

ACTIVITY BOOK

Grades
3,4,5



Children's
of Alabama

Name: _____



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Your Body & You

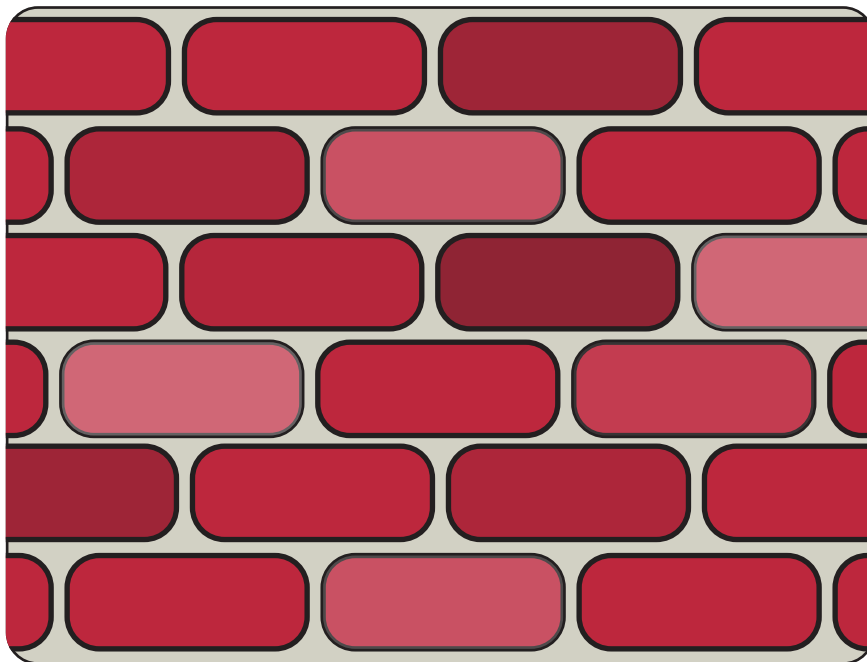
Are you ready for an adventure? While everyone's body is similar, you are an amazing and unique individual. So come on, join the fun. Let's learn what makes you work.

Trek and Rip will be your guides through Bodytrek.



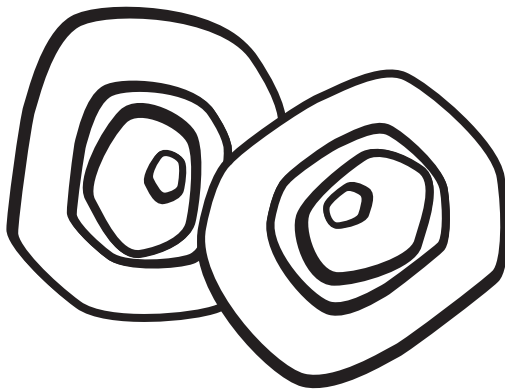
Your body is made up of trillions of tiny building blocks called cells. There are over 200 different types of cells in your body. Each type of cell has a different job to do.

A brick wall is built much like how cells build all the parts of your body. Single cells are joined with other cells to create parts of your body such as muscle, bone, skin and nerves.

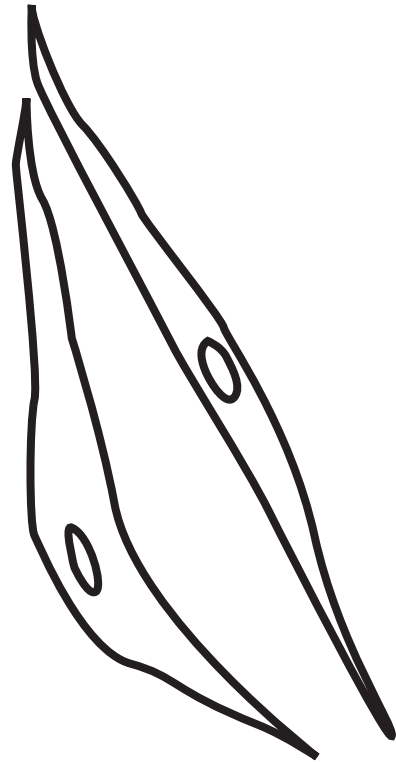


Can you name other items, like bricks,
that are used to build things?

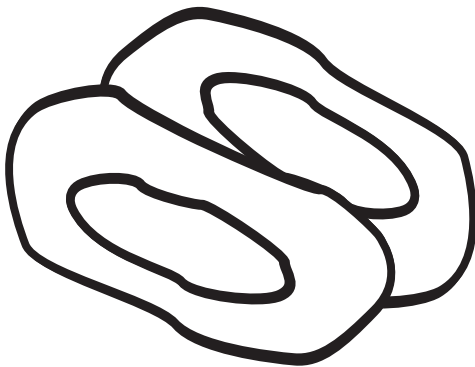
Color the pictures of the cells.



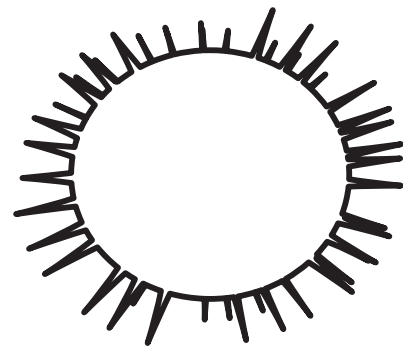
Cartilage Cells



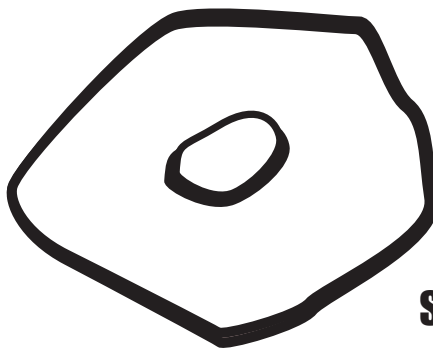
Muscle Cells



Red Blood Cells

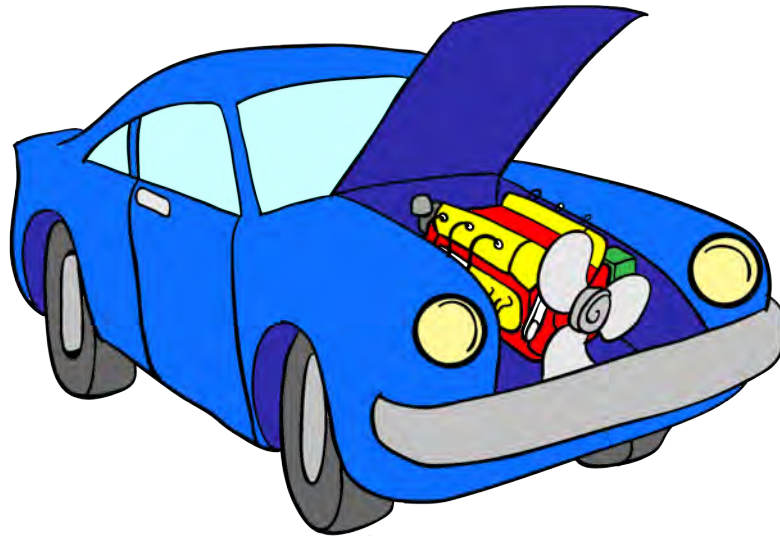


White Blood Cell



Skin Cell

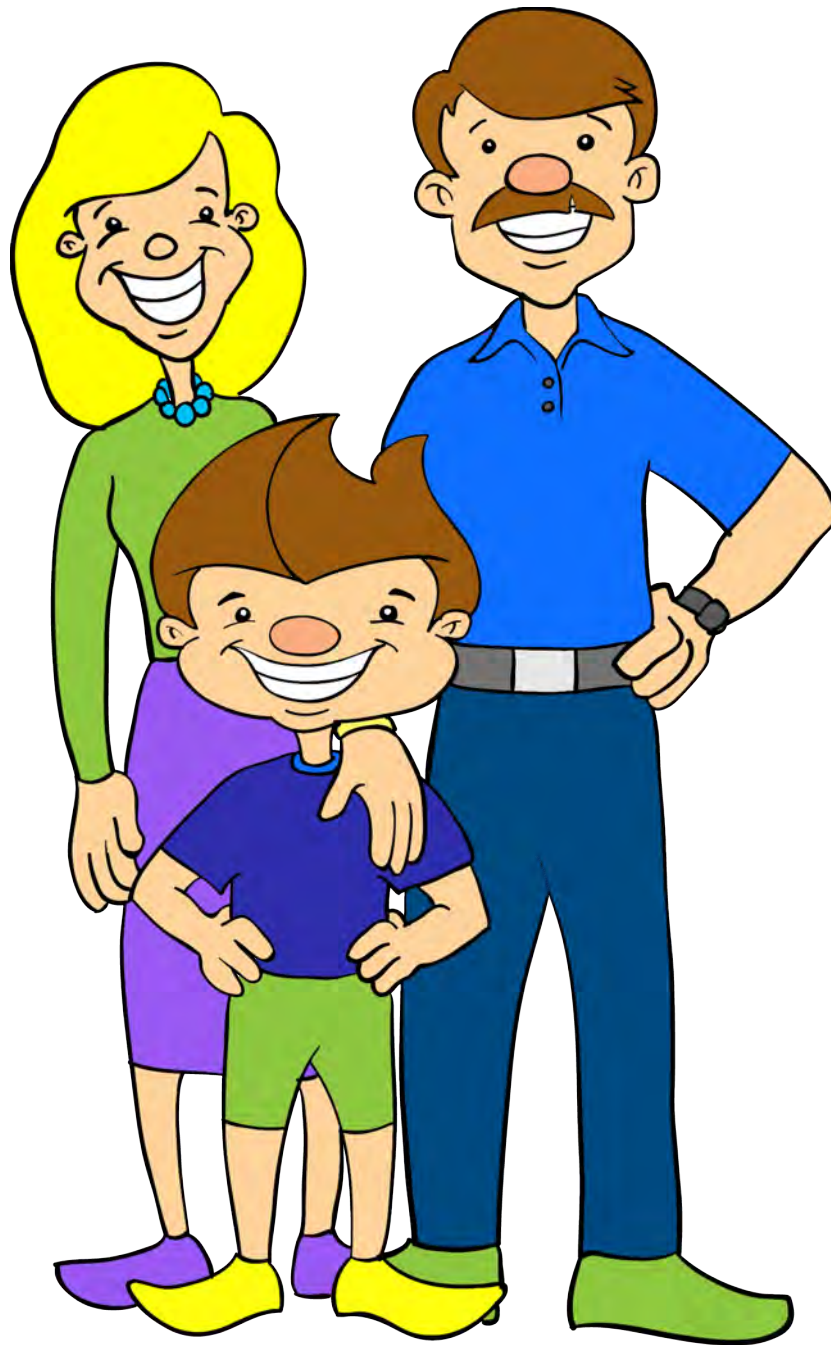
Your body works like a car. Both get energy from fuel. For a car, the fuel is gasoline. For humans, the fuel is food. This energy makes your body move using its muscles, like the car uses its engine. Your brain controls your body just like the steering wheel and pedals control the car. Both have frameworks and both need protection. A car has its frame and body panels and you have your bones and skin!



Many things affect how you grow. Some you can control such as eating the right foods, exercising, getting plenty of sleep, practicing good safety habits, practicing good hygiene and avoiding bad habits such as smoking, drinking alcohol and drugs.



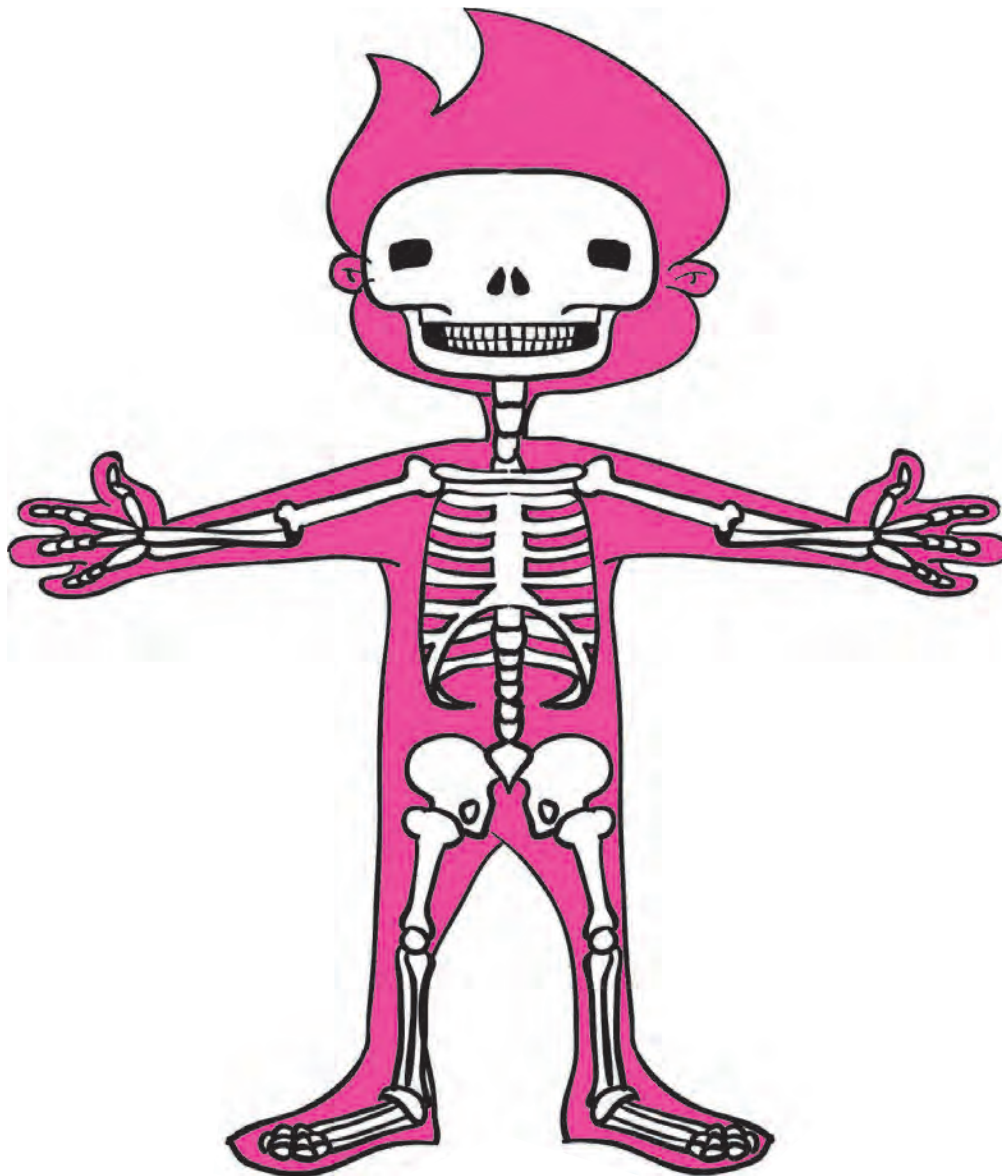
Some things you can't control, like your height and hair color. They are called traits. Traits are determined by heredity. Heredity means the passing on of traits from one generation to the next. Are your parents both tall? You probably will be, too.



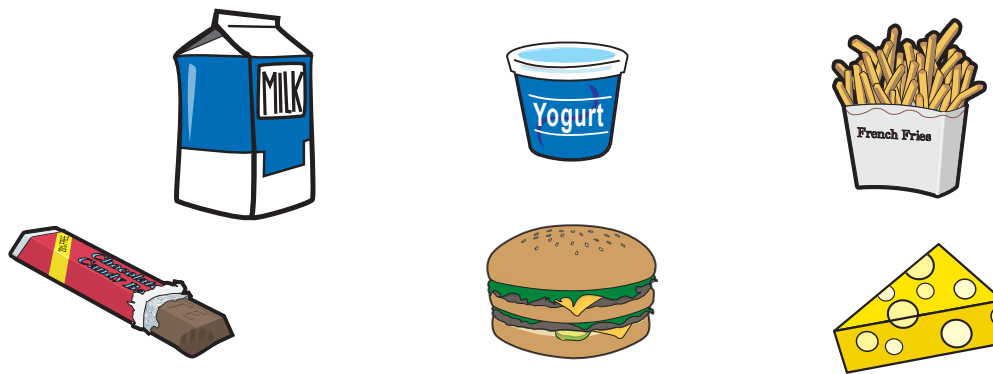
People come in all sizes – small, medium and large. No matter what size our bodies work the same. Inside, all the parts work together. If you take care of it, your body will usually continue to work well.

Your Bones

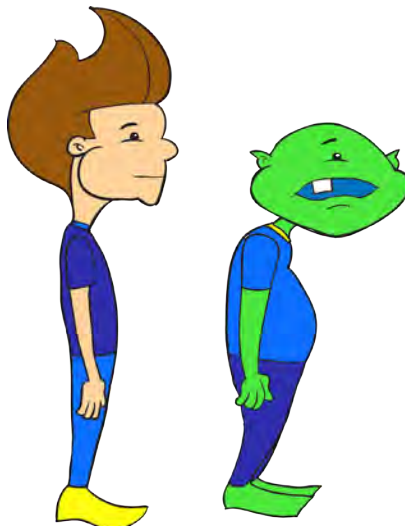
Your skeleton is made of hard bones that make a frame that protects all your other systems. Bones also give your body shape. Your muscles make you move and are attached to your skeleton. Adults have 206 bones that make up their skeleton. That is a lot of bones!



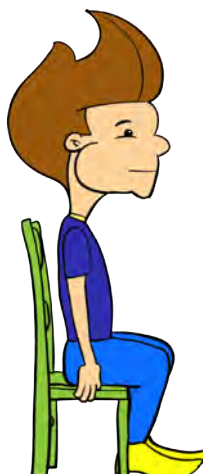
Circle the things below that make your bones strong:

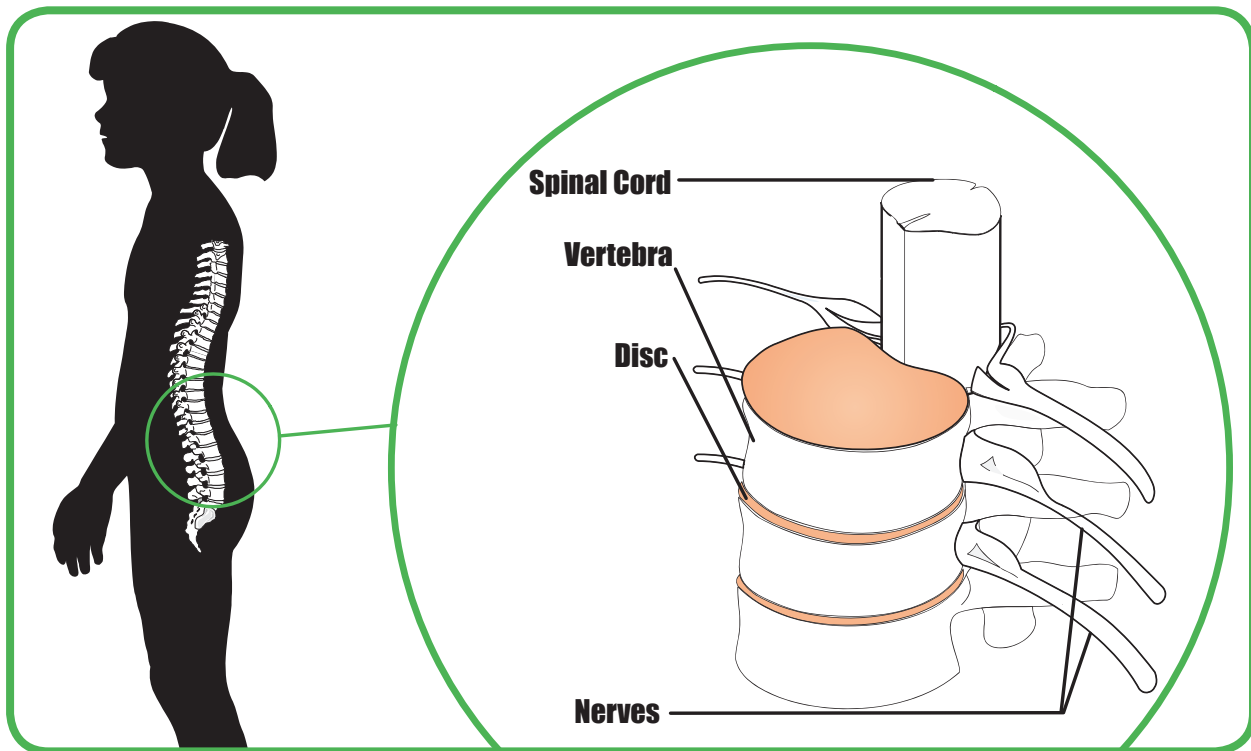


Try to stand correctly, like Trek.
Head up, shoulders back, and chest high.
Now stand poorly, like Rip. See and feel the difference?



It is important to have good posture.
Don't forget to sit correctly too!





Protect your back! Your spine is the backbone of your whole body. Be careful how you lift heavy items. Lifting with your knees bent is the best way to prevent back injury.

Put an X over the incorrect way to lift a heavy item.
Circle the correct way.

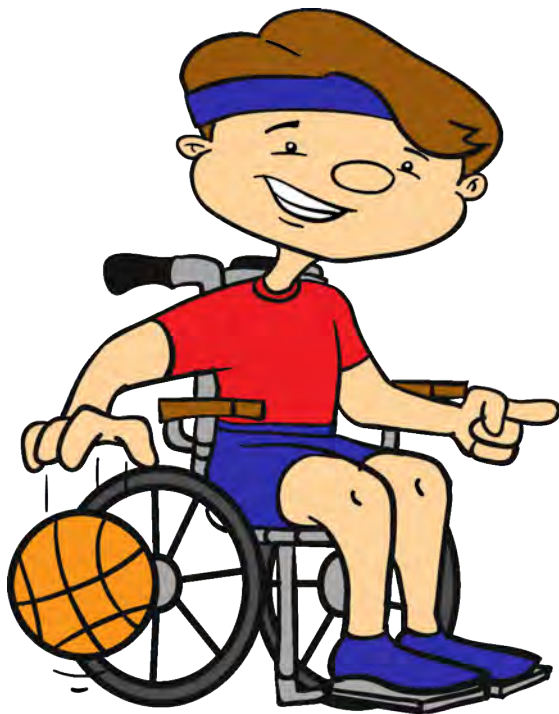


Your Muscles



You have muscles all over your body. Muscles are like strong rubber bands that help you move. Your brain sends a signal to your muscles to move. The muscles contract (get shorter) and pull on the bones. Your bones move and then you move!

You have about 650 muscles in your body. You even have muscles in your face! Muscles make up about half of your body's weight. So if you weigh 50 pounds, about 25 pounds is muscle!



Some people can't run or jump because they cannot use their legs, others can't use their arms, and some cannot use either. They can build up the muscles they can use.

Some muscles you can control, and some you can't. Your heart beating or your throat swallowing are muscles that move without you even thinking about them. They are called “**involuntary**” muscles. Picking up a ball, throwing or stepping on pedals are controlled by “**voluntary**” muscles.



Circle the movements that you can control.

Lungs Inhaling

Lips Smiling

Eyes Blinking

Foot Kicking

Hand Holding

Running

Exercise is great for all your muscles and especially your heart. As you pump more blood by exercise or play, the stronger your heart and lungs become and better at supplying your body with oxygen.

Have some aerobic fun at least four days a week for a minimum of 20 minutes each day. Aerobic exercise is exercise that strengthens your heart such as swimming, running, fast walking, biking, roller skating, fast dancing and jumping rope. Choose activities that you enjoy and get your heart pumping. Always remember to begin your activity with a warm up and end it with a cool down.

Here are some warm up and cool down exercises
you can do!

Reach Like an Eagle

1. Sit on the floor with your legs wide apart.
2. Slowly bend your head forward toward the floor.
3. As you bend, grasp your ankles and pull yourself down. Be sure to keep your knees bent.
4. Stay bent down to the count of five.
5. Slowly sit up and reach arms up.
6. Repeat two or three times.



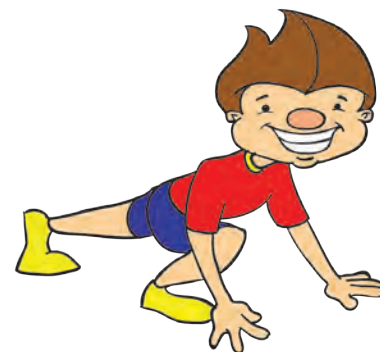
Walk Like a Monkey

1. Stand up straight with your feet together. Bend over and put your hands flat on the floor.
2. Bend your knees slightly.
3. Now, walk around like a monkey. Be sure to watch where you are going!
4. Slowly stand up. Keep your knees bent as you come up.



Stretch Like a Cat

1. Kneel down. Put your hands in front of you.
2. Raise your right knee until it touches your right ear. Hold it there to the count of five.
3. Now stretch your right leg back as far as you can. Stretch it just as a cat would stretch. Count to five.
4. Return to the kneeling position.
5. Repeat using your Left leg.



Swing Like an Elephant

1. Stand up straight with your hands together.
2. Slowly bend down as far as your leg muscles will let you. Keep your knees bent slightly.
3. Let your arms swing free. Now, walk around like an elephant. Stand up straight when you finish your walk.



Safety Zone

It is important to learn how to stay safe in any environment.

Here is some of the safety equipment that might make YOU a little safer.

Draw a line from each picture in the green area to the correct safety gear that it belongs to in the orange area:



Safe or Unsafe?

Learn the things in your home that are unsafe
and then stay away from them!

Circle the items that are unsafe in the house.



Emergencies

Learn what an “emergency” is and what to do in an emergency!



List 4 emergencies.

1. _____
2. _____
3. _____
4. _____

What is the number to call in an emergency?

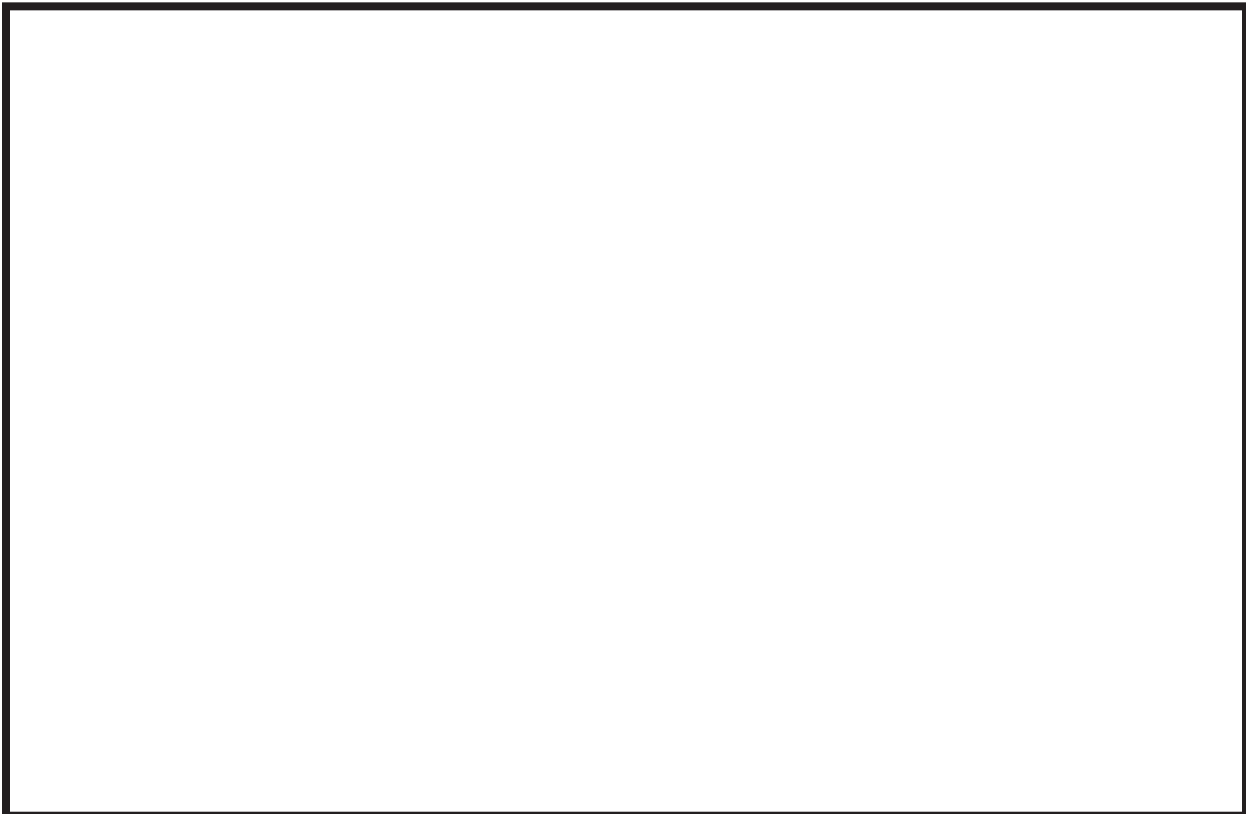
What two things do you need to know
to tell the operator?

1. _____
2. _____

Fire

Every family should know what to do in case of a fire.

You can start by making a picture of the inside of your home in the square below. Draw a **BLUE** line from your bed to the fastest way to get outside. Draw a **RED** line that shows another way to get outside.



Think of a place to meet and write it here:



Discuss this plan with your family. Practice your escape route once a month.

Signs

It is important to look both ways before you cross the street. Cross only on the "Walk" sign.

KNOW your signs!
What does each of these signs mean.



= _____



= _____



= _____



= _____



= _____



= _____



= _____

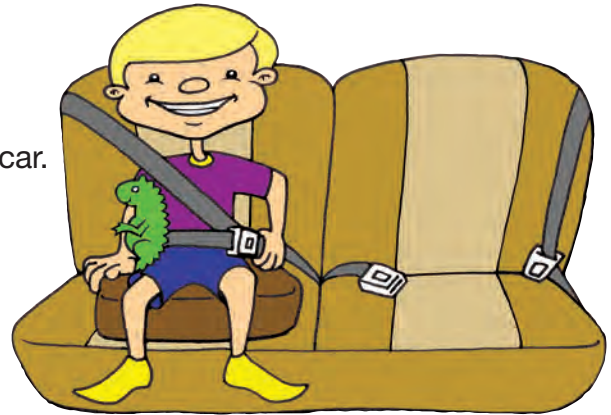


= _____

Safety Tips

Car Safety

- Never ride in the truck bed. It is too dangerous!
- Always use a seat belt and sit in the back seat of a car.
- Keep your head, feet and hands inside the car.



Walking Safety

- Look both ways before crossing the street.
- Obey traffic signals. Cross on the “walk” sign.
- Always walk facing traffic.
- Wear light colored clothing.
- Walk on the sidewalk when possible.



Bike Safety

- Always wear a bike helmet to prevent head injuries.
- Obey all traffic rules and signs. Learn hand signals for turning and stopping.
- Only one person should ride on the bike at one time.
- Don't ride after dark.
- Walk your bike across busy street crossings.

Sun Safety

- Wear sunscreen to protect your skin from the sun's harmful rays.
- Apply sunscreen before you swim and again after you swim or play in the sun.
- Wear a hat to add extra protection for your face when you are in the sun.

Water Safety

- Stay away from water unless you can swim and have adult supervision.
- Use the buddy system. Always swim with someone.
- Get out of the water when a storm is coming.
- If you get tired while swimming, relax and float on your back.

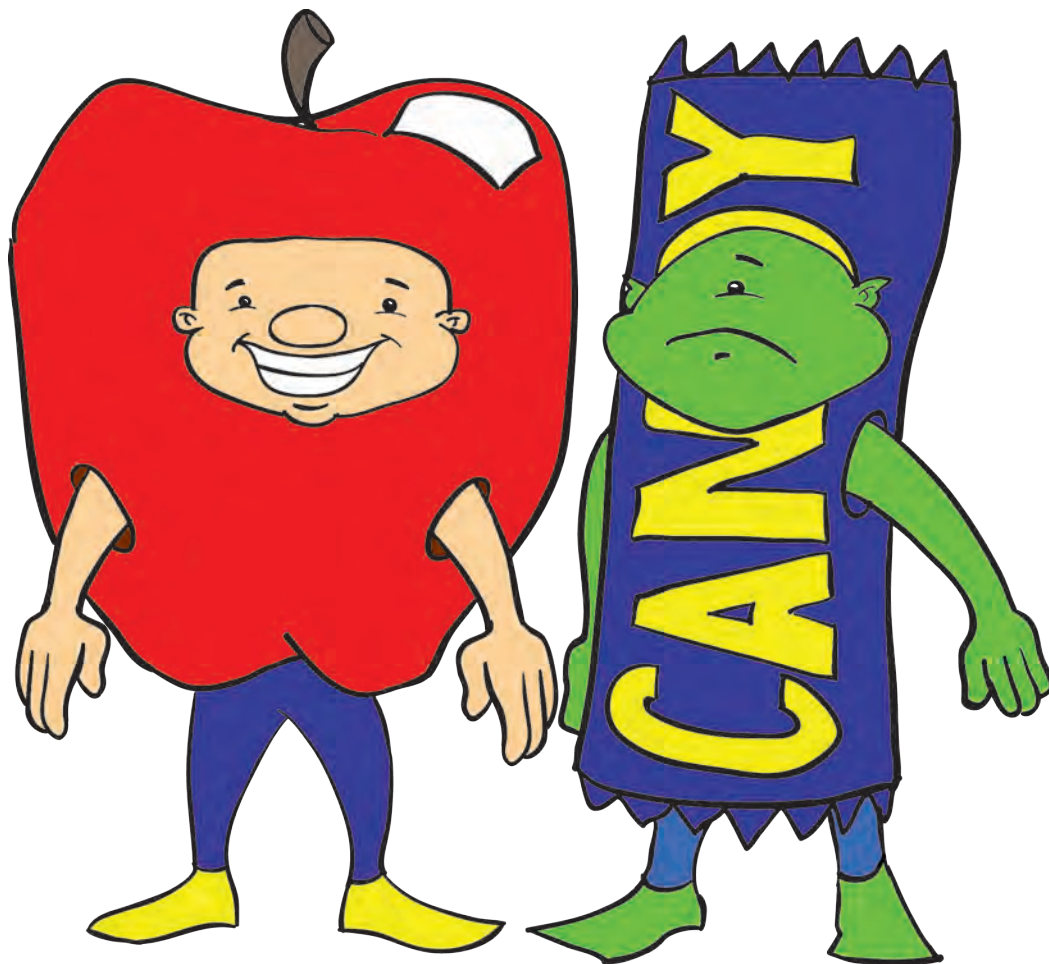


Personal Safety

- Stay away from strangers. Never get into a stranger's car or accept things from people you don't know.
- Learn what to do in an emergency. Know what to do during fire and tornado drills.
- Learn your address and phone number in case you need to call 9-1-1 in an emergency.
- Use common sense. If something seems dangerous or risky to you, you probably shouldn't do it.
- Wear a helmet during a storm.

Nutrition

Nutrition is the study of food and how our bodies use the food we eat. Nutrition can influence how we look and how we feel. Our eating habits affect our growth and our health.



Nutrients come from food during digestion. They build and maintain body tissues, regulate your body processes and supply energy.

You get nutrients from foods including grains, protein, dairy, fruits and vegetables.

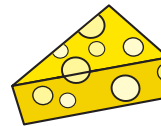
Nutrients give you energy to burn. Energy is measured in calories. The foods you eat become your body's building blocks and give you energy to play.

Improper eating habits can cause a person to be overweight or underweight. Your body may not get enough nutrients if you eat too much or too little of certain foods.

**Every day you need to enjoy your food,
but eat less and avoid oversized portions.**



Dairy



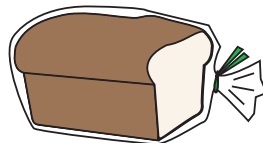
Dairy foods include milk, yogurt, cheese, and more!
Eat low-fat and fat-free varieties for strong bones, teeth and muscles.



Protein



Proteins include chicken, turkey, fish, eggs and much more! Eat lean or low-fat meats, try them baked, broiled, or grilled for your muscles, blood and your body's growth.



Grains



Grains include bread, pasta, cereal, rice, crackers and lots more!
Make at least half your grains whole grain for energy to run, play and keep in shape.



Fruits



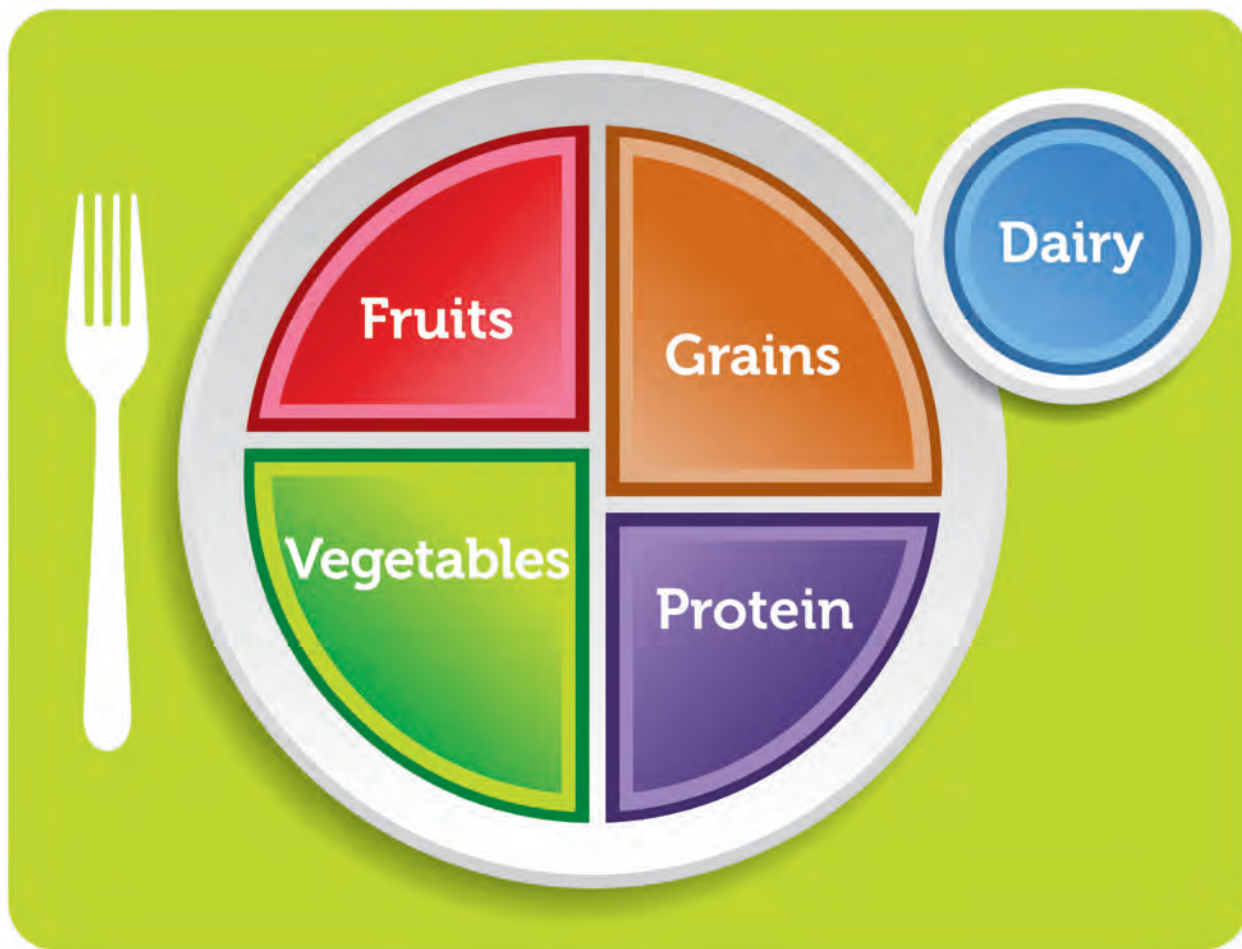
Fruits include apples, bananas, raisins, oranges, strawberries and lots more!
Eat a variety of fruit and go easy on juices for healthy skin, eyes and gums.



Vegetables



Vegetables include spinach, carrots, lettuce, sweet potatoes, broccoli, green beans and lots more! Eat more dark green and orange veggies for good eyesight and strong veins and arteries.



Choose**MyPlate**.gov

Foods to Increase

- Make half your plate fruits and vegetables.
- Make at least half your grains whole grains.
- Switch to fat-free or low-fat (1%) milk.

Foods to Reduce

- Compare sodium in foods like soup, bread, and frozen meals — and choose the foods lower in numbers
- Drink water instead of sugary drinks.

It is up to you... make healthy choices... eat good foods every day!

Your Nose

Your nose is very important. You breathe in air through your nose. Your nose actually connects to the back of your mouth where air then goes down your throat and into your lungs. When you breathe air out, it can go back out of your mouth or nose. Your nose not only helps you breathe and helps food taste better, but your nose hairs and mucous are important filters for your lungs!



Name 3 items that your nose filters out.

1. _____
2. _____
3. _____



Your nose knows when something smells good or bad. Your sense of smell lets you know when lunch is ready or if something is burning. It works together with your sense of taste to let you know when food tastes good or bad. When you have a cold, food may not taste as good because your sense of smell is dull.

Name 3 items that smell bad.

1. _____
2. _____
3. _____

Name 3 items that smell good.

1. _____
2. _____
3. _____

Your sense of smell also warns you of danger. It tells you if there is a fire or if you are eating rotten food that will make you sick.

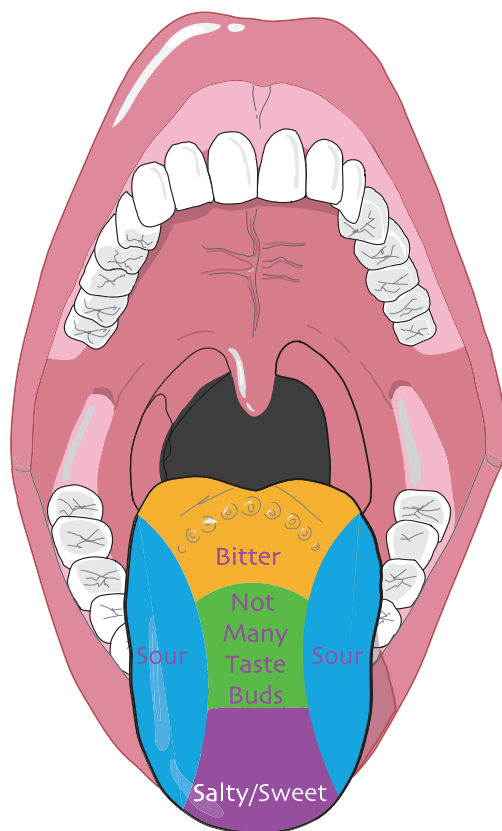
Your Mouth

Your mouth is where you feed your body fuel! Your teeth tear and chew the food. Your lips help keep the food in your mouth. Your tongue tastes the food and helps move your food to your throat to swallow.



Your taste comes from taste buds in your mouth and on your tongue. Your tongue is divided into areas that let you know if foods taste sweet, salty, sour or bitter. You can taste sweet, salty, sour and bitter.

Find the areas that taste potato chips.
Mark them with an X. Where will your tongue taste candy?
Mark it with an O.
Where will you taste a lemon?
Mark the areas with a check mark.



List an example of food for each taste.

Sweet _____

Sour _____

Salty _____

Bitter _____

Your teeth are also important to help you taste food. Your teeth help you bite, tear and chew food so your tongue can taste it. Plaque is a thin, sticky layer of bacteria that constantly forms on your teeth. Plaque breaks down the sugar in food and turns it into acid. The sticky plaque holds the acid on your teeth. The acid attacks the tooth enamel and causes tooth decay. Brush and floss your teeth every day to help keep them clear of plaque.

Place bristles along the gums at an angle. Bristles should contact both the tooth surface and the gums.



Gently brush the outer tooth surfaces by rolling the brush up and down.



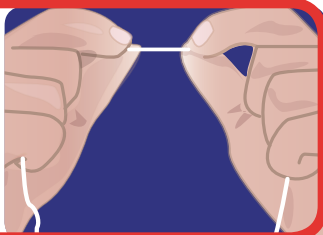
Gently brush using back, forth, and rolling motion along all of the inner tooth surfaces, biting surface and tongue.



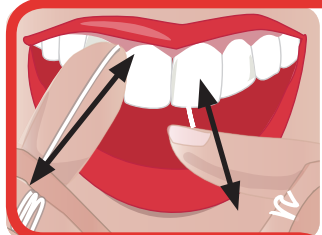
Tilt brush vertically behind the front teeth. Make several up & down strokes using the front half of the brush.



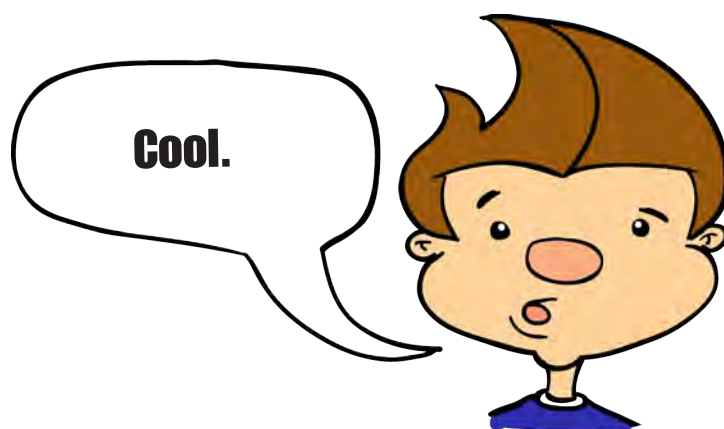
Hold a 1" - 2" length of floss between thumbs and index fingers.



Use thumbs to guide the floss between upper teeth. Slide floss up and down against the tooth surface and under the gumline. Floss each tooth thoroughly with a clean section of floss.



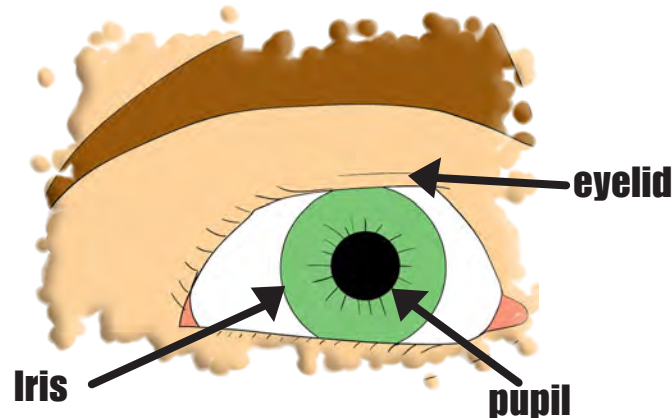
Your mouth also helps you speak. Sound comes from your vocal chords in your throat. Your tongue and your lips help form these sounds into words.



Your Eyes

Your eyes and brain work together to tell you about the world around you.

The eye works much like a camera. It needs light to see an image. The image then goes to your brain which learns and tells you what the image is and what colors you are seeing. You have two eyes that help you see depth of objects instead of them looking flat. Sometimes glasses or contacts are used to correct images that are fuzzy or out of focus.



When you look at something, each eye sees from two slightly different angles. The brain uses information sent by each eye to build a 3-D image and judge the distance and the shape of the object. Sometimes your eyes can fool you because of their different viewpoints. Here are three activities to prove it. They are called optical illusions.

Optical Illusions

Sausage Fingers

You can turn your two fingers into a floating sausage. Hold your index fingers tip to tip about 5 inches away from your eyes. If you focus on something in the distance, a fuzzy sausage shape will appear between your fingers.



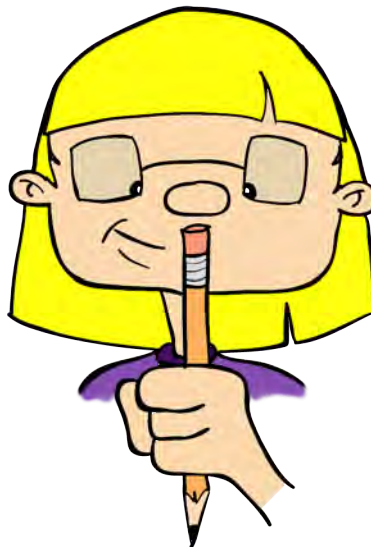
A Hole in Your Hand

You can see through your hand. Roll a sheet of paper into a tube. Hold it up to your right eye like a telescope. Now hold your other hand in front of your left eye, about four inches away. If you position it right, your hand will seem to have a hole in it!



Two for One

Put one end of a soda straw (or the eraser end of a pencil) on the tip of your nose and point it away from you. Try to focus on the far end of the straw. How many straws do you see?



Braille Alphabet

Close your eyes for a moment and imagine what it would be like if you could not see. You would have to learn about the world by your other senses, especially hearing and touch. You might learn to read and write by using the Braille alphabet, a collection of raised dots arranged to form letters. By moving your fingers across the raised dots, you would be able to read.

See if you can write your name below according to the Braille alphabet.

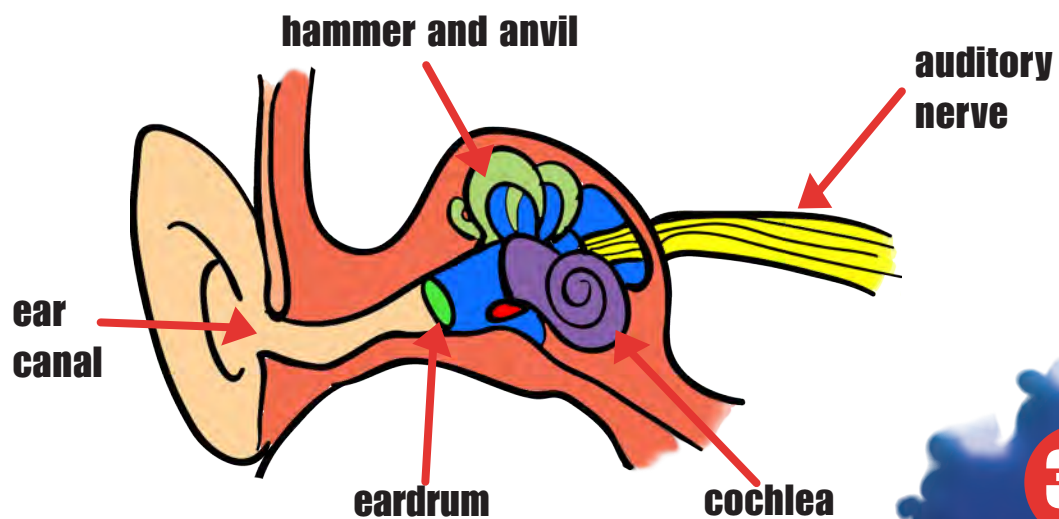
A •	B • •	C ••	D •• •	E • •
F •• •	G •• ••	H •• •	I • •	J •• ••
K • •	L • • •	M •• •	N •• •• •	O • • •
P •• • •	Q •• •• •	R •• •• •	S • • •	T •• •• •
U • ••	V • • •	W •• •• •	X •• ••	Y •• •• ••
Z • •• ••				

Your Ears

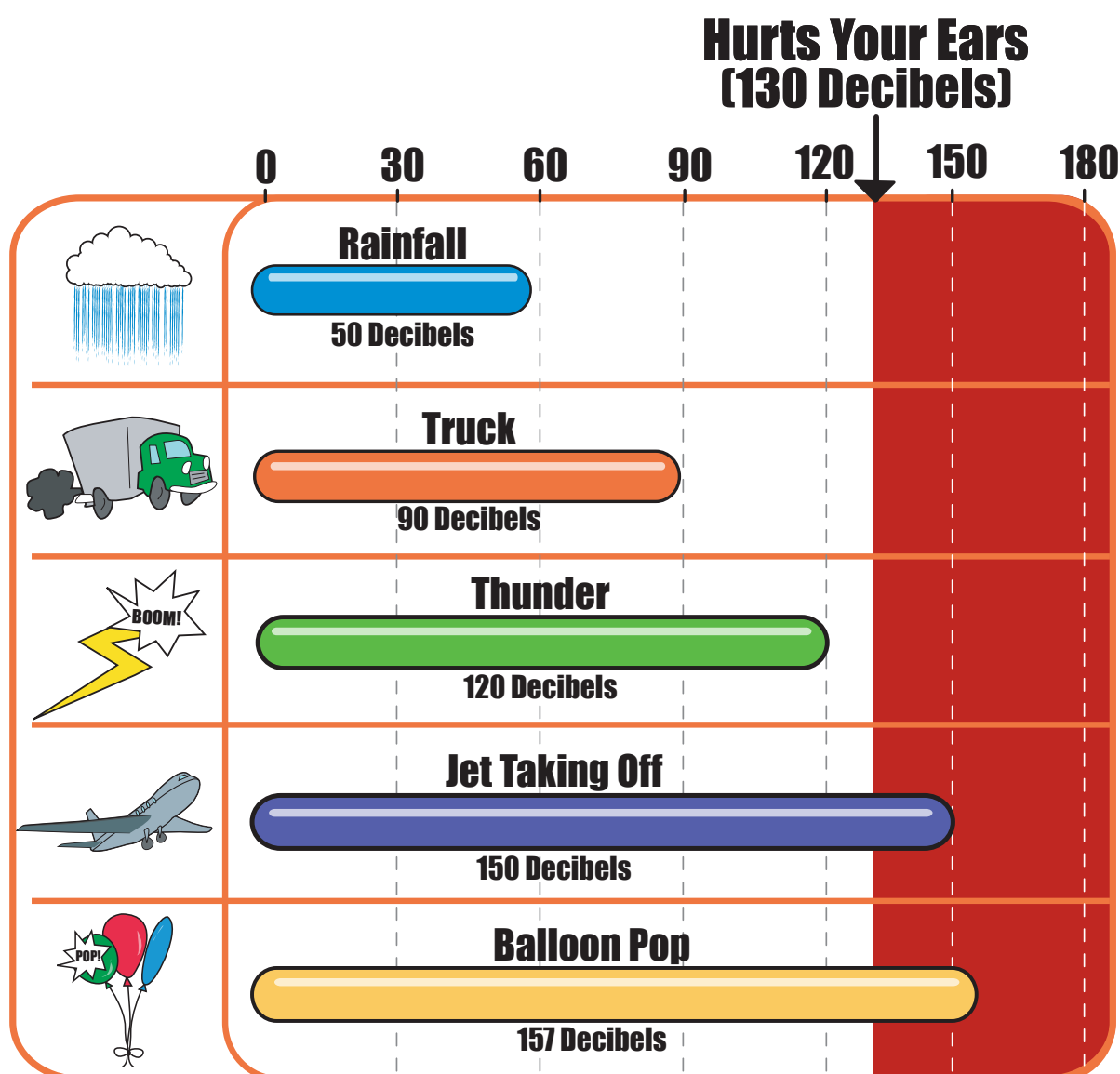
Your ears allow you to hear sounds all around you!



Sound waves come through the air to your ears, which capture them. The waves then enter your ear which turns them into a sound message that goes into your brain.



Some sounds can be too loud and can hurt your ears.



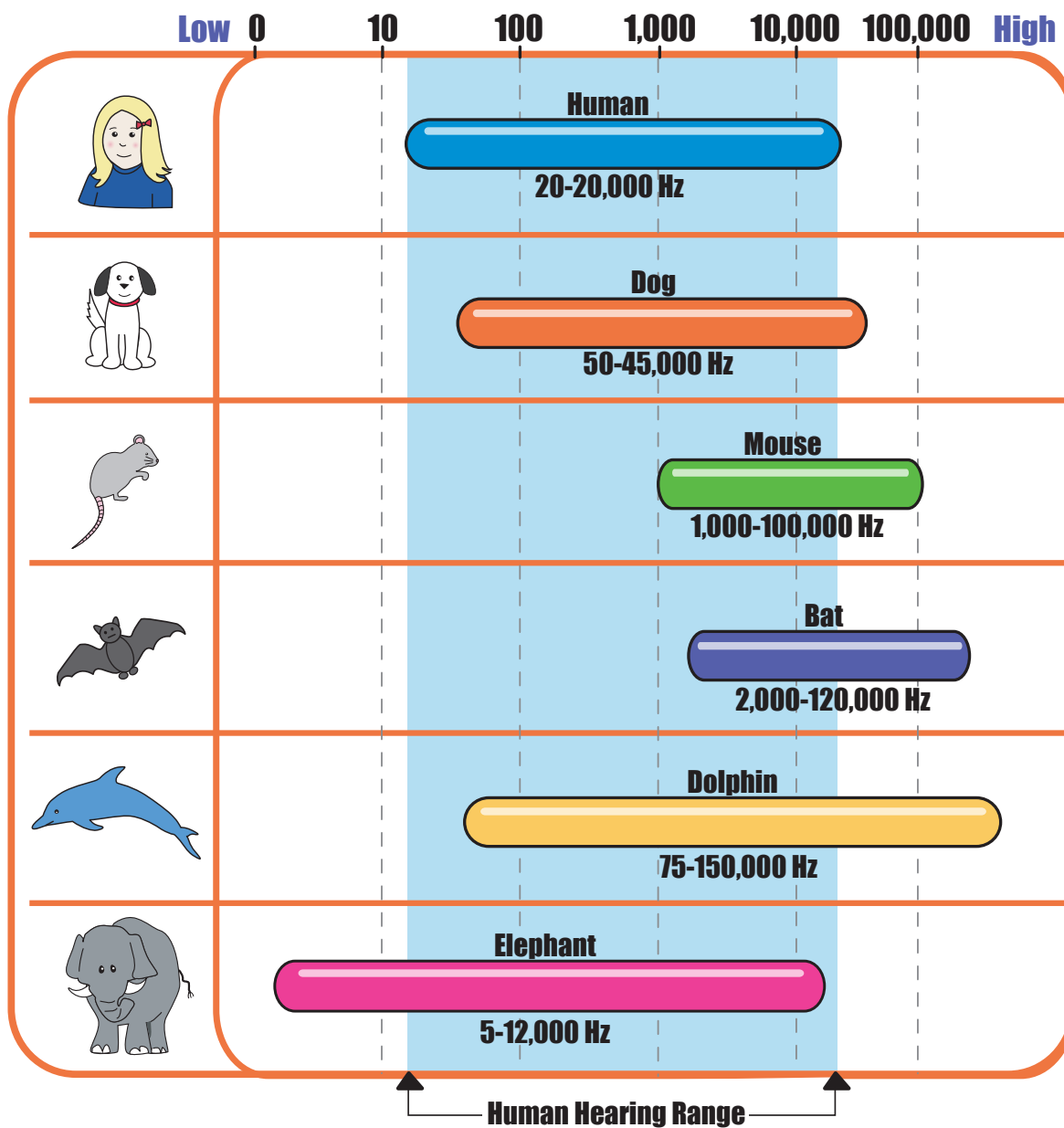
Sound is Measured in Decibels (Loudness)

What has the softest sound? _____

What has the loudest sound? _____

Can you name other loud sounds? _____

Humans and animals have different ranges of hearing.



Sound is Measured in Hertz

Which animal has the best hearing? (The longest range.)



























Which animal hears more lower pitched sounds?

Which animal hears more higher pitched sounds?

Sign Language

For different reasons, some children and adults do not hear well. They may use a tiny device called a hearing aid or a “cochlear implant” to allow them to hear.

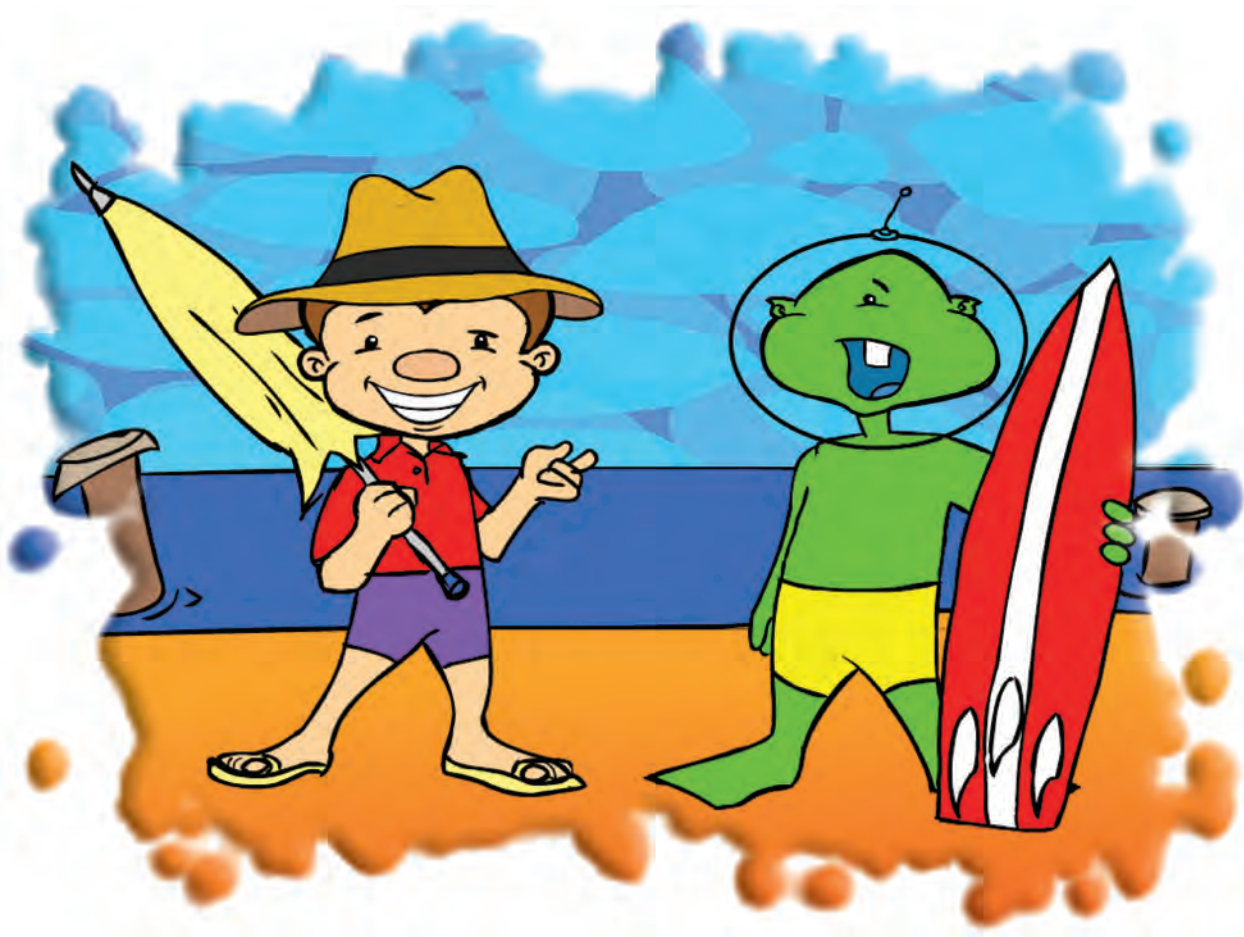
People who cannot hear the majority of sounds are called “deaf.” Cover your ears and see if you can understand what your partner is saying without sounds. They may also not be able to speak well because they have not heard how to form words. They often communicate through sign language or may read lips.

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

Your Skin

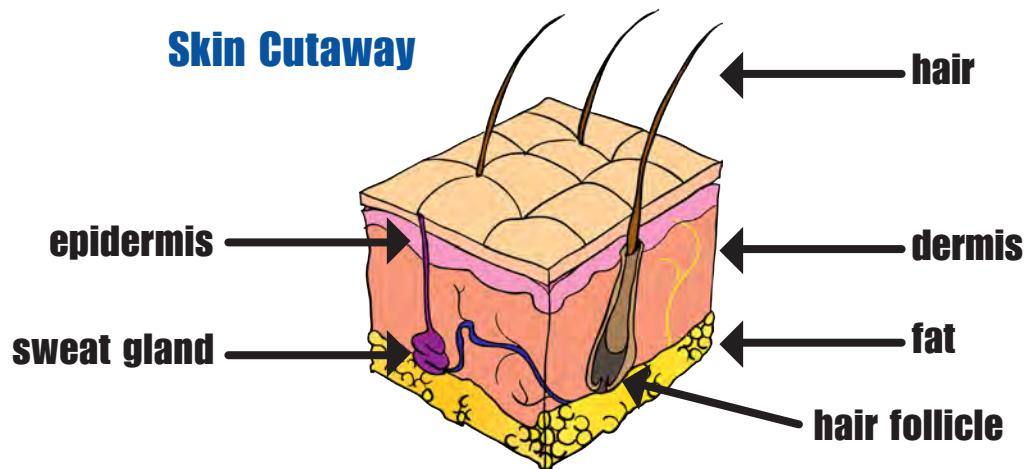
Your sense of touch is usually through your skin.

You have nerves all over your body that let you know if somebody or something is touching you. Your sense of touch can identify water, sand, gravel, fur and many other items just by the way they feel. You can also feel temperature such as hot or cold through your sense of touch.



It is important to protect your skin. The sun's rays can damage your skin.

Skin Cutaway



Think of something that feels:

Hot _____ Cold _____

Hard _____ Soft _____

Rough _____ Smooth _____

Wet _____ Dry _____

Rip is going to the beach. Circle what he needs to take with him to protect his skin from the sun's harmful rays.



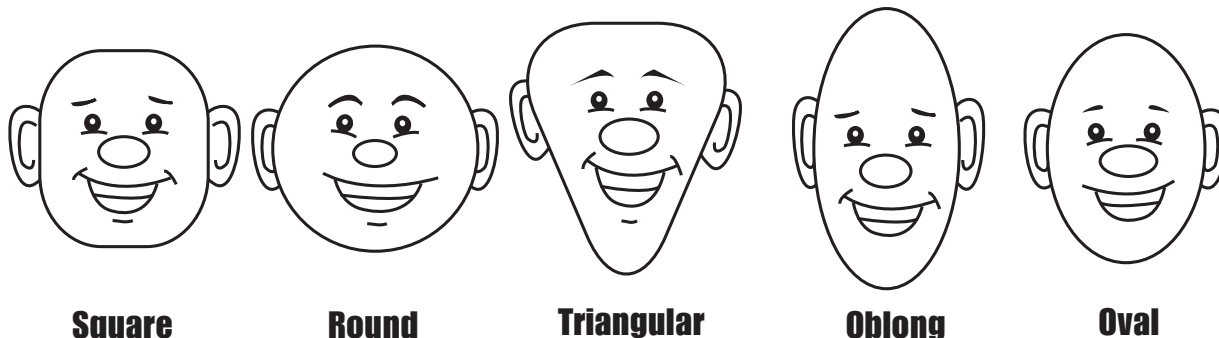
The cold of winter can be just as damaging to your skin.
Name 4 items that will help protect you in the winter.

1. _____
2. _____
3. _____
4. _____

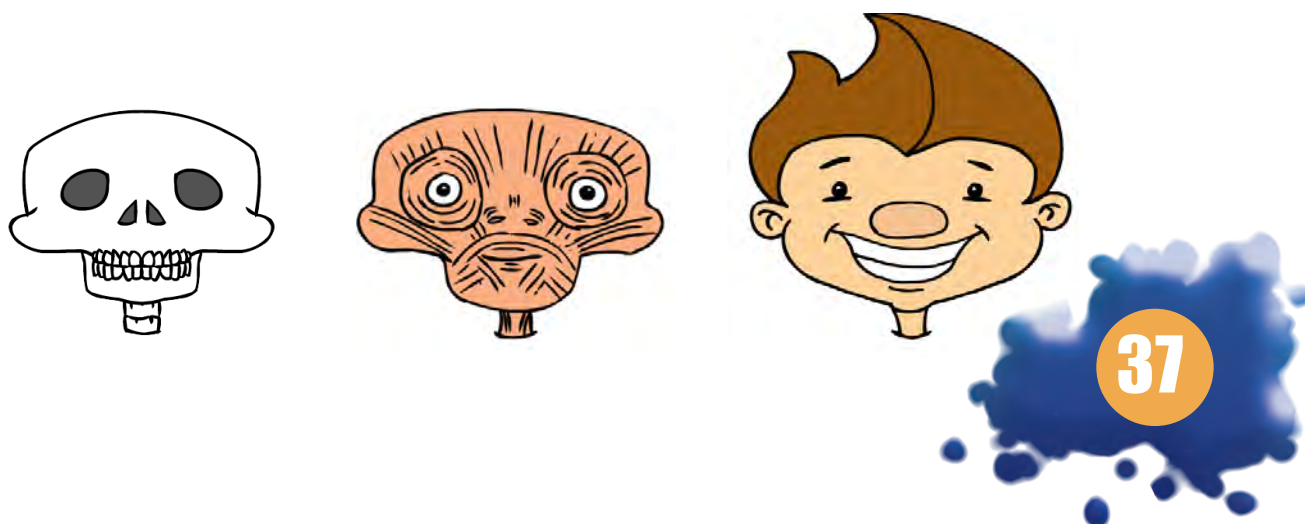
What's in a face?

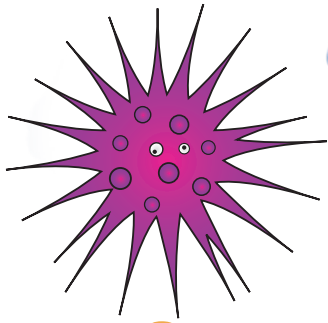
All faces have one of 5 basic shapes - **Square**, **Round**, **Triangular**, **Oblong** or **Oval**.

Circle which face shape is most like yours.



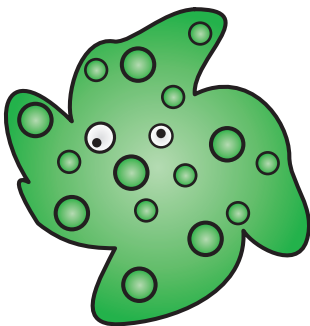
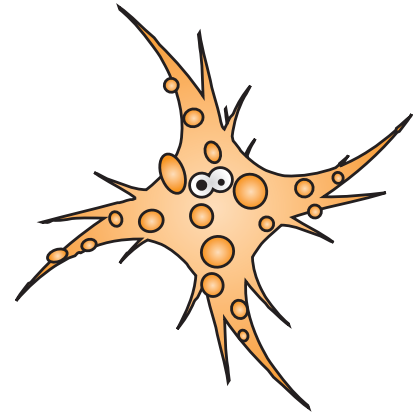
Your face is made up of several layers. There is first the skull. Muscles then overlay the skull. Skin then attaches to the muscles. This is what makes you look like you!



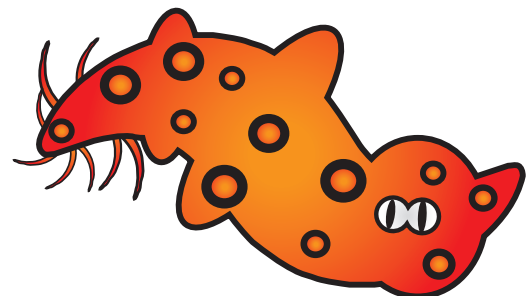


Germs

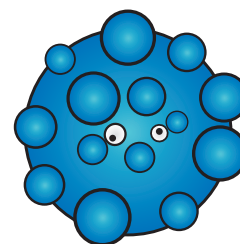
Germs are tiny living things that can cause us to get sick. They are too small for you to see them, but they are everywhere! They are in the air and can get into your body when you breathe. They usually get into your body through your eyes, nose or mouth when you touch your hands to your face. You can also get germs in your body through cuts in your skin.



Do you know what causes diseases? Diseases are caused by germs and can make a person sick. If germs get inside you, your body provides warmth, food and water for them to survive. However, your body kills most of the harmful germs that grow inside it. Sometimes doctors can prescribe medicine to help kill the germs that your body does not.



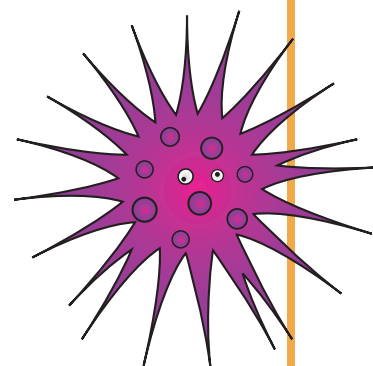
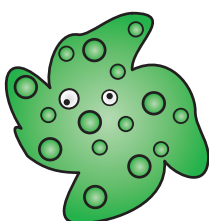
Keep your germs to yourself!



To keep your germs from spreading to others when you're sick:

- Stay away from other people.
- Cover your mouth with your shirt or a tissue when you cough or sneeze.
- Wash your hands often with soap and water. Don't let other people drink from your glass.

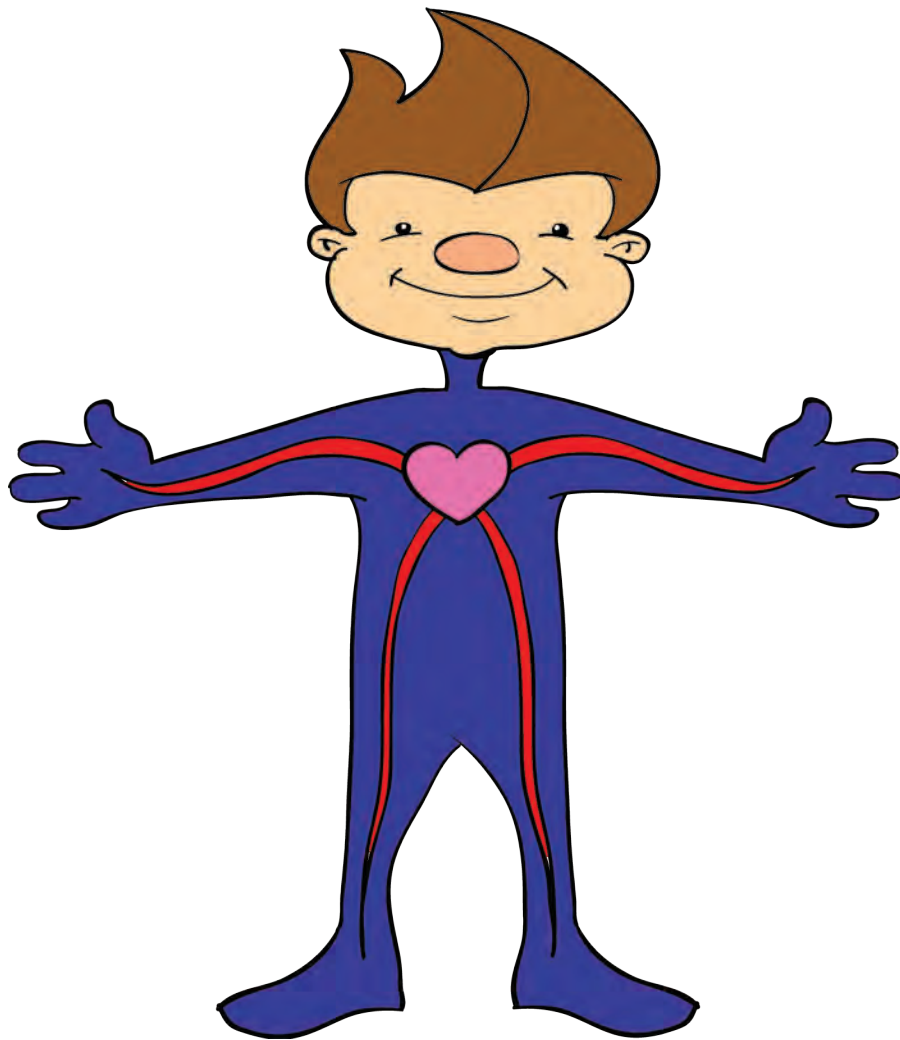
It is important that you wash your hands thoroughly to clean all the places where germs can hide. Trace your hand in the box. Next draw in some of the creases, lines and wrinkles on your hand. Put an X over areas where you think germs can hide.



The choices you make about how you take care of this amazing body directly affect your health. When you make the same good choices again and again, they become healthy habits.

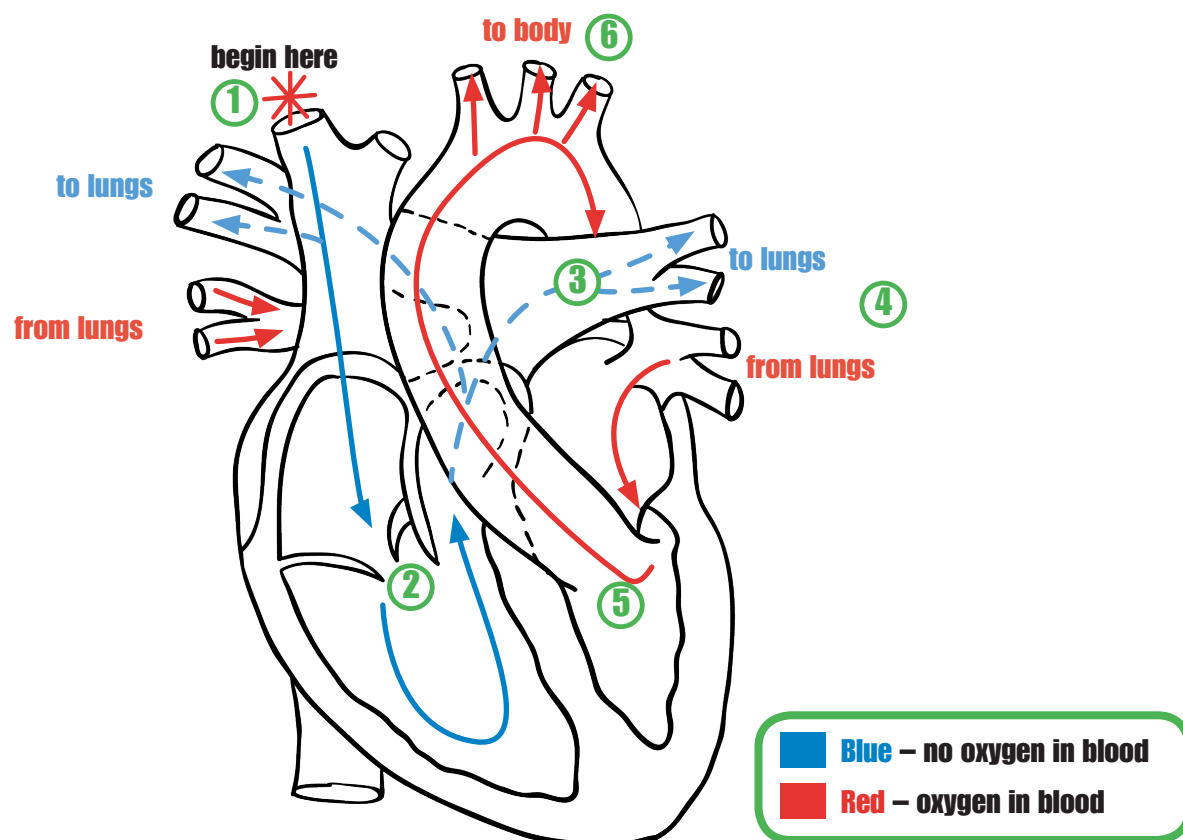
Your Heart & Lungs

Your heart is a large, strong muscle about the size of your fist. Your heart's job is to pump blood. Your blood flows through your blood vessels taking nutrients and oxygen to all parts of your body.



Your heart has four sections called chambers. The two upper chambers are called atria. The two lower chambers are called ventricles.

This is a drawing of the inside of a heart.
Follow the directions to trace the blood flow.
You will need red and blue crayons or markers.

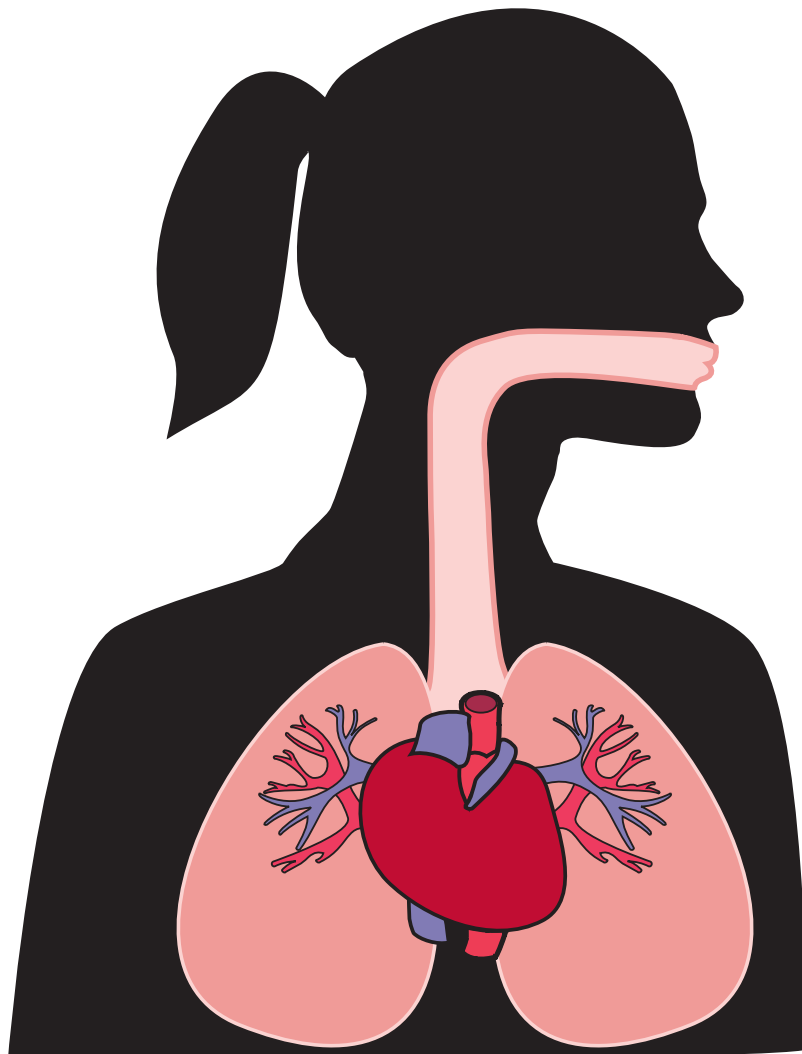


1. Put your blue crayon on the place marked * "Begin Here."
2. Follow the arrows and color the blood without oxygen, flowing into the right side of the heart.
3. Keep going! Follow the arrows to your lungs.
4. Blood picks up oxygen in your lungs.
5. Use your red crayon to color the blood red returning from your lungs, with oxygen, into the left side of the heart.
6. Blood with oxygen flows from the left side of your heart into the rest of your body.

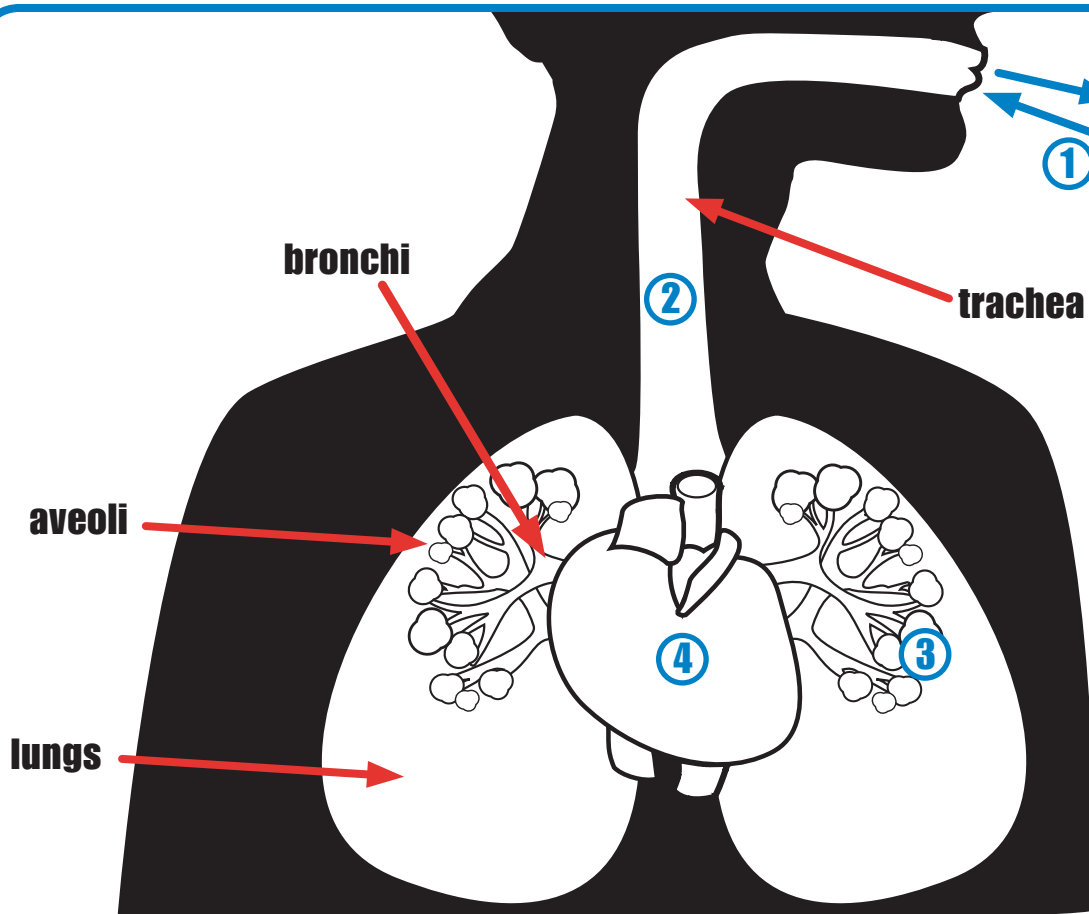
One complete round trip of the blood from your right atrium, through your lungs, back to your heart and to your body takes less than one minute. Your blood completes this trip more than 1,000 times each day.

You can feel and hear the pumping of your heart as you hear heart beats. Your heart beats 60 to 120 times a minute: this number is your heart rate or pulse. Your heart beats about 100,000 times a day!

When you exercise, your heart beats faster and gets stronger. Can you think of other things that make your heart beat faster?



The air around you contains oxygen (O_2). Your body needs oxygen to play and to grow. Your lungs, located inside your chest, help you breathe in oxygen.



1. You breathe in air (inhale) through your nose and mouth.
2. The air then travels down your windpipe (trachea and bronchi) into your lungs.
3. The air sacs (alveoli) in your lungs take oxygen from the air you breathe in. In the air sacs of your lungs, the oxygen enters your blood and colors your blood red.
4. Blood pumped by your heart carries the oxygen to your body.

As your body uses the oxygen, it makes carbon dioxide (CO₂). The carbon dioxide leaves your body when you breathe out (exhale).

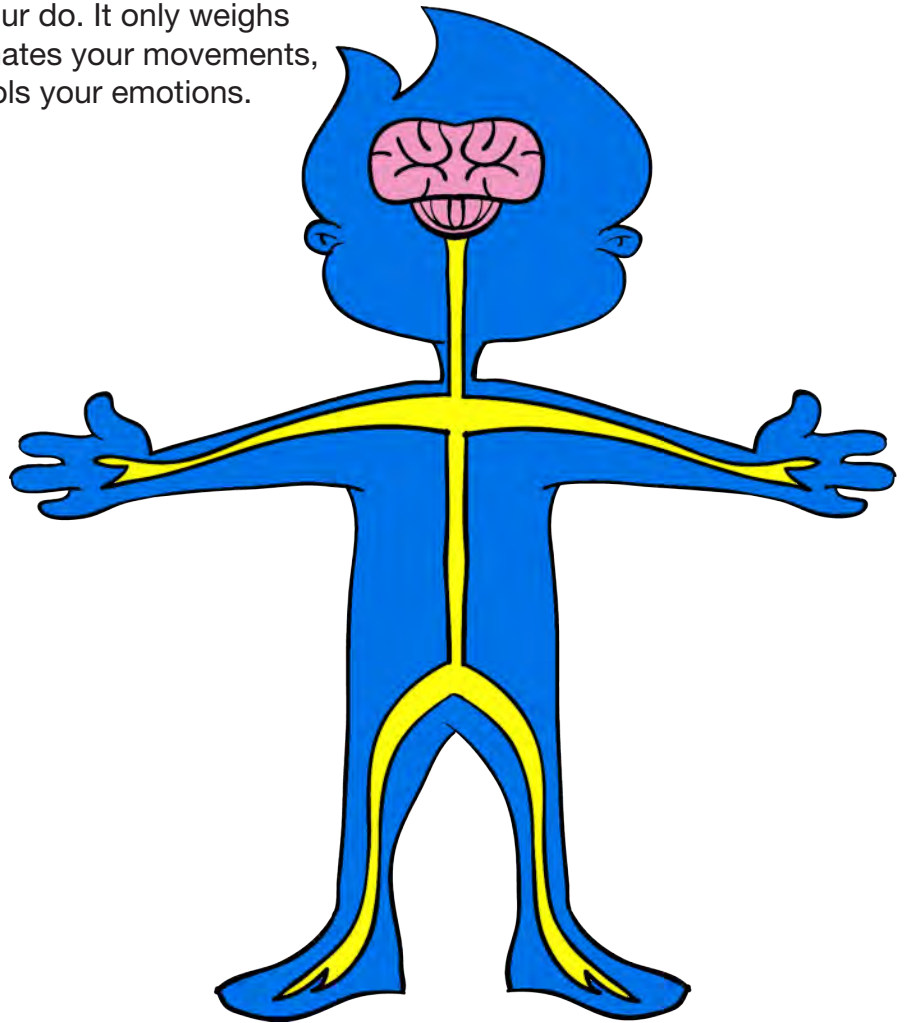
Now, trace the breathing process
on the picture you colored.

You can keep your lungs healthy by running and playing.

When you smoke your body doesn't get the oxygen it needs to do its job. Cigarette smoke also contains many dangerous chemicals that pollute the air and can harm your body. So don't smoke!

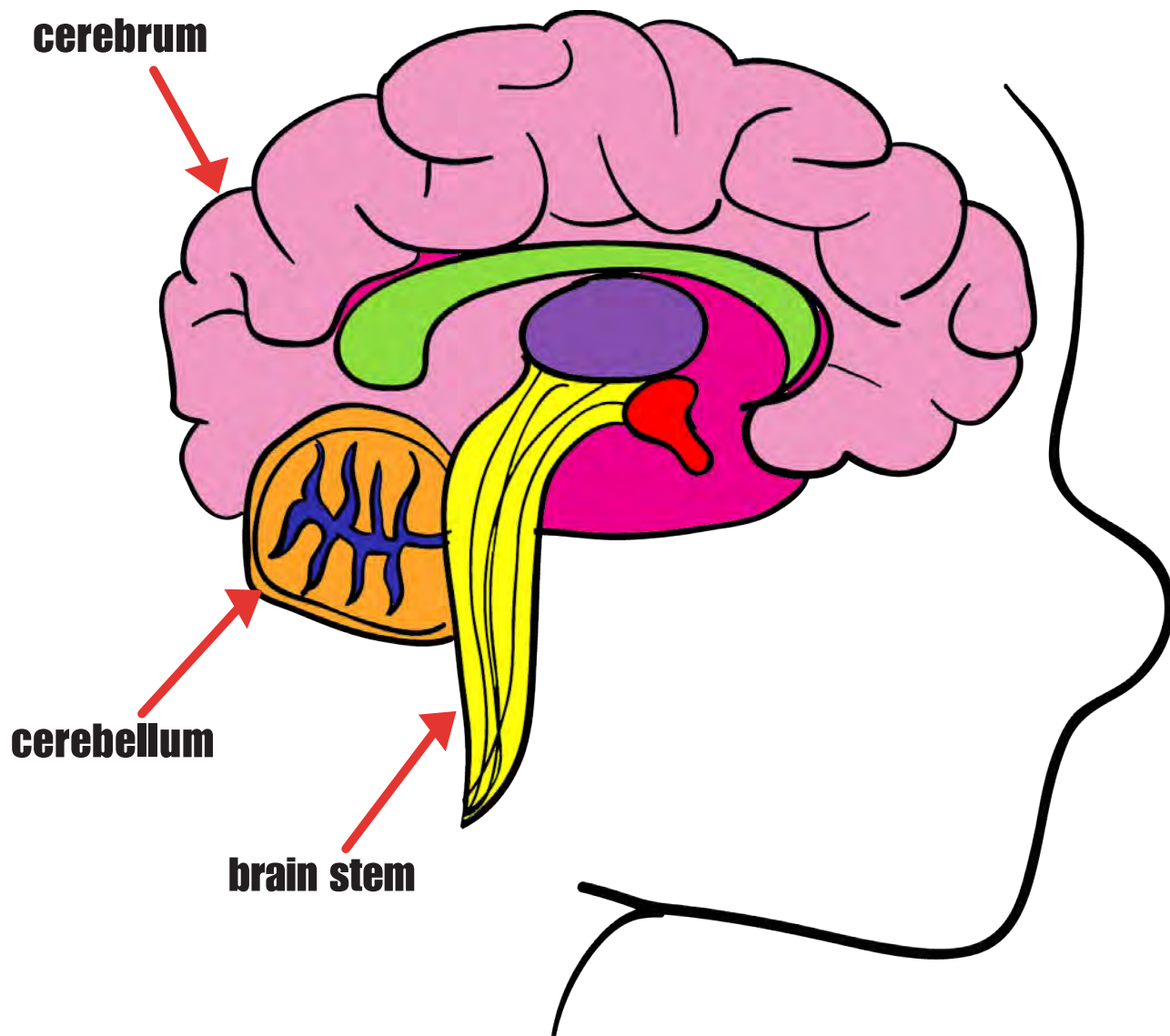
Your Brain

Your brain controls everything you do. It only weighs about three pounds, but it coordinates your movements, controls your breathing and controls your emotions.



All messages traveling to and from the brain go through your **spinal cord**. Together the brain and spinal cord are called the **central nervous system**.

The brain has three main parts: the brain stem, the cerebrum, and the cerebellum. The largest part of the brain is the **cerebrum**, which is mostly made up of nerve cells or neurons. Electrical signals in the brain are carried by neurons. You use your cerebrum when you think or walk.



Your brain and spinal cord are connected by the **brain stem**. The brain stem controls the body's functions such as breathing, heartbeat and blood pressure. These things happen automatically because of the brain stem. The brain stem also controls your body's hormones. **Hormones** control your size, how much hair you have and how your body uses food.

Behind the brain stem at the back of the brain is the cerebellum. The main job of the **cerebellum** is to control the body's muscles and balance.

Making Sense

Your brain controls your five senses: Sight, Smell, Touch, Hear, Taste.

Draw a line from the question to the right answer.

What helps you see?

Ear

What helps you taste?

Brain

What helps you hear?

Hand

What helps you smell?

Eye

What helps you feel?

Tongue

What controls your senses?

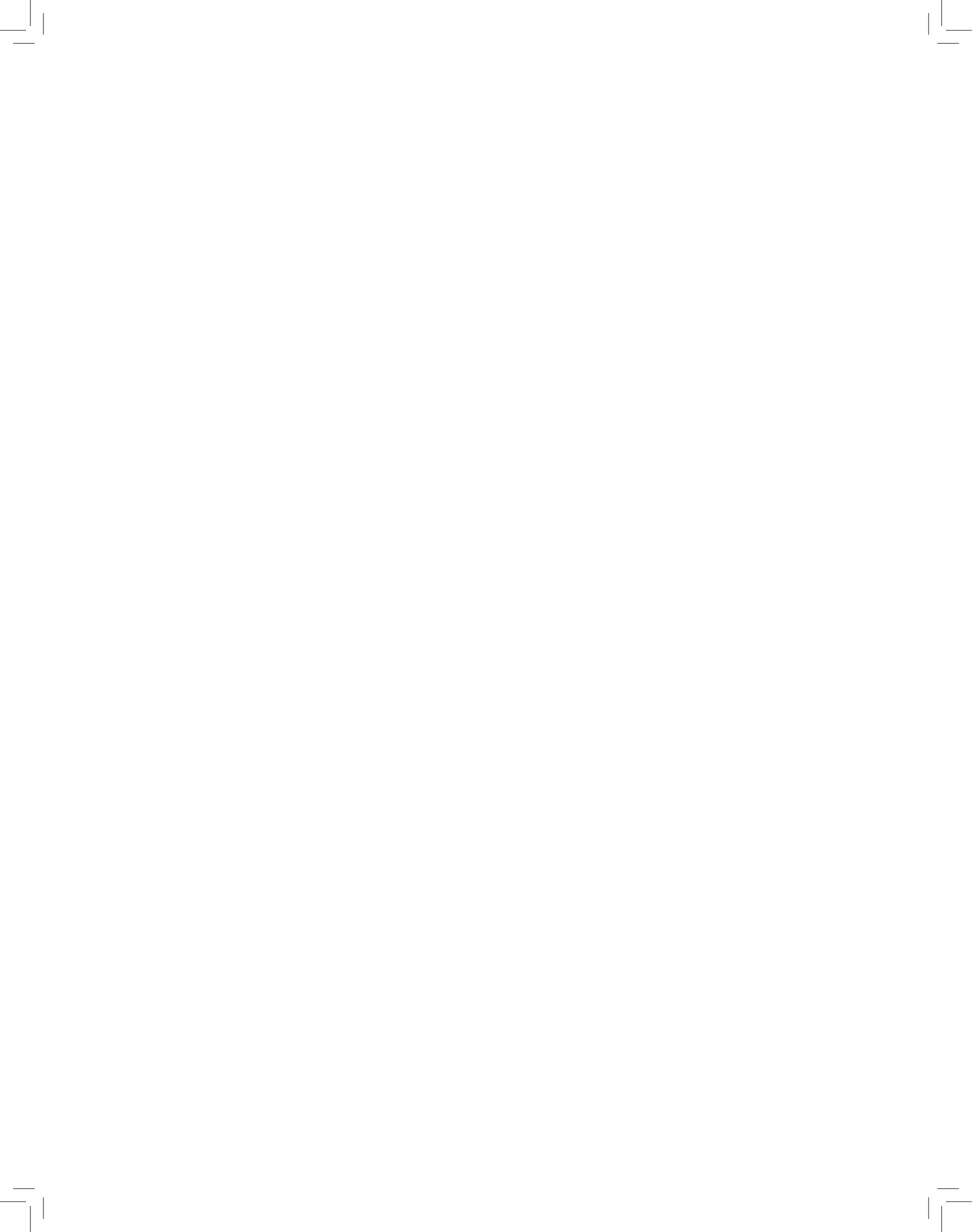
Nose





Put an X on what you can smell.
Put a circle around what you can see.
Put a box around what you can taste.
Put a check mark on things you can hear.
List 3 things that you can feel.







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