**, where your **nose hairs** filter dust and other gross stuff before it enters your body. Air then travels down the **trachea**, the **pharynx**, and the **larynx** in that order before passing through two large tubes called **bronchi**. These large tubes kind of look like trees, expanding and branching out into the spongy part of your left or right lung.

Your **ribcage** protects this delicate system, and each **rib** embraces a soft, spongy lung on the left or right side of your body so you don't accidentally hurt them.

Use the reading, word bank, and diagram to solve the crossword.





Word Bank

Larynx **Pharynx** **Lung** **Nasal Cavity** **Bronchi** **Trachea** **Rib** **Diaphragm**

Your Respiratory System

Directions: Look at the diagram. Read about what each part of the respiratory system does. Label each part of the respiratory system on the diagram.

nose – contains two nostrils which brings air in and out of the body

answer: _____

trachea or windpipe – a tube that connects the upper respiratory system to the lungs

answer: _____

lungs – the main part of the respiratory system; it puts oxygen into the bloodstream

answer: _____

mouth – can be used to suck in or expel air

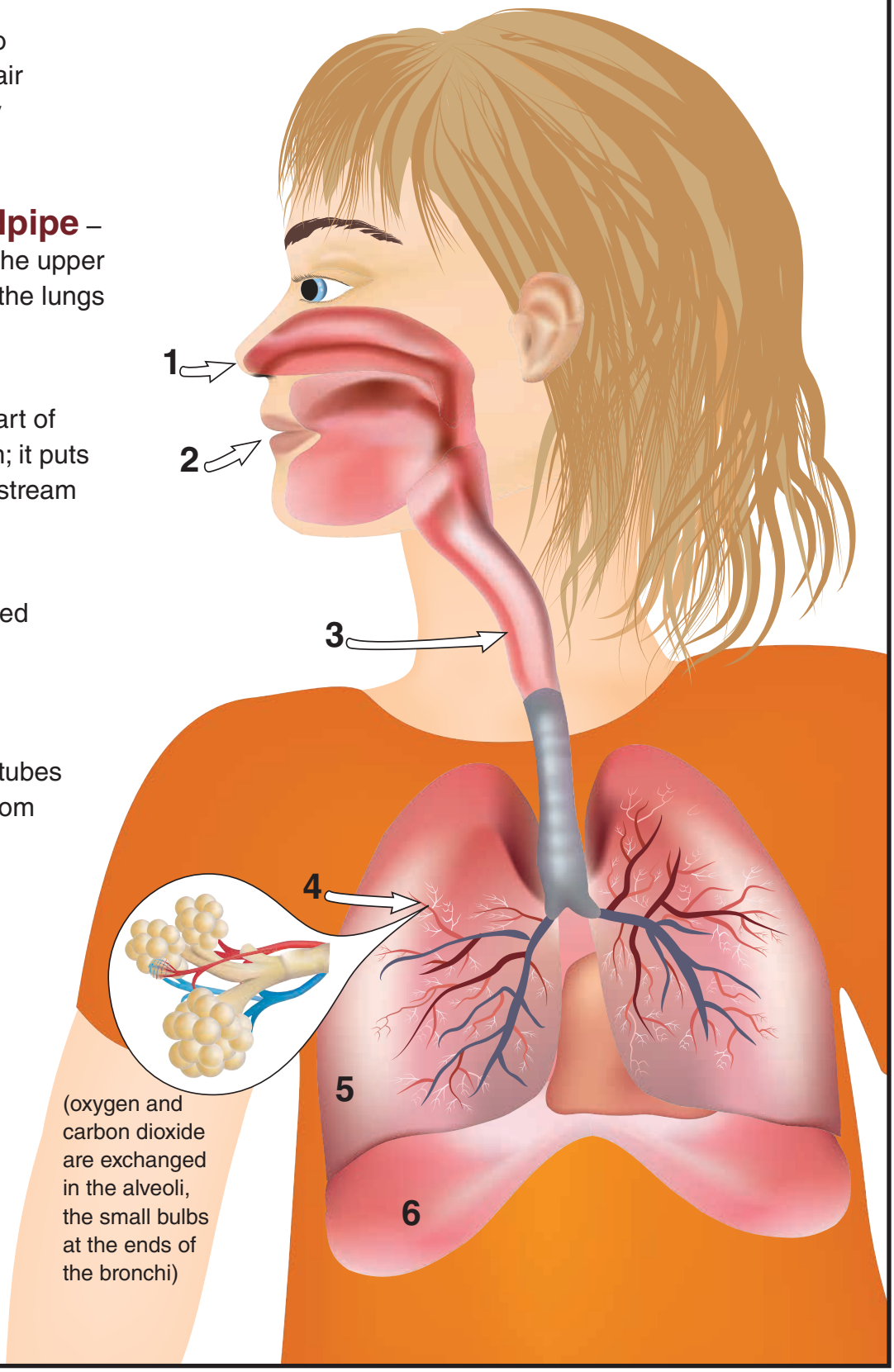
answer: _____

bronchi – smaller tubes that bring air to and from the lungs

answer: _____

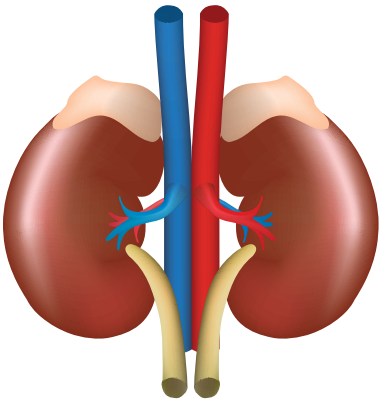
diaphram – muscle that moves up and down to help expand your lungs

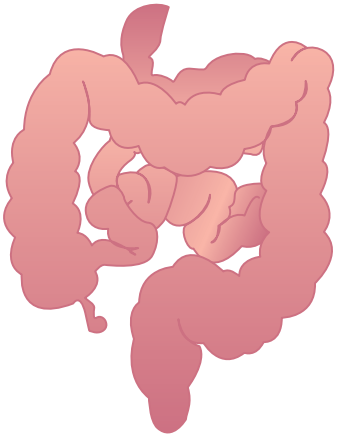
answer: _____



The Body's Filtration System: Kidneys and Intestines

Directions: Cut out each item from the bottom of the page. Each one describes a function of either the kidney or the intestines. Paste each one in the correct column.





Pushes food through to the anus	Absorbs potassium	Absorbs nutrients
Regulates the body's pH balance	Cleans out the blood	Absorbs sodium
You can live with only one of these organs	Absorbs calcium	Lined with mucus
The waste from this organ turns into urine		Breaks down food

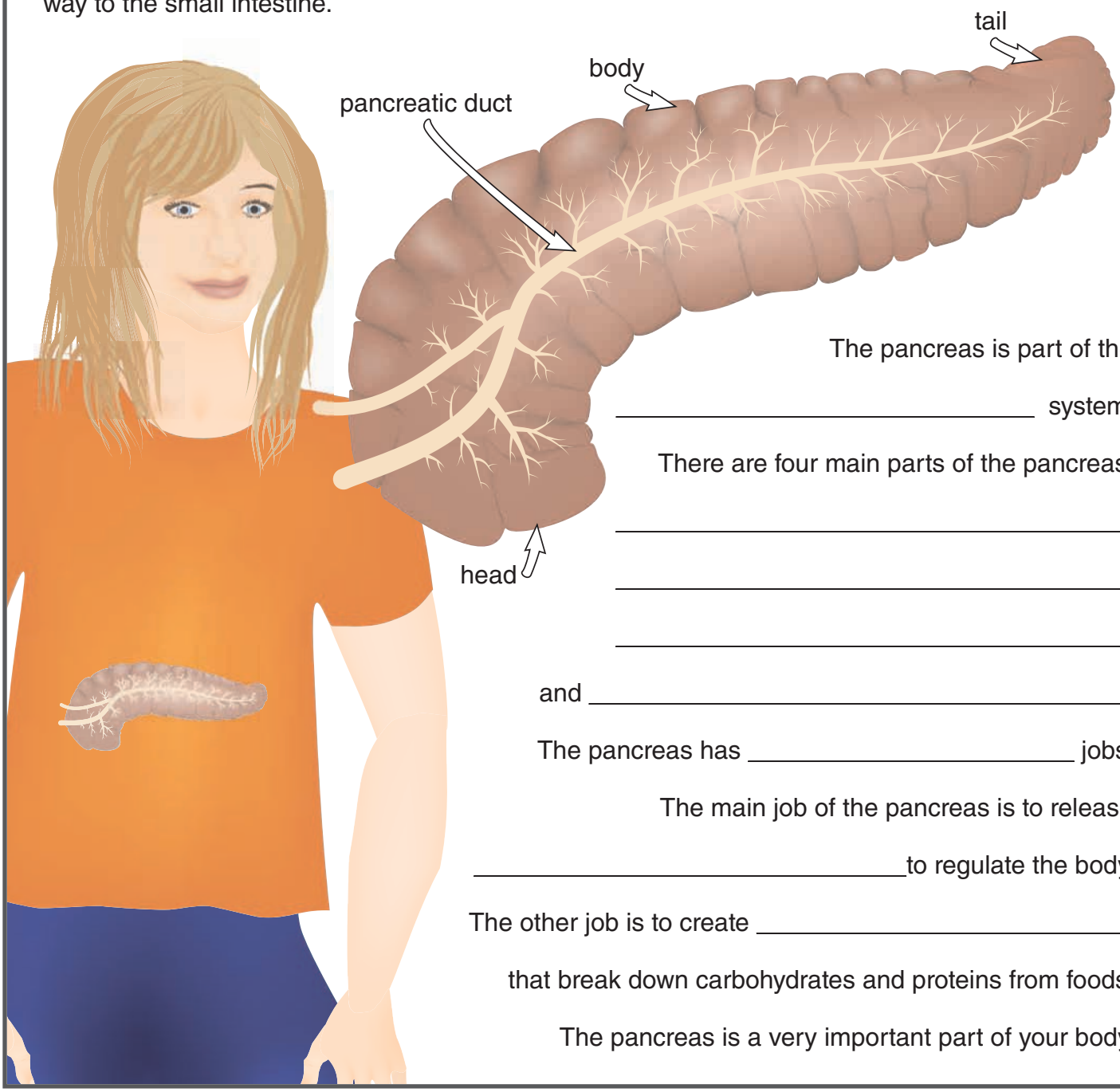
What does the pancreas do?

Directions: Study the picture, and read the information below.
Use the facts to fill in the paragraph below about your pancreas.

The endocrine system is a network of glands that release different hormones to regulate the body.

The pancreas is a very unique organ. It is actually a part of two systems, as it does two jobs. The main function is to create hormones like insulin and glucagon.

It also creates digestive enzymes that break down carbohydrates and proteins from foods on the way to the small intestine.



The pancreas is part of the

_____ system.

There are four main parts of the pancreas:

_____,

_____,

_____,

and _____.

The pancreas has _____ jobs.

The main job of the pancreas is to release

_____to regulate the body.

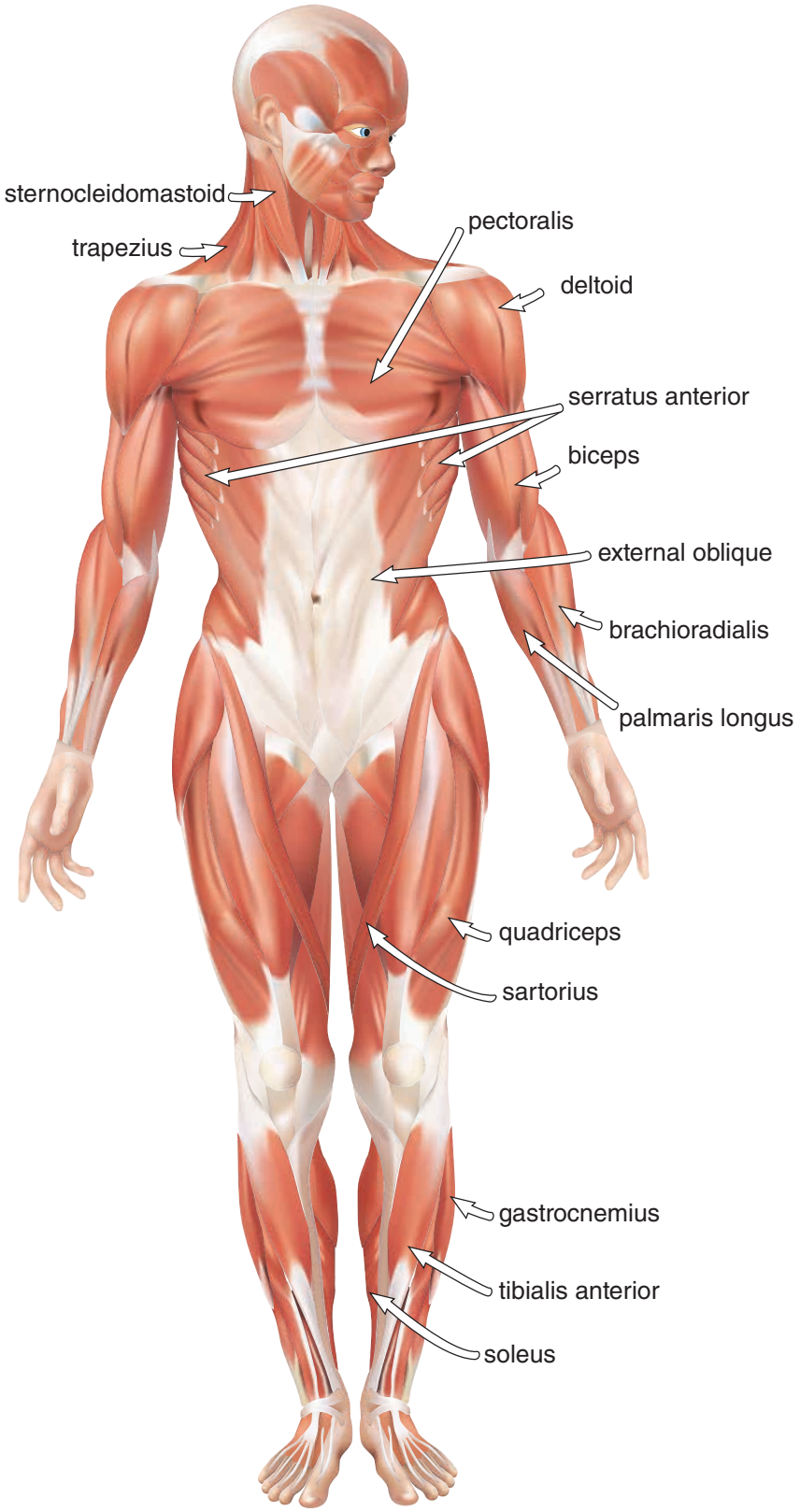
The other job is to create _____

that break down carbohydrates and proteins from foods.

The pancreas is a very important part of your body.

How many muscles do you have?

Answer: You have over 600 muscles in your body! A word search with all of them would be too big, but you can try this word search with 14 muscles.

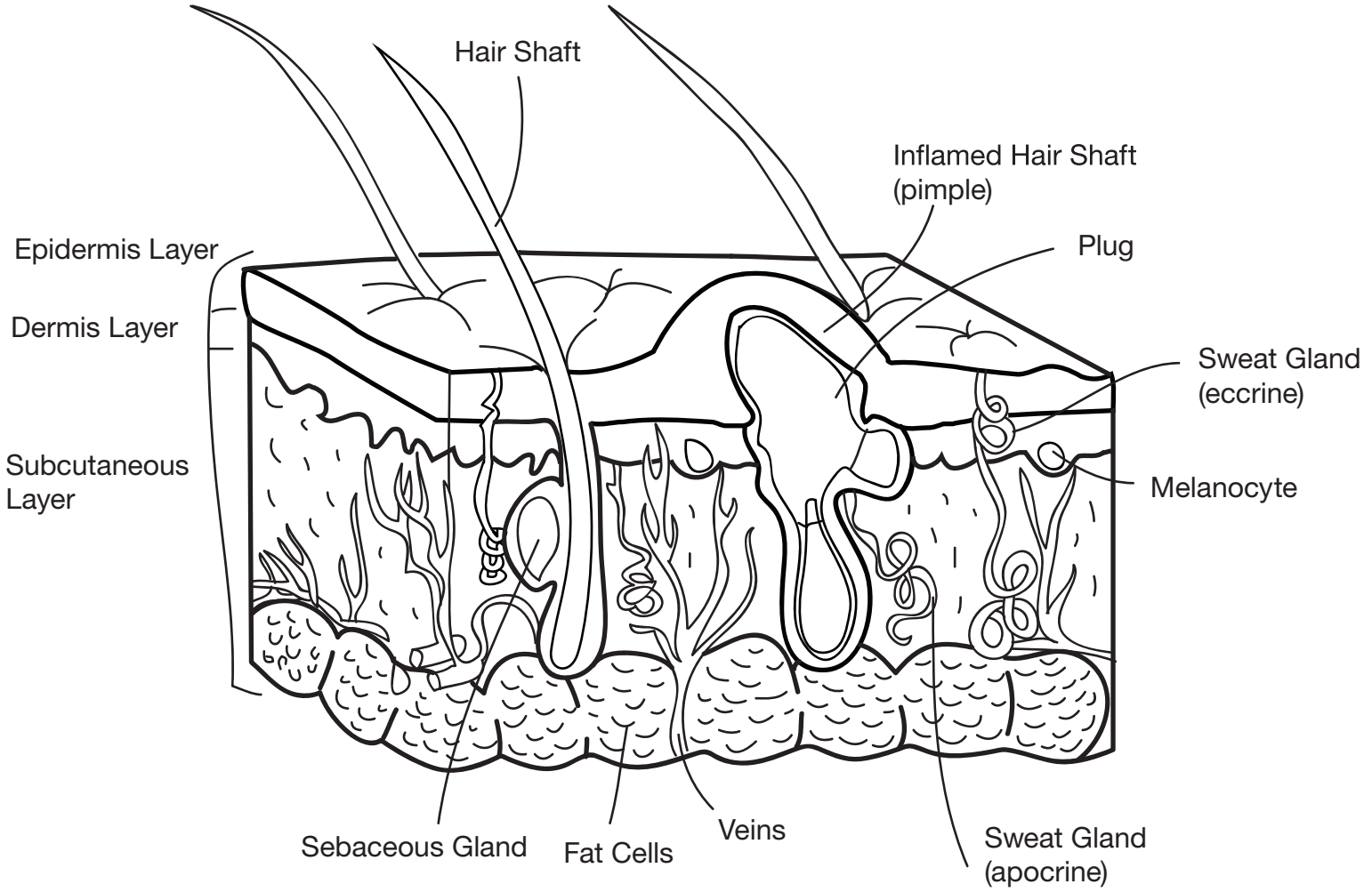


S A R T O R I U S T O D A
D I Q J G V Z J E F H E K
Q V U M C X O P R S J L G
E D F G Z S D F R K D T P
X N B I C E P S A M N O B
T S D F L S E E T L W I P
E T L K D F S K U Q Z D M
R E L S O L E U S G D A P
N R G G F R H K A S K J A
A N S D H K F S N F I E L
L O S H D F S H T H E I M
O C A Q D H A S E W I N A
B L W Z U X N E R E Y U R
L E S Z D A J S I I Y U I
I I W Y F X D M O L E V S
Q D X M K L R R R F L G L
U O X M N C U R I P A E O
E M X C S H J W A C F G N
Z A X C T P L J I N E H G
Y S K N I V C O W V E P U
V T S H B F H S E C K B S
X O A S I J F H E U C O N
Z I C N A E S H F E H L B
O D S D L J E H U H J C R
E I U C I H W E J Z C X A
Z M K S S E U D J K S D C
M N C J A H E U E Y C J H
Z M X C N N D E E H U D I
W P E C T O R A L I S K O
A K S D E R D F I U J X R
Z N C H R H A U S H J C A
O L K S I E H P N C K D D
A M Z N O H D Y E G R U I
K S N C R Z M X N Z H E A
M Z N X H B C K S W I P L
M N Q O E D Y U F O H U I
G A S T R O C N E M I U S

Under Your Skin

Did you know your skin is a living organ that houses millions of cells? Hairs, glands and veins are a few of the many tissues that occupy the space under and on top of three layers of skin. Sometimes your skin can get infected for different reasons.

Study the diagram below. Keep it as reference.



Did you know that pimples are acutally clogged hair shafts? When dirt and oil plugs the skin up, the hair is unable to grow outside its shaft, inflaming the skin and building up sweat and bacteria under the skin. If you ever get a pimple, don't pick it! Irritating the skin will only cause the bacteria to spread, hurting your skin further. Instead, wash the area thoroughly and let it heal over time. Protect it with a clean bandage so you don't scratch.

Name Date

YOUR BODY: BONES

Bones are one of the most important parts of your body. Without bones, you'd be like an octopus or a slug!

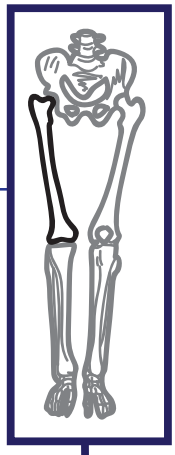
Bones are living parts of our bodies that make up a framework that holds us together, called the **skeleton.** They are constantly growing and changing and come in many different forms. For example, when you were a baby, your body was made up of more than **300 parts** and some of those baby bones were made up of **cartilage**. As you grew up, the cartilage was replaced by bone. Some of those bones fuse together to make one bigger bone, such as your **skull.**

Your bones come in a variety of parts, and each part keeps the bone healthy and alive. The very inside of many bones has a soft, jelly-like core called **marrow.** The leg, for example contains **yellow marrow** that makes new **blood cells** for the body. **Blood vessels** flow in and out of the bone, gathering new cells to travel across your body. **Spongy bone** creates more yellow marrow, and the **compact bone** protects your marrow from getting hurt.

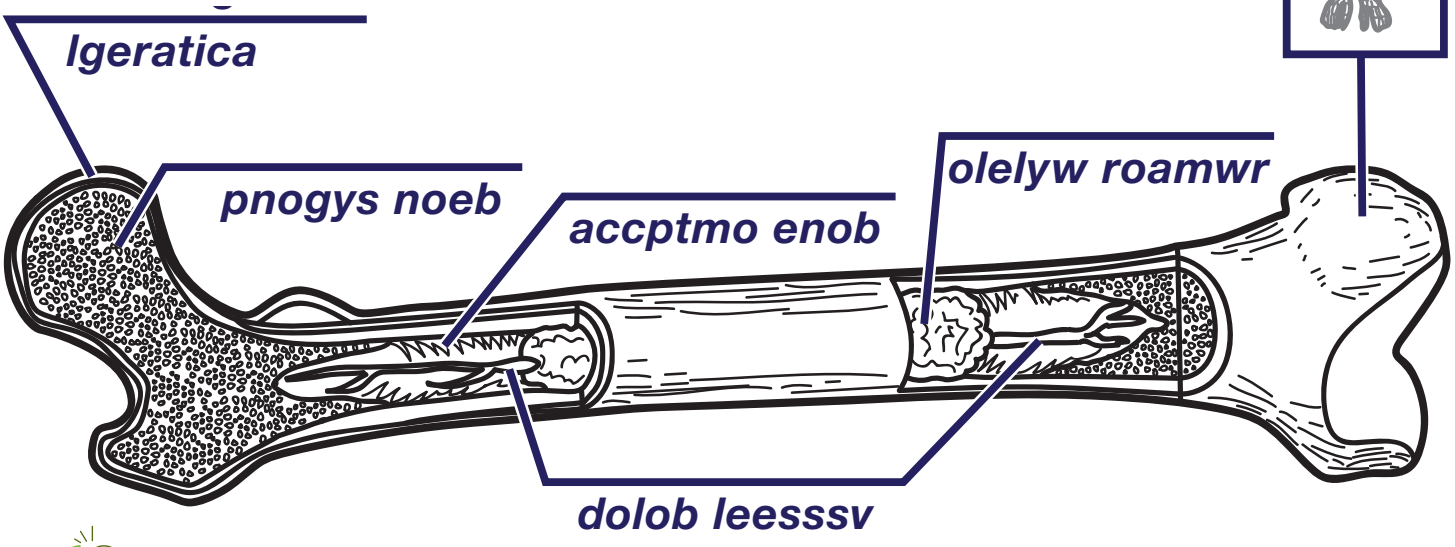
Bones are joined together with a special kind of bone called a **joint**. Joints are connected to the bone with **cartilage**, which acts a little like gum or glue, keeping your bones connected. Some joints can move a little, such as the joints in your back. Other joints move a lot, such as your legs and arms.

Bones give you shape and posture, and they also protect the softer parts of your body like the brain, the lungs, and the spine. There's even a special set of bones in your ears that allow you to hear the world around you. These special bones are called **ossicles**. When noise enters your ear, they shake and vibrate, sending messages for your brain to translate and understand.

Remember to keep your bones healthy by eating nutritious food, especially meals that have dairy. **Calcium** happens to be your skeleton's best friend! Exercise plenty, and protect your bones with safety gear if you play sports. Don't forget that you only have one set of bones, and those bones can't be replaced.



Unscramble the labels. The reading above contains the key words for the diagram below.

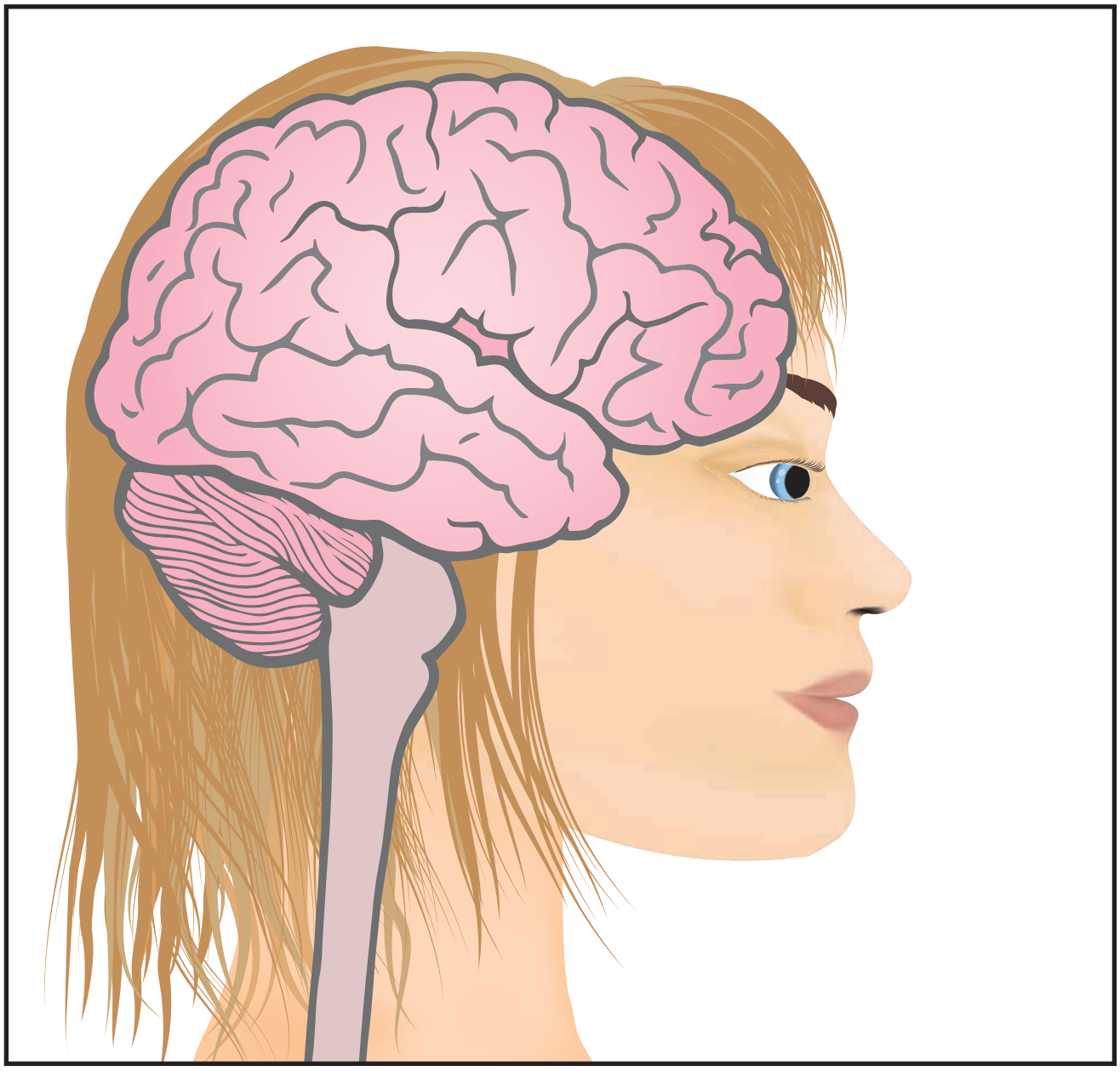


Your Body

Directions: Trace the outline of your body on a large piece of white butcher paper, or tape several pieces of white printer paper together. Lie down on the paper, with your head turned to one side, and have a friend or parent trace your body. Use the diagrams of the systems on the following pages to help you draw detailed pictures of all the systems on your body outline. Label each system on your body.

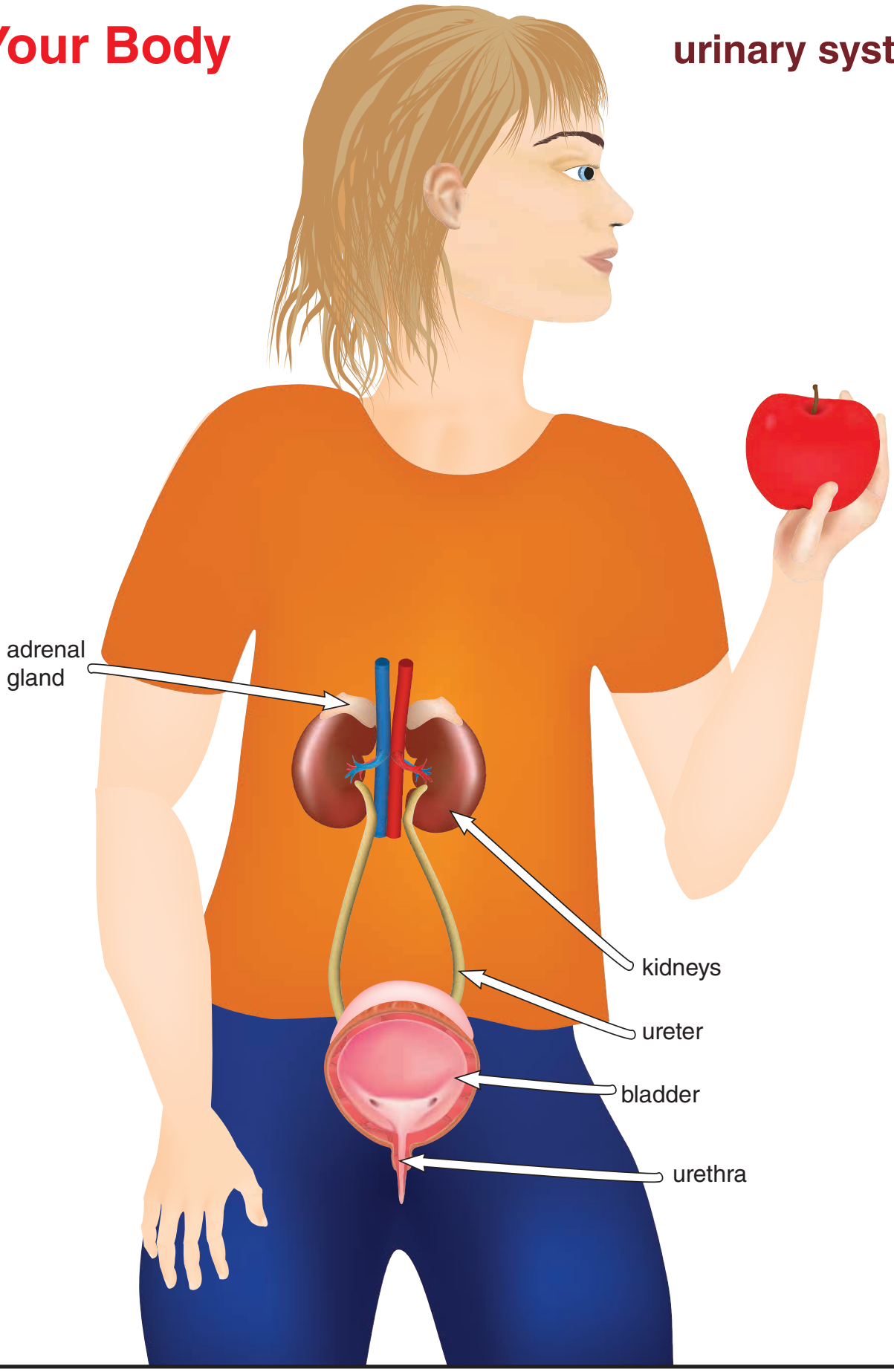
Suggestion: Some of the systems overlap each other. Draw the first system on the butcher paper, then take a piece of white paper, and tape the left side only down to the butcher paper. Now, you can draw the second system. It's like a flap book where you can pull up the paper and see the system underneath.

Brain



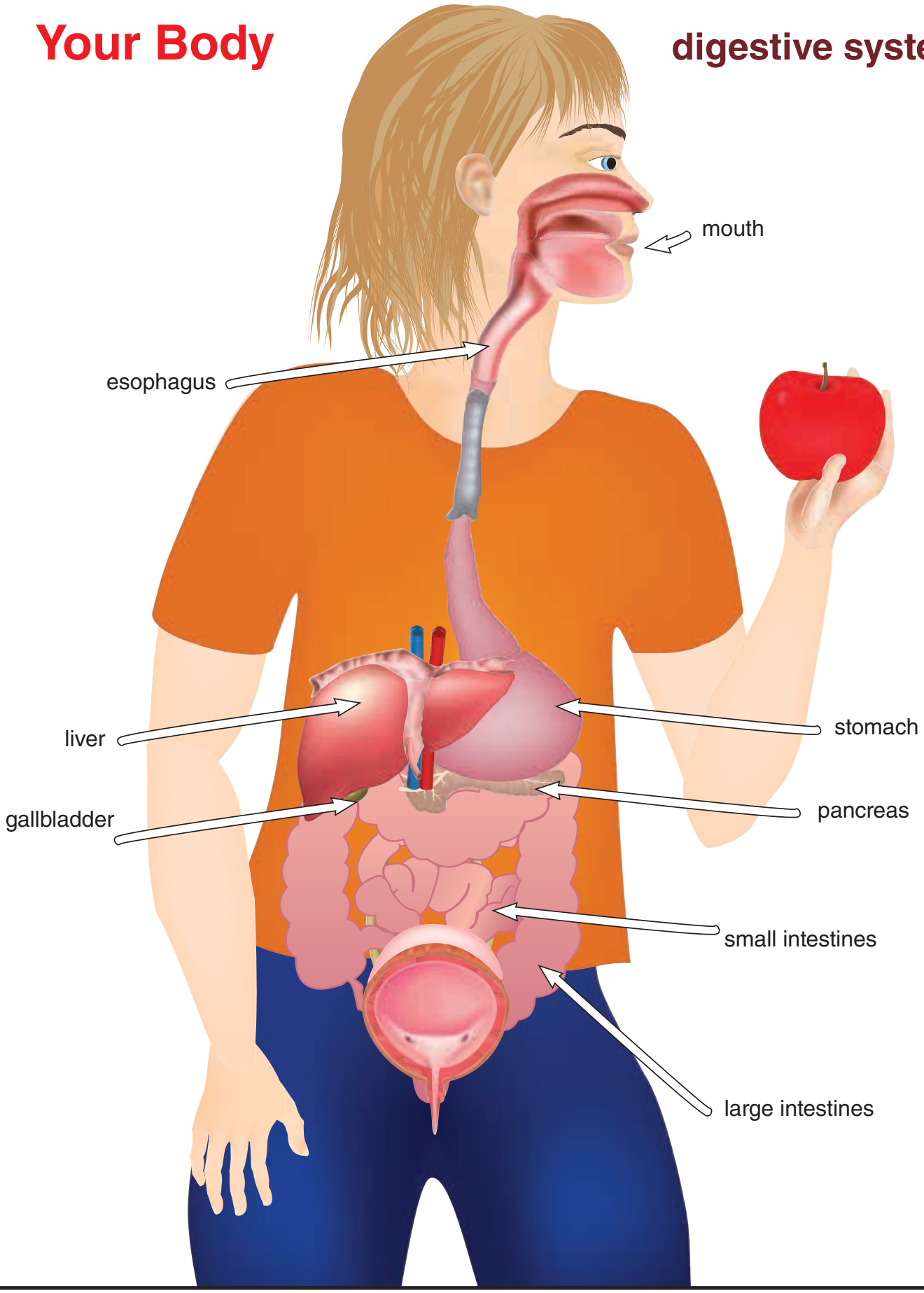
Your Body

urinary system



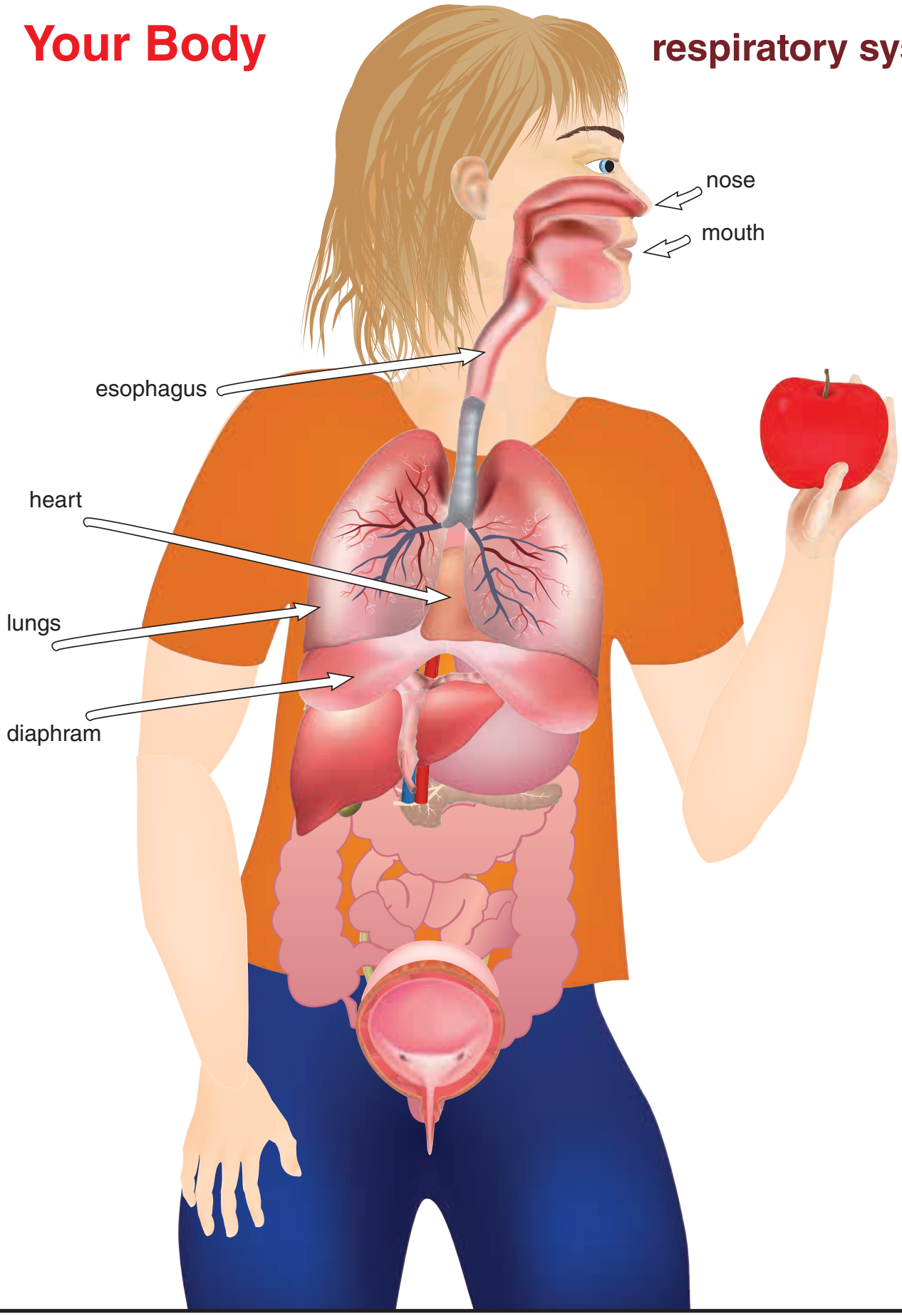
Your Body

digestive system



Your Body

respiratory system

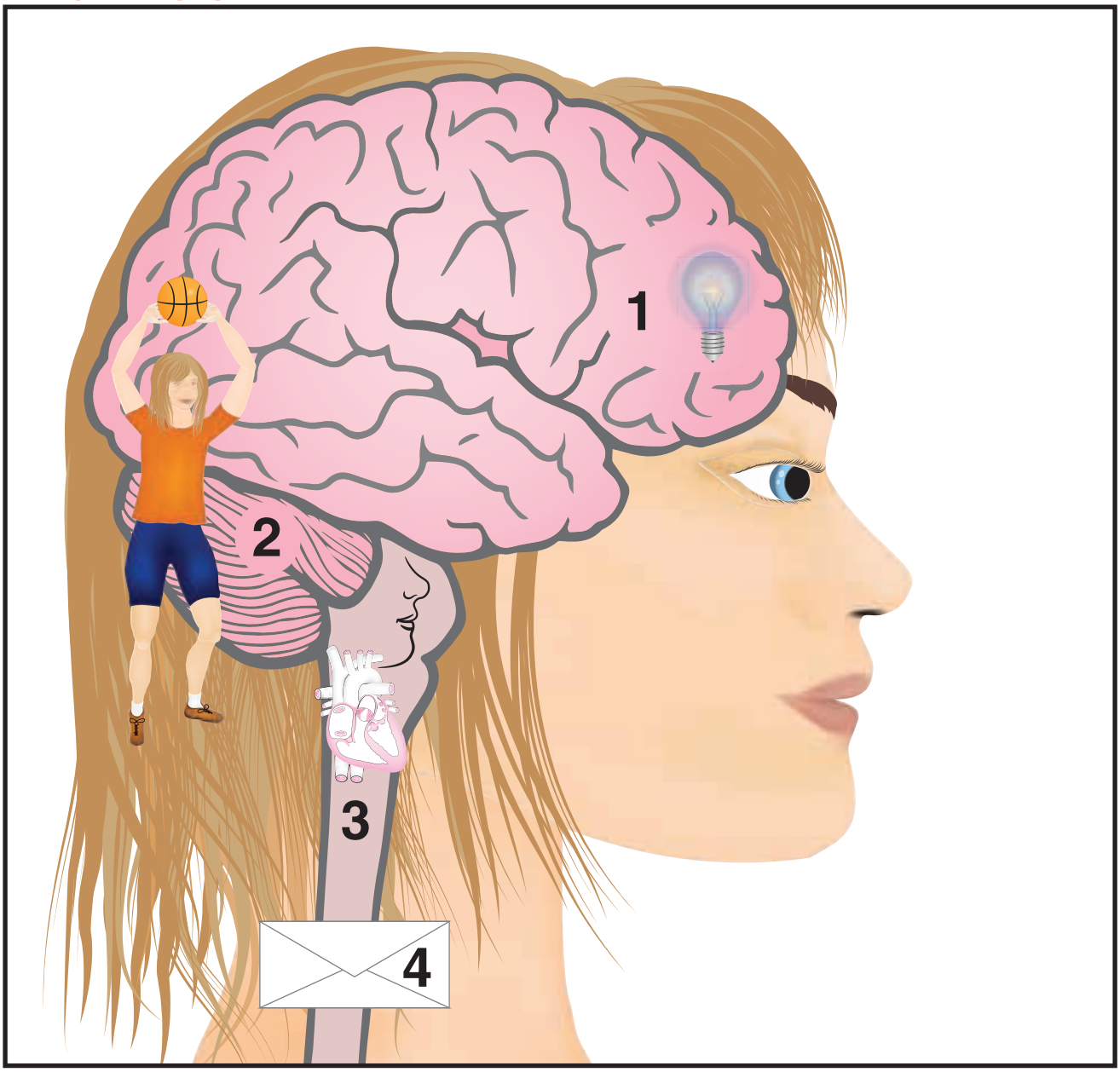


Answer Sheets

Understanding the Human Body

Regions of the Brain
Lungs Anatomy
Respiratory System Diagram
Filtration System
What Does the Pancreas Do?
Muscle Anatomy
Bone Diagram

Brainiac



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2. cerebellum	b. the thinking part of the brain
3. brain stem	c. controls balance, movement, and coordination
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answers: 1b, 2c, 3d, 4a

Name Date

YOUR BODY: LUNGS

No other planet in our solar system contains air like ours. The air in our planet contains **oxygen**, which is what humans and animals need to survive. Your **lungs** help take in that oxygen and share it with the rest of your body.

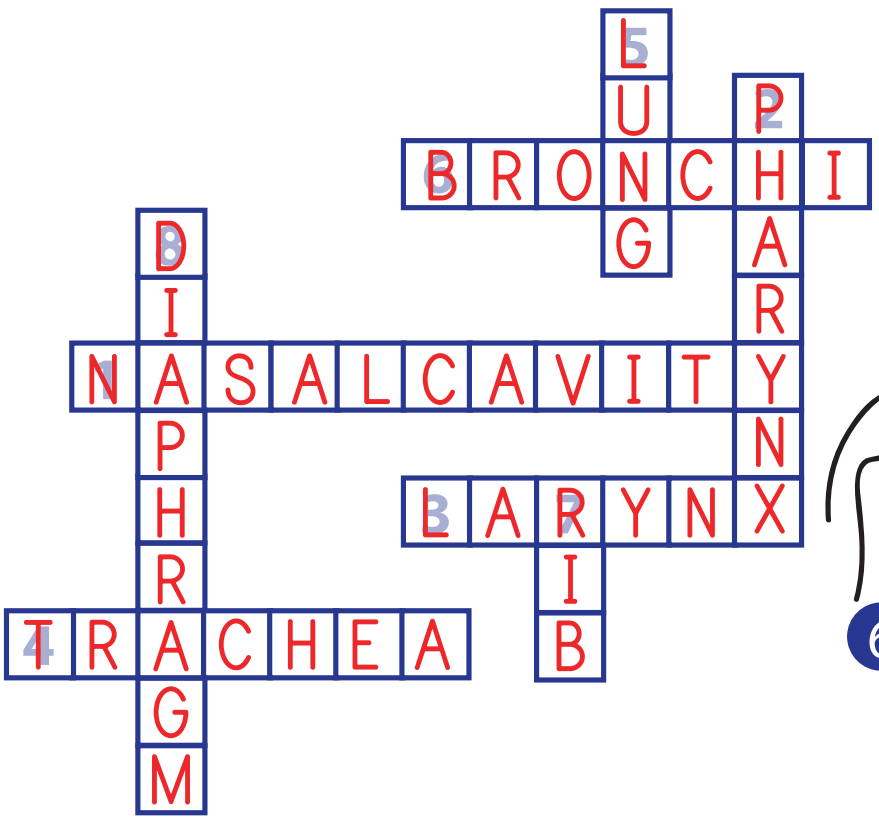
Your body has **two lungs**, and they are the second largest organs in your body (the largest organ is your **skin**). They work together with your **heart** to draw in oxygen, which is carried by **red blood cells** across your body.

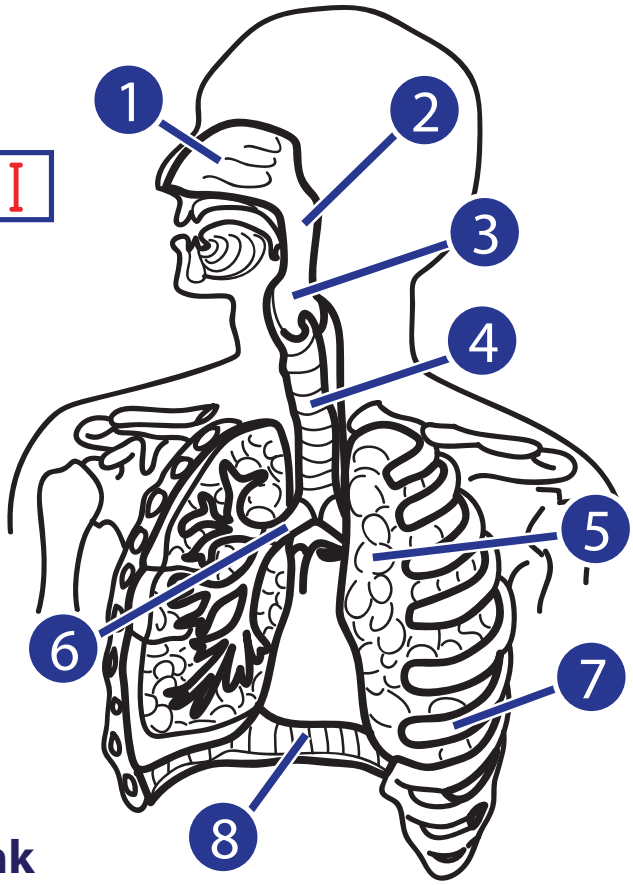
A large muscle called the **diaphragm** works with your lungs to get air in and out of your body. It rests just below your lungs, near the upper part of your belly.

When you breathe in (**inhale**), air travels through your **nasal cavity**, where your **nose hairs** filter dust and other gross stuff before it enters your body. Air then travels down the **trachea**, the **pharynx**, and the **larynx** in that order before passing through two large tubes called **bronchi**. These large tubes kind of look like trees, expanding and branching out into the spongy part of your left or right lung.

Your **ribcage** protects this delicate system, and each **rib** embraces a soft, spongy lung on the left or right side of your body so you don't accidentally hurt them.

Use the reading, word bank, and diagram to solve the crossword.





Word Bank

Larynx **Pharynx** **Lung** **Nasal Cavity** **Bronchi** **Trachea** **Rib** **Diaphragm**

Your Respiratory System

Directions: Look at the diagram. Read about what each part of the respiratory system does. Label each part of the respiratory system on the diagram.

nose – contains two nostrils which brings air in and out of the body

answer: 1

trachea or windpipe – a tube that connects the upper respiratory system to the lungs

answer: 3

lungs – the main part of the respiratory system; it puts oxygen into the bloodstream

answer: 5

mouth – can be used to suck in or expel air

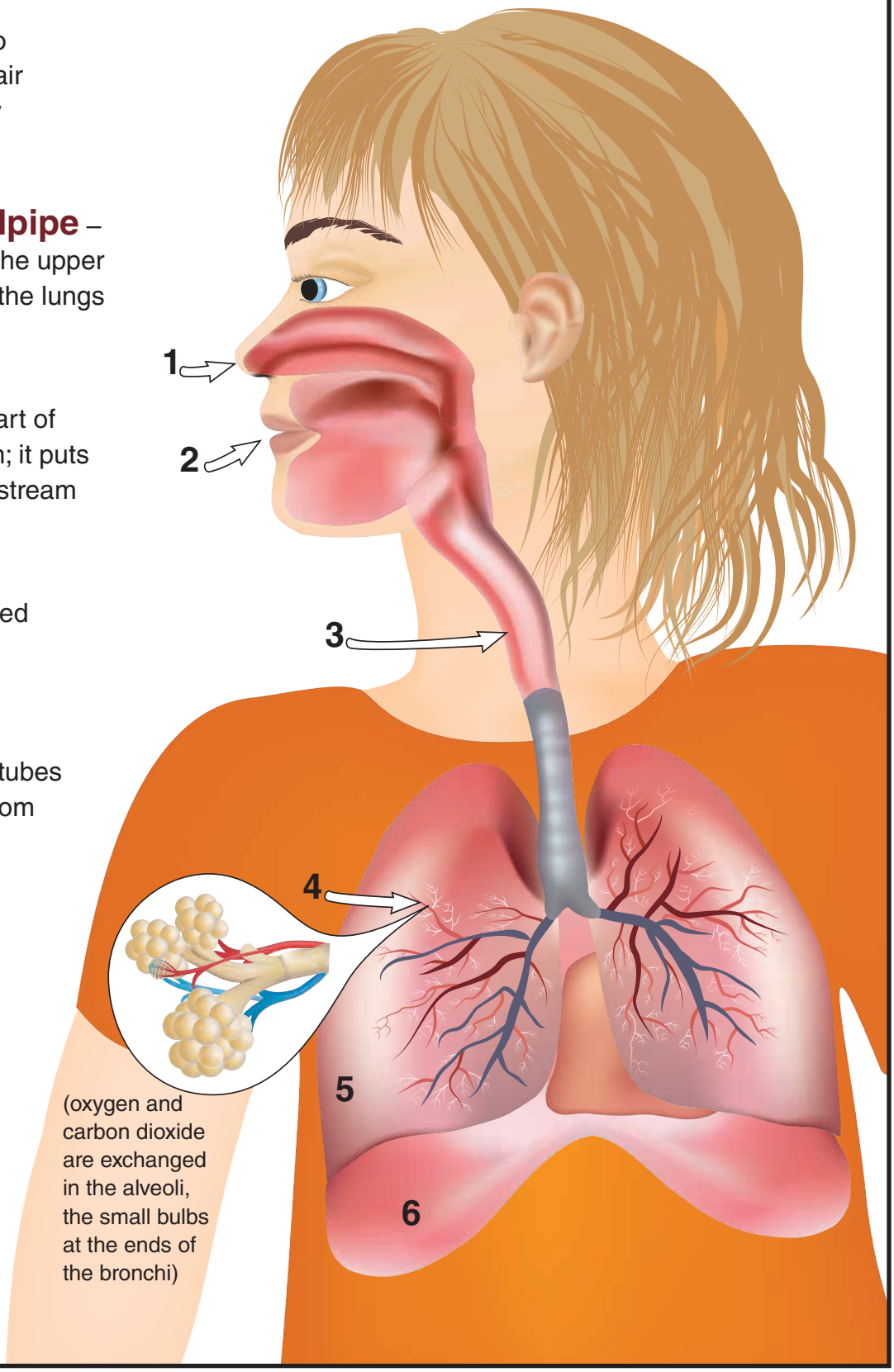
answer: 2

bronchi – smaller tubes that bring air to and from the lungs

answer: 4

diaphram – muscle that moves up and down to help expand your lungs

answer: 6



The Body's Filtration System: Kidneys and Intestines

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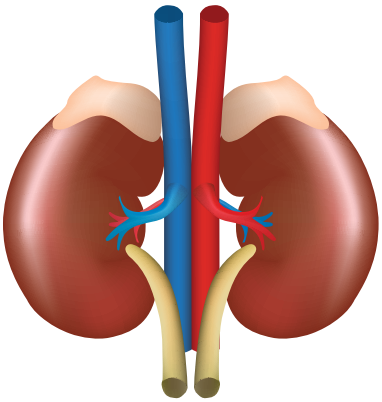

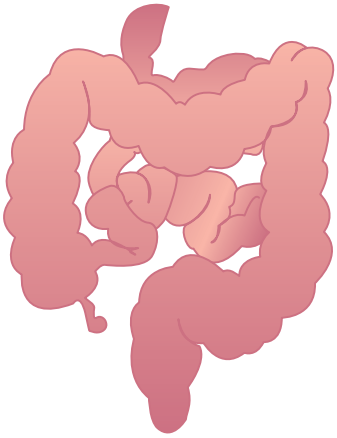

Absorbs sodium	Pushes food through to the anus
Absorbs potassium	Absorbs nutrients
Absorbs calcium	Lined with mucus
Regulates the body's pH balance	Breaks down food
Cleans out the blood	
The waste from this organ turns into urine	
You can live with only one of these organs	

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Regulates the body's pH balance	Cleans out the blood	Absorbs sodium
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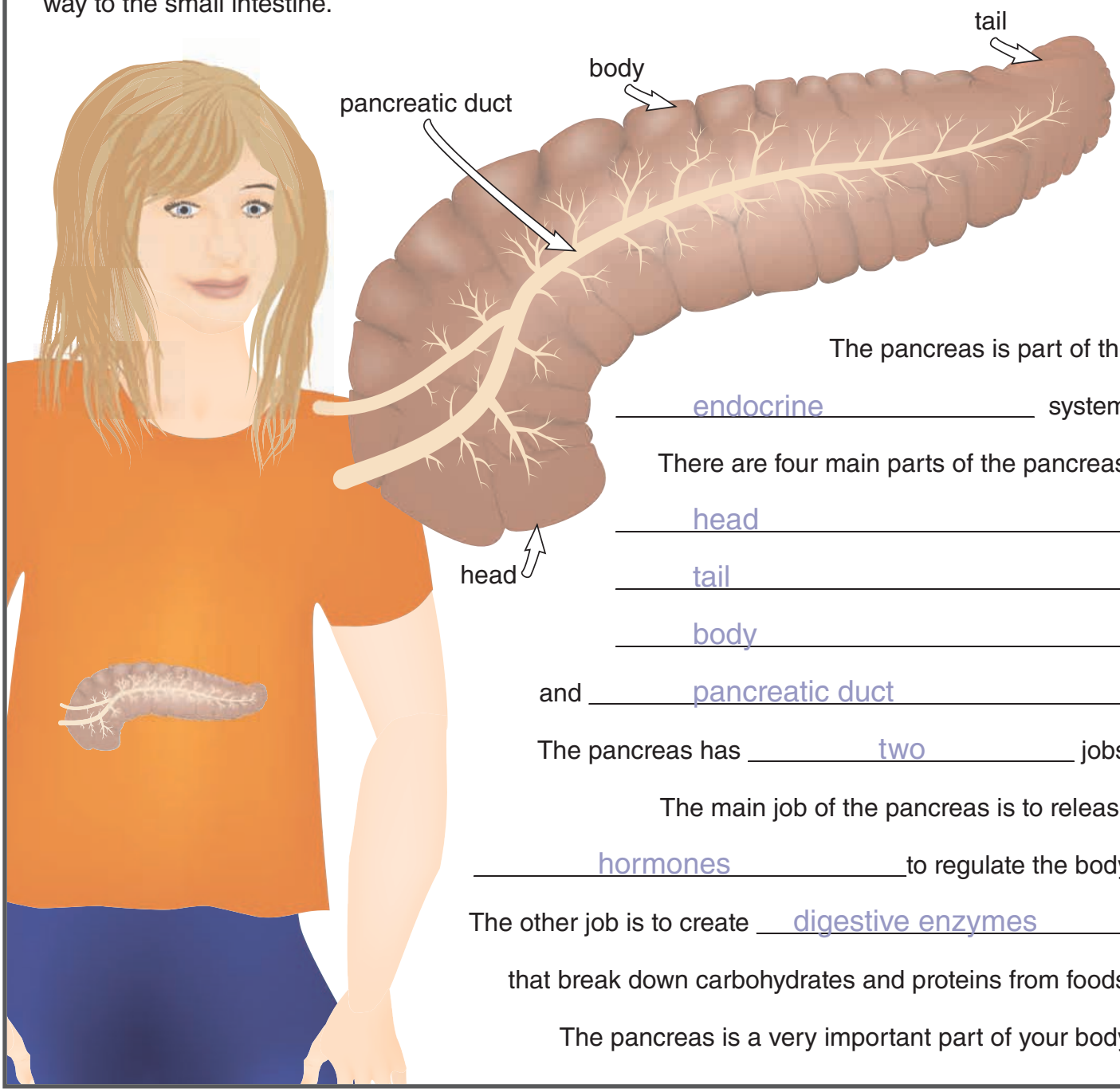
What does the pancreas do?

Directions: Study the picture, and read the information below.
Use the facts to fill in the paragraph below about your pancreas.

The endocrine system is a network of glands that release different hormones to regulate the body.

The pancreas is a very unique organ. It is actually a part of two systems, as it does two jobs. The main function is to create hormones like insulin and glucagon.

It also creates digestive enzymes that break down carbohydrates and proteins from foods on the way to the small intestine.



The pancreas is part of the _____endocrine_____ system.

There are four main parts of the pancreas:

_____head_____,

_____tail_____,

_____body_____,

and _____pancreatic duct_____.

The pancreas has _____two_____ jobs.

The main job of the pancreas is to release

_____hormones_____to regulate the body.

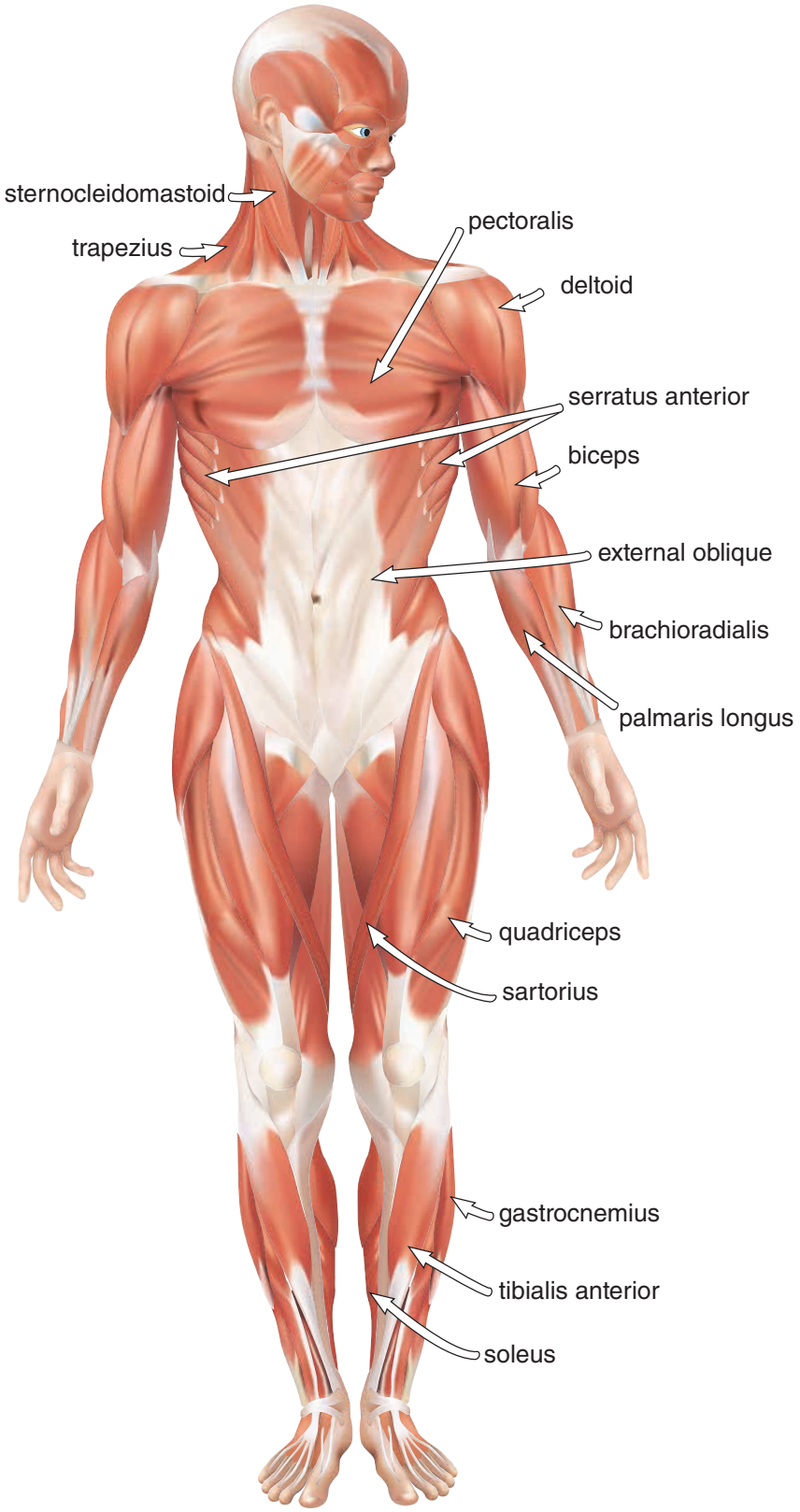
The other job is to create _____digestive enzymes_____

that break down carbohydrates and proteins from foods.

The pancreas is a very important part of your body.

How many muscles do you have?

Answer: You have over 600 muscles in your body! A word search with all of them would be too big, but you can try this word search with 14 muscles.



S A R T O R I U S T O D A
D I Q J G V Z J E F H E K
Q V U M C X O P R S J L G
E D F G Z S D F R K D T P
X N B I C E P S A M N O B
T S D F L S E E T L W I P
E T L K D F S K U Q Z D M
R E L S O L E U S G D A P
N R G G F R H K A S K J A
A N S D H K F S N F I E L
L O S H D F S H T H E I M
O C A Q D H A S E W I N A
B L W Z U X N E R E Y U R
L E S Z D A J S I I Y U I
I I W Y F X D M O L E V S
Q D X M K L R R R F L G L
U O X M N C U R I P A E O
E M X C S H J W A C F G N
Z A X C T P L J I N E H G
Y S K N I V C O W V E P U
V T S H B F H S E C K B S
X O A S I J F H E U C O N
Z I C N A E S H F E H L B
O D S D L J E H U H J C R
E I U C I H W E J Z C X A
Z M K S S E U D J K S D C
M N C J A H E U E Y C J H
Z M X C N N D E E H U D I
W P E C T O R A L I S K O
A K S D E R D F I U J X R
Z N C H R H A U S H J C A
O L K S I E H P N C K D D
A M Z N O H D Y E G R U I
K S N C R Z M X N Z H E A
M Z N X H B C K S W I P L
M N Q O E D Y U F O H U I
G A S T R O C N E M I U S

Name Date

YOUR BODY: BONES

Bones are one of the most important parts of your body. Without bones, you'd be like an octopus or a slug!

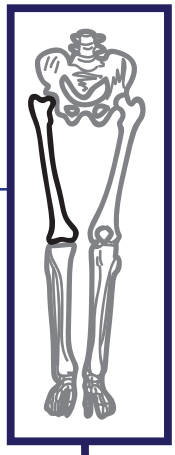
Bones are living parts of our bodies that make up a framework that holds us together, called the **skeleton.** They are constantly growing and changing and come in many different forms. For example, when you were a baby, your body was made up of more than **300 parts** and some of those baby bones were made up of **cartilage**. As you grew up, the cartilage was replaced by bone. Some of those bones fuse together to make one bigger bone, such as your **skull.**

Your bones come in a variety of parts, and each part keeps the bone healthy and alive. The very inside of many bones has a soft, jelly-like core called **marrow.** The leg, for example contains **yellow marrow** that makes new **blood cells** for the body. **Blood vessels** flow in and out of the bone, gathering new cells to travel across your body. **Spongy bone** creates more yellow marrow, and the **compact bone** protects your marrow from getting hurt.

Bones are joined together with a special kind of bone called a **joint**. Joints are connected to the bone with **cartilage**, which acts a little like gum or glue, keeping your bones connected. Some joints can move a little, such as the joints in your back. Other joints move a lot, such as your legs and arms.

Bones give you shape and posture, and they also protect the softer parts of your body like the brain, the lungs, and the spine. There's even a special set of bones in your ears that allow you to hear the world around you. These special bones are called **ossicles**. When noise enters your ear, they shake and vibrate, sending messages for your brain to translate and understand.

Remember to keep your bones healthy by eating nutritious food, especially meals that have dairy. **Calcium** happens to be your skeleton's best friend! Exercise plenty, and protect your bones with safety gear if you play sports. Don't forget that you only have one set of bones, and those bones can't be replaced.



Unscramble the labels. The reading above contains the key words for the diagram below.