

# **HEALTH ACTIVITY BOOK**

**Grade 3**

**Harcourt School Publishers**

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# Cleveland Metropolitan School District

## 3rd Grade Blizzard Science



DAY/PAGE NO.	DAY/PAGE NO.	DAY/PAGE NO.
<b>DAY 1</b> HB 16 HB 43	<b>DAY 6</b> HB 21 HB 80 HB 81	<b>DAY 11</b> HB 26
<b>DAY 2</b> HB 17 HB 46 HB 47	<b>Day 7</b> HB 22 HB 82 and HB 83	<b>Day 12</b> Do the President's Challenge ! (HB 48 & 49) HB 43; HB 44; HB 45; HB 46; HB 47 And HB 50
<b>DAY 3</b> HB 18 HB 36 AND HB 37	<b>Day 8</b> HB 23 HB 76 AND HB 77	<b>Day 13</b> Do the President's Challenge ! (HB 48 & 49) HB 43; HB 44; HB 45; HB 46; HB 47 And HB 50
<b>DAY 4</b> HB 19 HB 41 AND HB 42	<b>Day 9</b> HB 24 HB 78 and HB 79	<b>Day 14</b> Do the President's Challenge ! (HB 48 & 49) HB 43; HB 44; HB 45; HB 46; HB 47 And HB 50
<b>DAY 5</b> HB 20 HB 84 AND HB 85	<b>Day 10</b> HB 25	<b>Day 15</b> Do the President's Challenge ! (HB 48 & 49) HB 43; HB 44; HB 45; HB 46; HB 47 and HB 50

Name \_\_\_\_\_

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# Taking Care

Use page HB43 to help you complete the lines below.

Using the Activity Pyramid, list three activities in the right amounts to help you stay healthy. The first one has been done for you.

1. Light exercise 2–3 times a week \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Using the Guidelines for a Good Workout, list the three things you should do every time you are going to exercise. Write two benefits under each. The first one has been done for you.

4. Warm up \_\_\_\_\_  
More blood flows to your muscles. \_\_\_\_\_  
You can move easier as you warm up. \_\_\_\_\_
5. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_



# Use Word Meanings

The following vocabulary terms are not correctly defined. Write the correct meaning for each term.

1. *warm-up*—harder exercise done to prepare for easier exercise

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2. *aerobic exercises*—exercises that make your leg muscles strong

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3. *cool-down*—a cold shower after exercise

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4. *exercise*—any kind of sitting or standing

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5. *hurdler's stretch*—keep the toes of your extended leg pointed out

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6. *thigh stretch*—stretch your hand down so it rests against your neck

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Name \_\_\_\_\_

Date \_\_\_\_\_



# Nutrition Fun

Plan breakfast, lunch, and dinner for one day.

Include the correct daily portions.

Grains Group	5–6 ounces
Vegetables Group	2–2½ cups
Fruits Group	1½ cups
Milk Group	3 cups
Meat and Beans Group	5 ounces

## Breakfast

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## Lunch

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## Dinner

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Name \_\_\_\_\_

Date \_\_\_\_\_



# Food Safety Puzzle

Use the terms and clues below to complete the word puzzle.

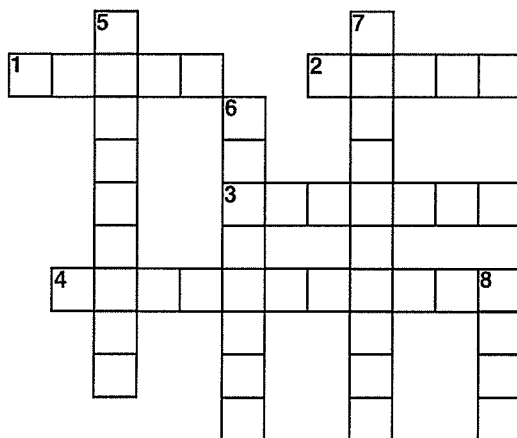
bacteria	chilled	clean	completely
eggs	leftovers	soapy	temperature

## Across

1. Your hands should be this.
2. Wash hands in warm, \_\_\_\_\_ water.
3. Many foods need to be \_\_\_\_\_ in the refrigerator.
4. Cook food to the proper \_\_\_\_\_.

## Down

5. Do not leave \_\_\_\_\_ on the counter to cool.
6. Cooking kills \_\_\_\_\_ that can make you sick.
7. Cook all food \_\_\_\_\_.
8. Never eat food that contains raw \_\_\_\_\_.



Name \_\_\_\_\_

Date \_\_\_\_\_



# The Sense Organs

Use this page to review facts about the sense organs. Form a group with other students. Each group member should (1) read about one sense organ, (2) list two facts, and (3) teach the facts to the rest of the group. Write down and study all of the facts. Afterward, groups can challenge each other with questions.

## Eyes

1. \_\_\_\_\_

2. \_\_\_\_\_

## Ears

1. \_\_\_\_\_

2. \_\_\_\_\_

## Nose

1. \_\_\_\_\_

2. \_\_\_\_\_

## Tongue

1. \_\_\_\_\_

2. \_\_\_\_\_

## Skin

1. \_\_\_\_\_

2. \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_



# The Skeletal System

In the space provided, write the letter of the term in Column B that best fits the description in Column A.

## Column A

- \_\_\_\_\_ 1. the collarbone
- \_\_\_\_\_ 2. the larger lower leg bone
- \_\_\_\_\_ 3. the bone of the upper arm
- \_\_\_\_\_ 4. supports the back
- \_\_\_\_\_ 5. protects the heart and lungs
- \_\_\_\_\_ 6. the larger bone of the lower arm
- \_\_\_\_\_ 7. the bone that forms the hips
- \_\_\_\_\_ 8. the bones that protect the brain
- \_\_\_\_\_ 9. the larger bone of the lower arm
- \_\_\_\_\_ 10. the upper leg bone
- \_\_\_\_\_ 11. the smaller bone of the lower arm

## Column B

- a. skull
- b. clavicle
- c. rib cage
- d. humerus
- e. spine
- f. radius
- g. ulna
- h. pelvis
- i. femur
- j. tibia
- k. fibula

On the lines below, write a short song to remember which bones are connected to form the skeleton.

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Name \_\_\_\_\_

Date \_\_\_\_\_



# The Muscular System

Read the phrase. Find the term in the box that matches each phrase. Put one letter on each line. Each letter in the puzzle has a number. Use the numbers to fill in the secret message.

biceps	deltoid	flexors	quadriceps	tendons
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1. strong strips of cord-like material

1 3 5 7 9 5 2

2. muscle that contracts when you bend your arm

4 6 8 3 10 2

3. muscle of front upper leg

11 15 12 7 13 6 8 3 10 2

4. shoulder muscle

7 3 14 1 9 6 7

5. muscles of lower arms and legs

16 14 3 18 9 13 2

**Secret Message:** What makes muscles strong?

3 18 3 13 8 6 2 3

Name \_\_\_\_\_

Date \_\_\_\_\_



# The Digestive System

Write the letter from Column B that completes each sentence.  
Use each answer only once.

## Column A

- \_\_\_\_\_ 1. The esophagus is also known
- \_\_\_\_\_ 2. Stomach acid
- \_\_\_\_\_ 3. Overeating can cause
- \_\_\_\_\_ 4. Your digestive system starts
- \_\_\_\_\_ 5. The stomach walls are
- \_\_\_\_\_ 6. Food leaves the stomach and
- \_\_\_\_\_ 7. After you swallow food, it
- \_\_\_\_\_ 8. Twenty-five feet is
- \_\_\_\_\_ 9. Food is easier to digest if
- \_\_\_\_\_ 10. The stomach walls are protected by a

## Column B

- a. a stomachache.
- b. as the food tube.
- c. with your mouth and ends with your large intestine.
- d. helps dissolve your food.
- e. it is chewed carefully.
- f. strong muscles.
- g. goes to the small intestine and then the large intestine.
- h. thick layer of mucus.
- i. is pushed to the stomach by muscles in your esophagus.
- j. the length of your digestive system.

Name \_\_\_\_\_

Date \_\_\_\_\_



# Circulatory Scramble

Unscramble the words to complete the sentences. Use the words in the box to help.

arteries	blood	circulatory	exercise
infection	lungs	nutrients	oxygen
plasma	veins		

1. Get regular (exiecre) \_\_\_\_\_ to keep your heart strong.
2. Food and oxygen travel through your (oauicrltry) \_\_\_\_\_ system.
3. Blood moves (eiuntrnts) \_\_\_\_\_ through your body.
4. Blood is made mostly of a liquid called (amslap) \_\_\_\_\_.
5. (eaeistr) \_\_\_\_\_ carry blood away from the heart.
6. Blood fights (iieonctnf) \_\_\_\_\_.
7. (nievs) \_\_\_\_\_ have one-way valves allowing the blood to move in only one direction.
8. Blood in the arteries is brighter red because it has a lot of (ygxneo) \_\_\_\_\_ in it since it just came from the (ulsgn) \_\_\_\_\_.
9. You should never touch another person's (oodlb) \_\_\_\_\_.

Name \_\_\_\_\_

Date \_\_\_\_\_



# Understanding the Respiratory System

Write the letter of the answer that best completes each sentence.

- \_\_\_\_\_ 1. When you exercise, your muscles use more oxygen, so you \_\_\_\_\_.  
a. need to move slower  
b. breathe slower  
c. breathe faster and deeper
- \_\_\_\_\_ 2. When you inhale, air enters your mouth and nose and goes to \_\_\_\_\_.  
a. your head  
b. your trachea  
c. your lungs
- \_\_\_\_\_ 3. Your diaphragm pushes upward when you \_\_\_\_\_.  
a. exhale  
b. inhale  
c. sleep
- \_\_\_\_\_ 4. Your trachea divides into two smaller tubes that \_\_\_\_\_.  
a. go to your stomach  
b. go to your lungs  
c. go to your nose
- \_\_\_\_\_ 5. Another name for the windpipe is the \_\_\_\_\_.  
a. esophagus  
b. trachea  
c. diaphragm
- \_\_\_\_\_ 6. The dome-shaped muscle under your lungs is the \_\_\_\_\_.  
a. trachea  
b. diaphragm  
c. stomach



Name \_\_\_\_\_  
Date \_\_\_\_\_



# Important Details

Read the paragraph below about the brain. Then, on the lines below write five important details that support the main idea.

Your brain is a very special part of your body. It weighs about two pounds and is a wrinkled, pinkish-gray material. It's protected by your skull and cushioned by a thin layer of liquid. The brain's main connection to the body is the spinal cord. Different parts of the brain send signals to different parts of your body. For example, the part right behind your forehead tells your body how to move. The area near the base of your neck controls your breathing and heartbeat. If you are left-handed, the right half of your brain controls your handwriting.

**Main Idea:** Your brain is a very special part of your body.

**Important Details:**

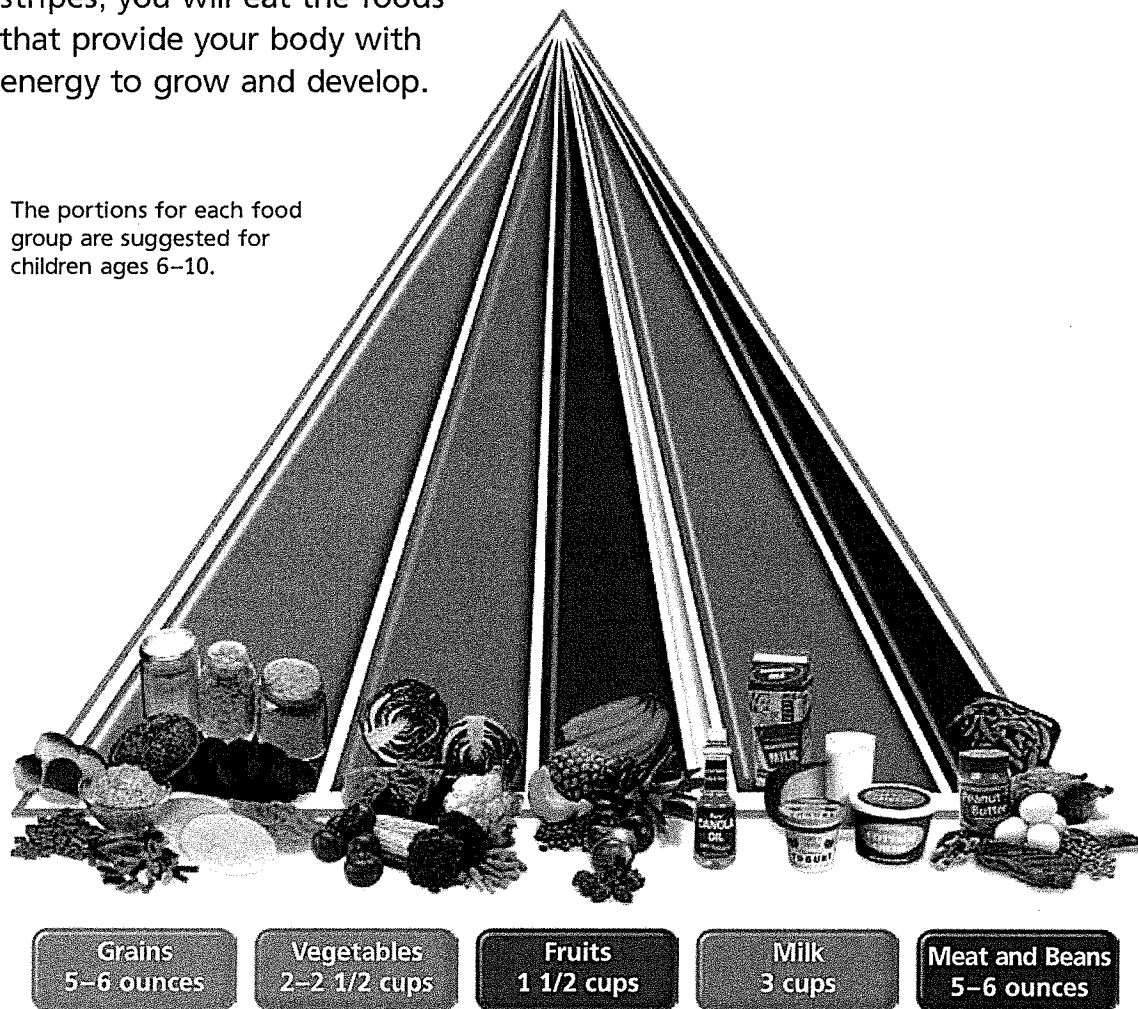
1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_
4. \_\_\_\_\_  
\_\_\_\_\_
5. \_\_\_\_\_  
\_\_\_\_\_

## Good Nutrition

# MyPyramid

No one food or food group supplies everything your body needs for good health. That's why it's important to eat foods from all the food groups. MyPyramid can help you choose healthful foods in the right amounts. By choosing more foods from the groups with wide stripes and fewer foods from the group with narrow stripes, you will eat the foods that provide your body with energy to grow and develop.

The portions for each food group are suggested for children ages 6–10.



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## Good Nutrition

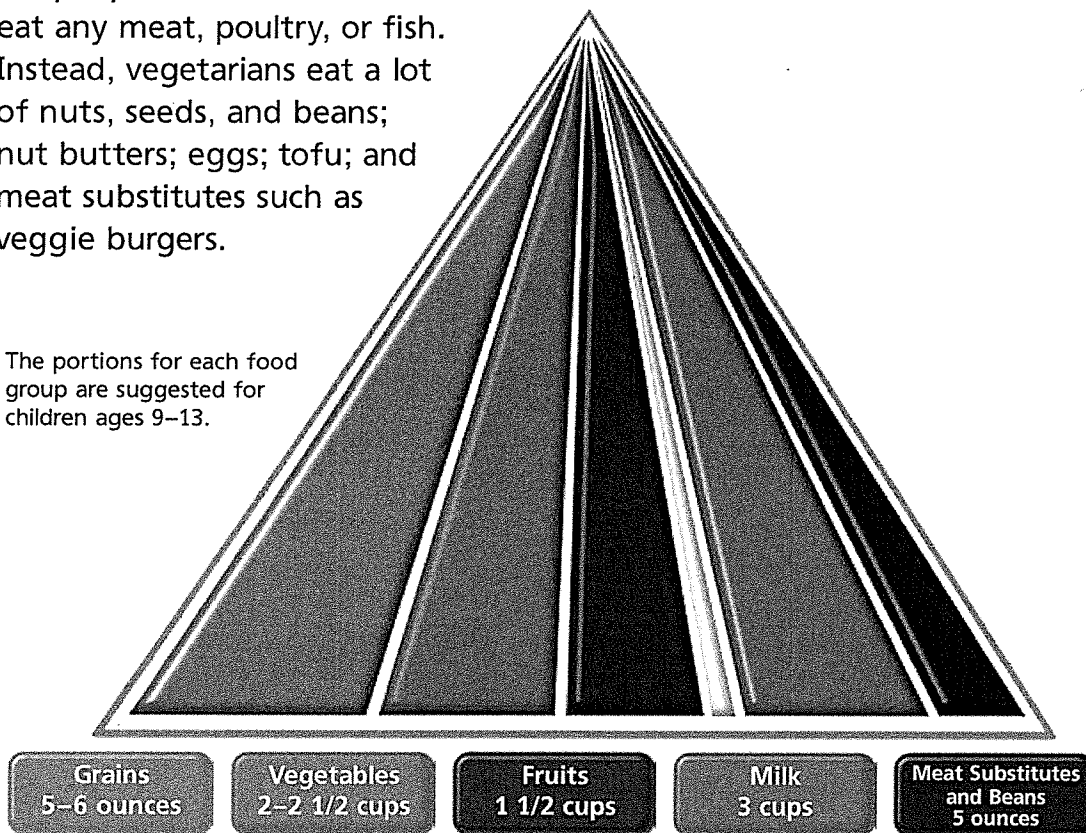
# More Food Guide Pyramids

**M**yPyramid from the U.S. Department of Agriculture (USDA) (page 83) shows common foods from the United States. Foods from different cultures and lifestyles also can make up a healthful diet. These other pyramids can help you add new foods to your diet. Use the portions guide on page 88 with all four pyramids.

Vegetarians (vej-uh-TAIR-ee-uhnz) are people who choose not to eat any meat, poultry, or fish. Instead, vegetarians eat a lot of nuts, seeds, and beans; nut butters; eggs; tofu; and meat substitutes such as veggie burgers.

The portions for each food group are suggested for children ages 9–13.

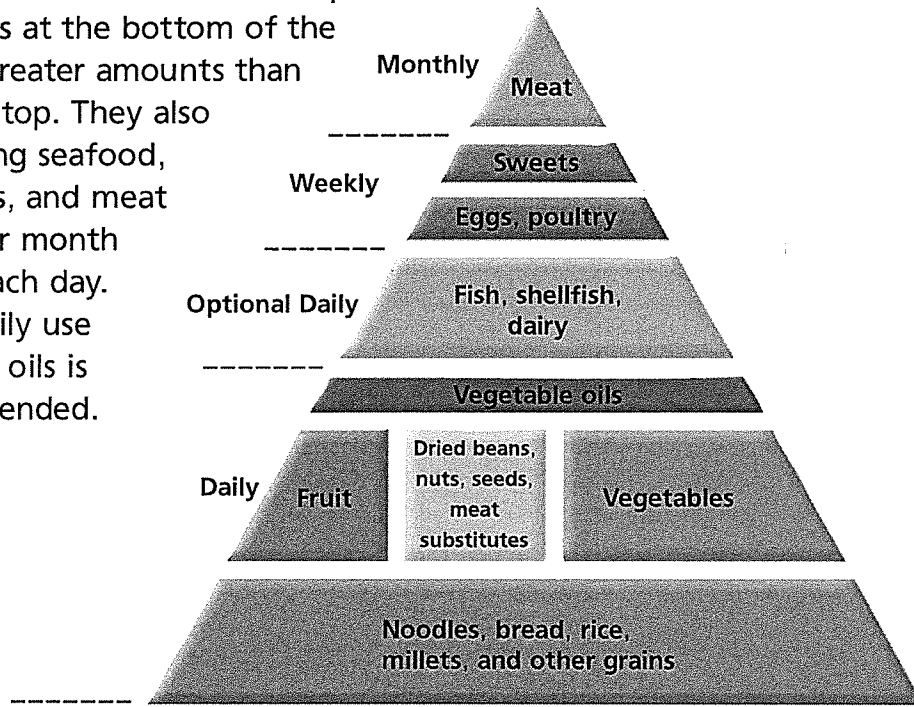
## Vegetarian



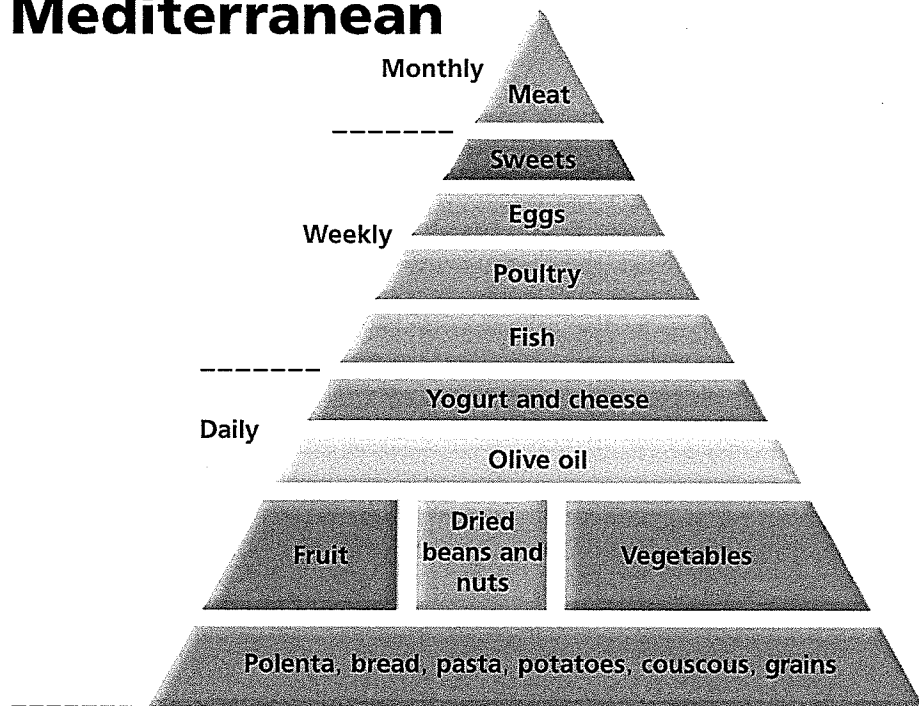
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**T**hese two pyramids organize foods differently from MyPyramid. You read these pyramids from the bottom up. Eat the foods at the bottom of the pyramid in greater amounts than those at the top. They also suggest eating seafood, poultry, eggs, and meat each week or month instead of each day. Moderate daily use of vegetable oils is also recommended.

## Asian



## Mediterranean



## Good Nutrition

# Dietary Guidelines for Americans

These guidelines come from the USDA. They promote good nutrition and healthful choices. If you follow these simple rules, you will feel better and be healthier your whole life.



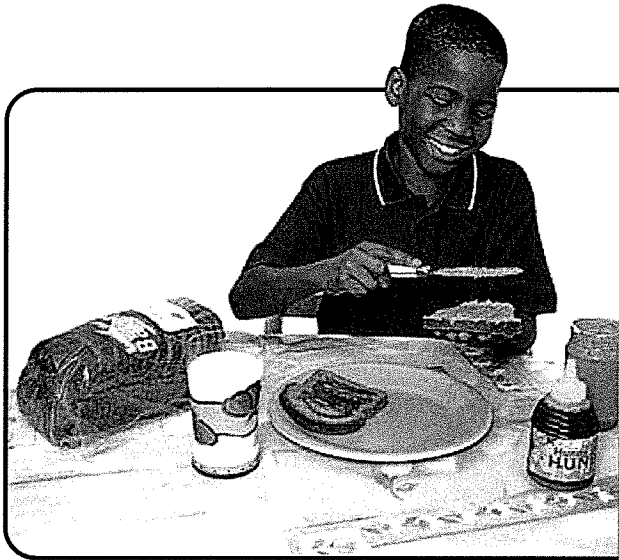
## Aim for Fitness

- Aim for a healthful weight. Find out your healthful weight range from a health professional. If you need to, set goals to reach a better weight.
- Be physically active each day. (Use the Activity Pyramid on page HB50 to help you plan each week's activities.)

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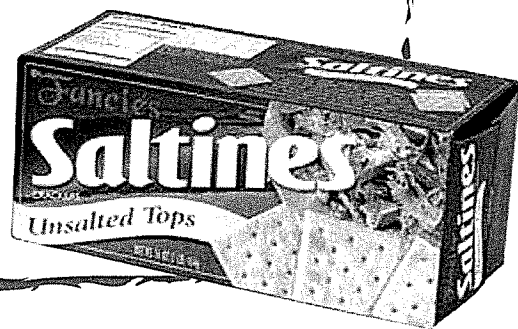
## Build a Healthful Base

- Use a food guide pyramid to guide your food choices.
- Each day, choose a variety of grains, such as wheat, oats, rice, and corn. Choose whole grains when you can.
- Each day, choose a variety of fruits and vegetables.
- Keep food safe to eat. (Follow the tips on pages HB41–HB42 for safely preparing and storing food.)



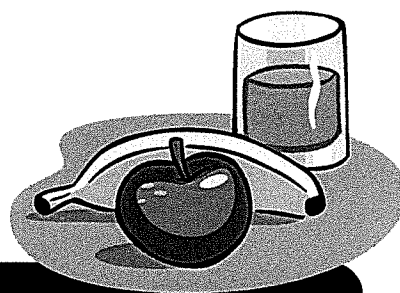
## Choose Sensibly

- Choose a diet that is moderate in total fat and low in saturated fat and cholesterol.
- Choose foods and drinks that are low in sugar. Lower the amount of sugar you eat.
- Choose foods that are low in salt. When you prepare foods, use very little salt.



# Estimating Portions

Choosing a variety of foods is only half the story. You also need to choose the right portions. The table below can help you estimate how much you are eating of your favorite foods.



## Estimating Serving Size

Food Group	Daily Portion	Easy Estimates
Grains	5–6 ounces	One ounce equals <ul style="list-style-type: none"> <li>• one slice of bread</li> <li>• an ice cream scoop of cooked rice, oats, or pasta</li> <li>• a fistful of cereal flakes</li> </ul>
Vegetables	2–2½ cups	One cup is about the size of <ul style="list-style-type: none"> <li>• a baseball</li> <li>• a fist</li> <li>• two ice cream scoops</li> </ul>
Fruits	1½ cups	A medium apple, pear, or orange equals about one cup.
Milk	3 cups	1½ ounces of cheese (about the size of three dominoes) provides about the same nutrients as one cup of milk.
Meat and Beans	5 ounces	One ounce of beans will fill an ice cream scoop. Three ounces of cooked meat, fish, or poultry is about the size of your palm or a computer mouse.

Oils should be eaten in small amounts—no more than 5 teaspoons per day. A teaspoon is about the size of a penny or a fingertip.



## Preparing Foods Safely

# Fight Bacteria

You probably already know to throw away food that smells bad or looks moldy. But food doesn't have to look or smell bad to make you ill. To keep your food safe and yourself from becoming ill, follow the steps outlined in the picture below. And remember—when in doubt, throw it out!



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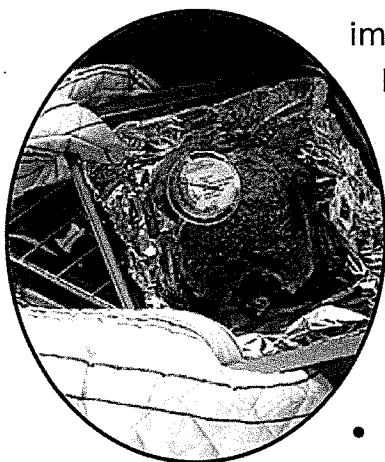


# Preparing Foods Safely

## Food Safety Tips

### Tips for Preparing Food

- Wash hands in warm, soapy water before preparing food. It's also a good idea to wash hands after preparing each dish.
- Defrost meat in a microwave or the refrigerator.
- Keep raw meat, poultry, fish, and their juices away from other food.
- Wash cutting boards, knives, and countertops immediately after cutting up meat, poultry, or fish. Never use the same cutting board for meats and vegetables without washing the board first.



### Tips for Cooking Food

- Cook all food completely, especially meat. Complete cooking kills the bacteria that can make you ill.
- Red meats should be cooked to a temperature of 160°F. Poultry should be cooked to 180°F. When done, fish flakes easily with a fork.
- Never eat food that contains raw eggs or raw egg yolks, including uncooked cookie dough.

### Tips for Cleaning Up the Kitchen

- Wash all dishes, utensils, and countertops with hot, soapy water.
- Store leftovers in small containers that will cool quickly in the refrigerator. Don't leave leftovers on the counter to cool.

HB42 • Health and Safety Handbook



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# Being Physically Active

## Guidelines for a Good Workout

**T**here are three things you should do every time you are going to exercise—warm up, work out, and cool down.

**Warm Up** When you warm up, your heartbeat rate, breathing rate, and body temperature increase and more blood flows to your muscles. As your body warms up, you can move more easily. People who warm up are less stiff after exercising, and are less likely to have exercise-related injuries. Your warm-up should include five minutes of stretching, and five minutes of low-level exercise. Some simple stretches are shown on pages HB46–HB47.

**Work Out** The main part of your exercise routine should be an aerobic exercise that lasts twenty to thirty minutes. Aerobic exercises make your heart, lungs, and circulatory system stronger.

Some common aerobic exercises are shown on pages HB44–HB45. You may want to mix up the types of activities you do. This helps you work different muscles and provides a better workout over time.

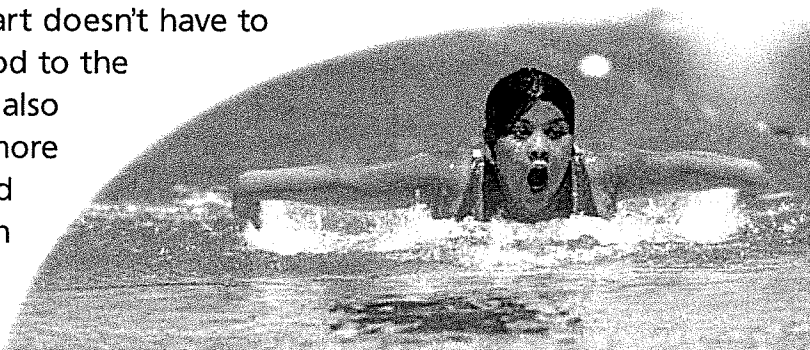
**Cool Down** When you finish your aerobic exercise, you need to give your body time to cool down. Start your cool-down with three to five minutes of low-level activity. End with stretching exercises to prevent soreness and stiffness.



## Being Physically Active

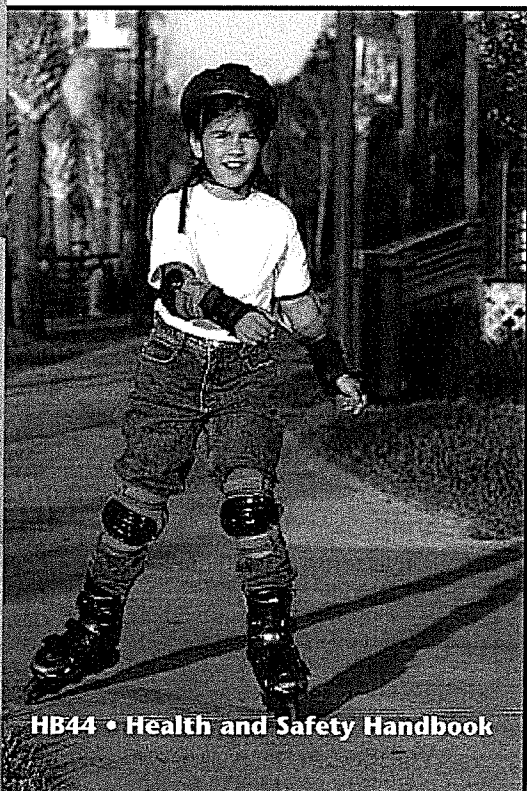
# Building a Strong Heart and Lungs

**A**erobic activities cause deep breathing and a fast heartbeat rate for at least twenty minutes. These activities help both your heart and your lungs. Because your heart is a muscle, it gets stronger with exercise. A strong heart doesn't have to work as hard to pump blood to the rest of your body. Exercise also allows your lungs to hold more air. With a strong heart and lungs, your cells get oxygen faster and your body works more efficiently.



▲ **Swimming** Swimming is great for your endurance and flexibility. Even if you're not a great swimmer, you can use a kickboard and have a great time and a great workout just kicking around the pool. Be sure to swim only when a lifeguard is present.

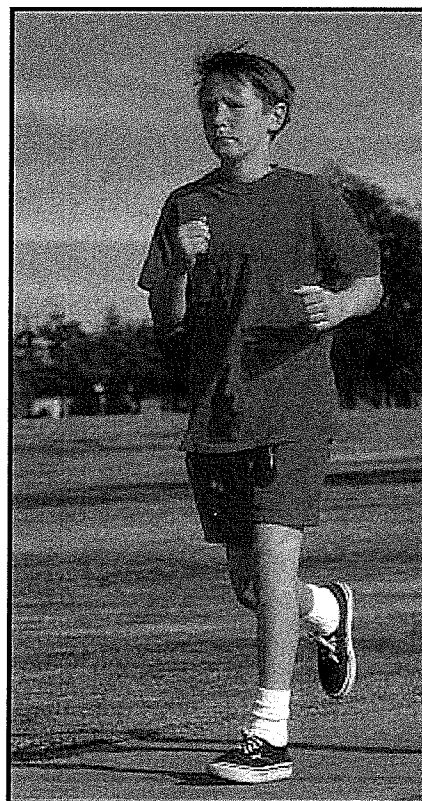
◀ **In-line Skating** Remember to always wear a helmet when skating. Always wear protective pads on your elbows and knees, and guards on your wrists, too. Learning how to skate, stop, and fall correctly will make you a safer skater.



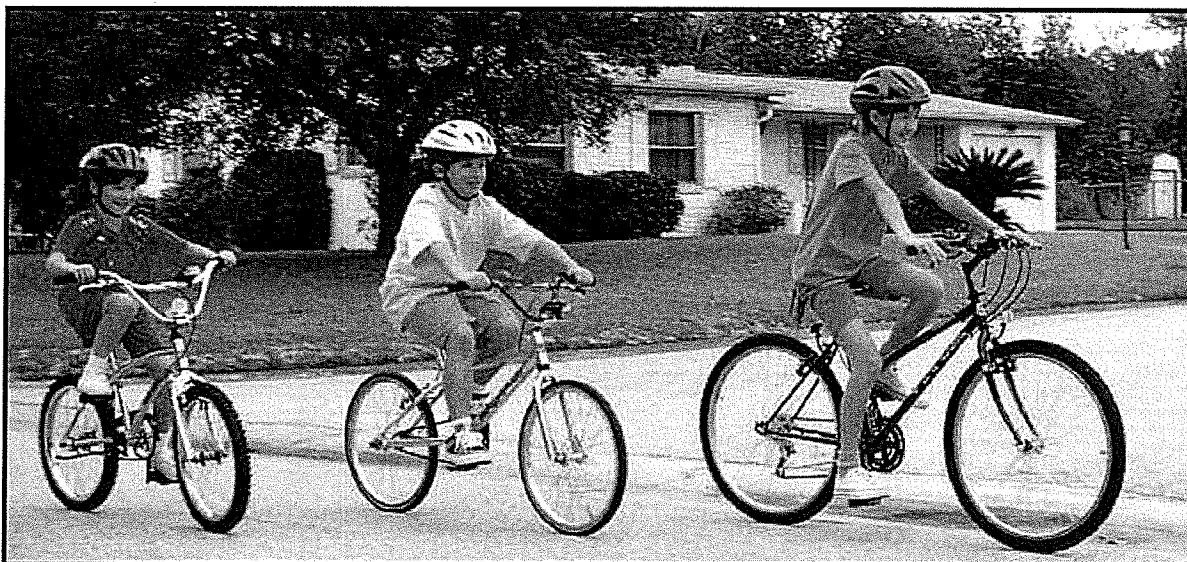


▲ **Jumping Rope** Jumping rope is one of the best ways to increase your endurance. Remember to always jump on an even surface and always wear supportive shoes.

▼ **Walking** A fast-paced walk is a terrific way to build your endurance. The only equipment you need is supportive shoes. Walking with a friend can make this exercise a lot of fun.



▼ **Bicycling** Bicycling provides good aerobic activity and a great way to see the outdoors. Be sure to learn and follow bicycle safety rules. And *always* remember to wear your helmet!



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## Being Physically Active

# Warm-Up and Cool-Down Stretches

Before you exercise, you should warm up your muscles. The warm-up exercises shown here should be held for at least fifteen to twenty seconds and repeated at least three times. At the end of your workout, spend about two minutes repeating some of these stretches.

### ► Sit-and-Reach Stretch

HINT—Remember to bend at the waist. Keep your eyes on your toes!



### ◀ Hurdler's Stretch

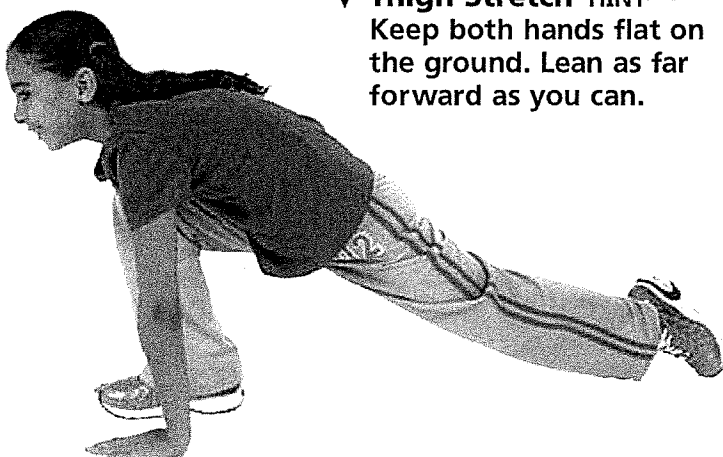
HINT—Keep the toes of your extended leg pointed up.

► Upper-Back and Shoulder Stretch HINT—Try to stretch your hand down so that it rests flat against your back.

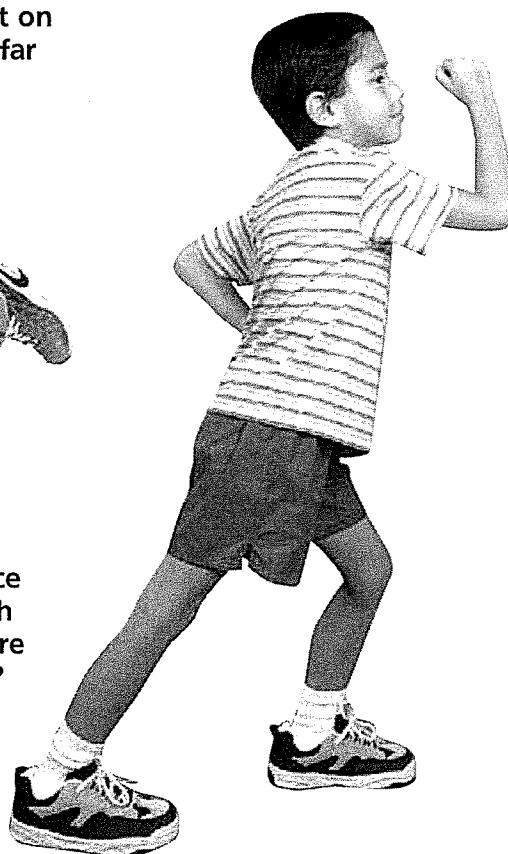


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▼ **Thigh Stretch** HINT—Keep both hands flat on the ground. Lean as far forward as you can.



► **Calf Stretch** HINT—Keep both feet on the floor during this stretch. Try changing the distance between your feet. Is the stretch better for you when your legs are closer together or farther apart?

▼ **Shoulder and Chest Stretch** HINT—Pulling your hands slowly toward the floor gives a better stretch. Keep your elbows straight, but not locked!



### Tips for Stretching

- Never bounce when stretching.
- Hold each stretch for fifteen to twenty seconds.
- Breathe normally. This helps your body get the oxygen it needs.
- Do NOT stretch until it hurts. Stretch only until you feel a slight pull.

## Being Physically Active

# The President's Challenge

The President's Challenge is a physical fitness program designed for students ages 6 to 17. It's made up of five activities that promote physical fitness. Each participant receives an emblem patch and a certificate signed by the President.

### The Five Awards



**Presidential Physical Fitness Award**—presented to students scoring in the top 15 percent in all events.



**Participant Physical Fitness Award**—presented to students who complete all items but score below the top 50 percent in one or more items.



**National Physical Fitness Award**—presented to students scoring in the top 50 percent in all events.



**Active Lifestyle Award**—recognizes students who participate in daily physical activity of any type for five days per week, 60 minutes a day, or 11,000 pedometer steps for six weeks.



**Health Fitness Award**—awarded to all other participants.

## The five activities

### 1. Curl-Ups or Sit-Ups measure abdominal muscle strength.

- Lie on the floor with your arms across your chest and your legs bent. Have a partner hold your feet.
- Lift your upper body off the ground, and then lower it until it just touches the floor.
- Repeat as many times as you can in one minute.



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**2. Shuttle Run** measures leg strength and endurance.

- Run to the blocks and pick one up.
- Bring it back to the starting line.
- Repeat with the other block.

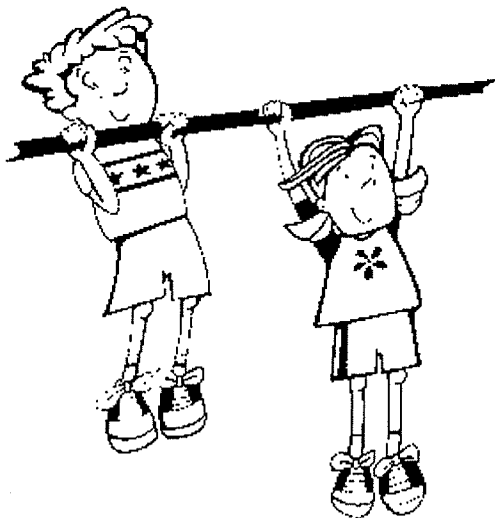


**3. One-Mile Run or Walk** measures leg muscle strength and heart and lung endurance.

- Run or walk a mile as fast as you can.

**4. Pull-Ups** measure the strength and endurance of arm and shoulder muscles.

- Hang by your hands from a bar.
- Pull your body up until your chin is over the bar. Lower your body again without touching the floor.
- Repeat as many times as you can.



**5. V-Sit Reach** measures the flexibility of your legs and back.

- Sit on the floor with your feet behind the line.
- Reach forward as far as you can.





## Being Physically Active

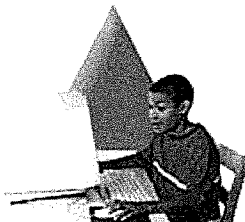
# Planning Your Weekly Activities

Being active every day is important for your overall health. Physical activity helps you manage stress, maintain a healthful weight, and strengthen your body systems. The Activity Pyramid, like MyPyramid, can help you make a variety of choices in the right amounts to keep your body strong and healthy.

### The Activity Pyramid

#### Sitting Still

Watching television,  
playing computer games  
Small Amounts of Time



#### Light Exercise

Playtime, yardwork,  
softball  
2–3 times a week



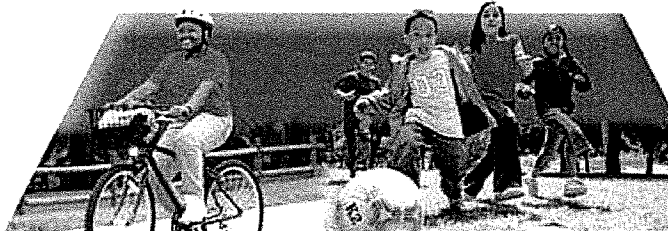
#### Strength and Flexibility Exercises

Weight training,  
dancing, pull-ups  
2–3 times a week



#### Aerobic Exercises

Biking, running,  
soccer, hiking  
30+ minutes, 2–3  
times a week



#### Regular Activities

Walking to school, taking  
the stairs, helping with  
housework  
Every day



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# Your Digestive System

Your digestive system is made up of connected organs. It breaks down the food you eat and disposes of the leftover wastes your body does not need.

## Mouth to Stomach

Digestion begins when you chew your food. Chewing your food breaks it up and mixes it with saliva. When you swallow, the softened food travels down your esophagus to your stomach, where it is mixed with digestive juices. These are strong acids that continue the process of breaking your food down into the nutrients your body needs to stay healthy. Your stomach squeezes your food and turns it into a thick liquid.

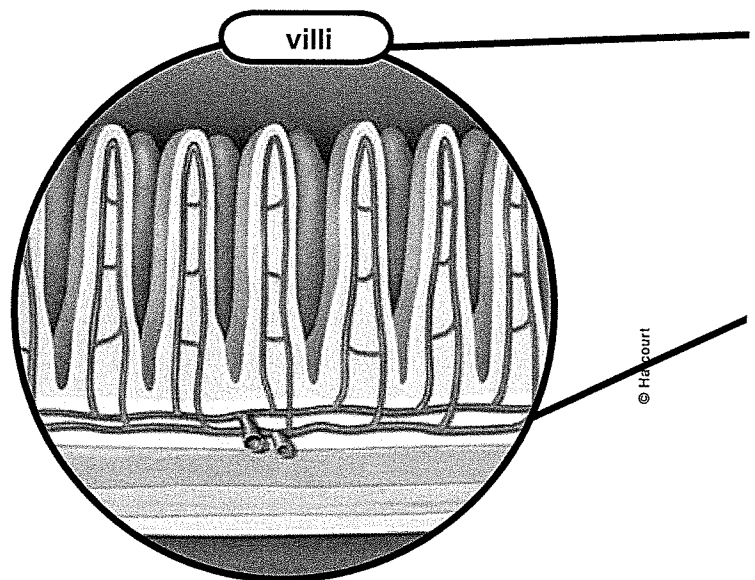
## Small Intestine and Liver

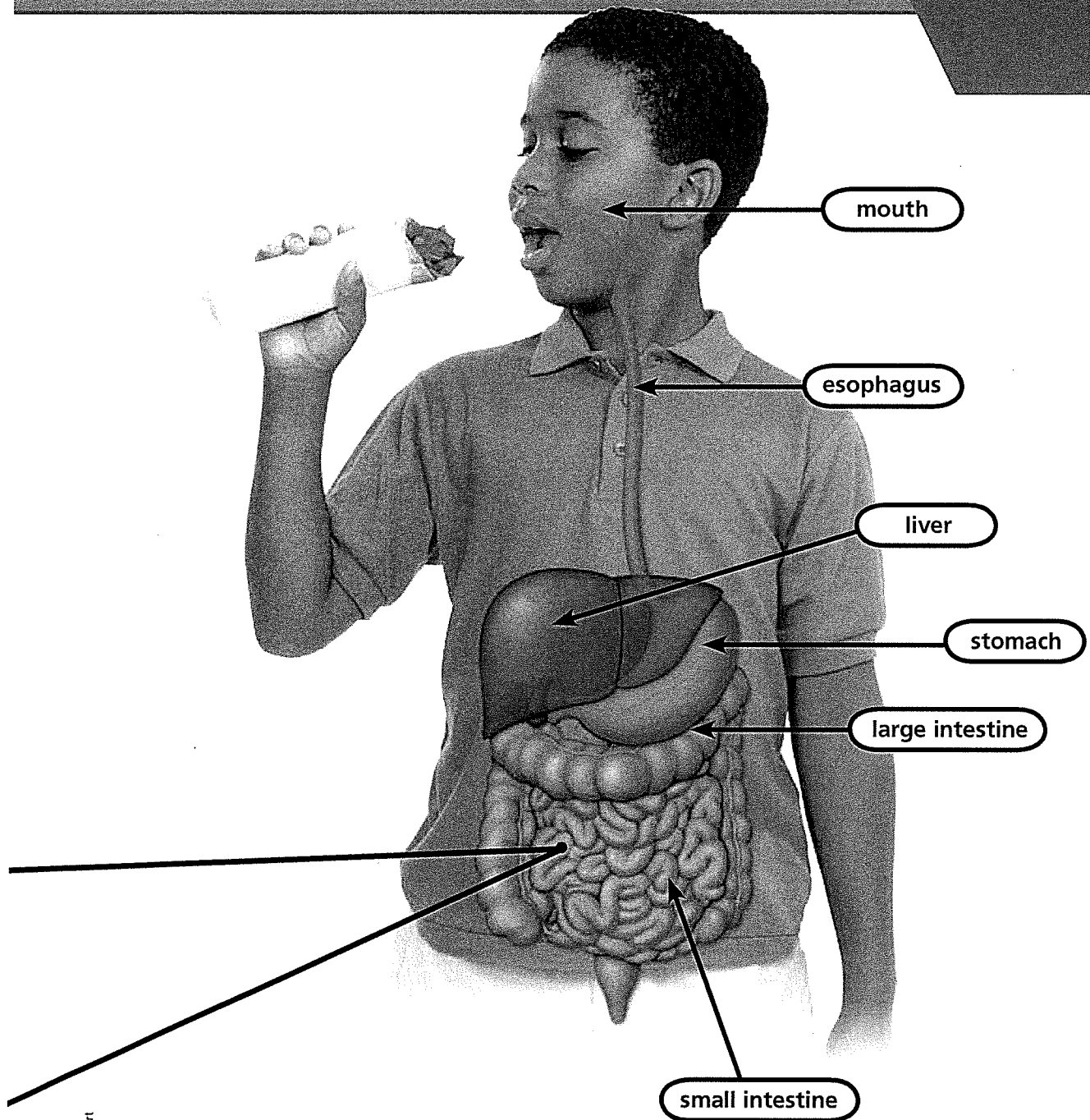
Your food leaves your stomach and goes into your small intestine. This organ is a long tube just below your stomach. Your liver is an organ

that sends bile into your small intestine to continue the process of digesting fats in the food. The walls of the small intestine are lined with millions of small, finger-shaped bumps called villi. Tiny blood vessels in these bumps absorb nutrients from the food as it moves through the small intestine.

## Large Intestine

When the food has traveled all the way through your small intestine, it passes into your large intestine. This last organ of your digestive system absorbs water from the food. The remaining wastes are held there until you go to the bathroom.





# Your Circulatory System

Your circulatory system carries to every cell in your body the nutrients your digestive system takes from food and the oxygen your lungs take from the air you breathe. As your blood moves throughout your body, it also helps your body fight infections, control your temperature, and remove wastes from your cells.

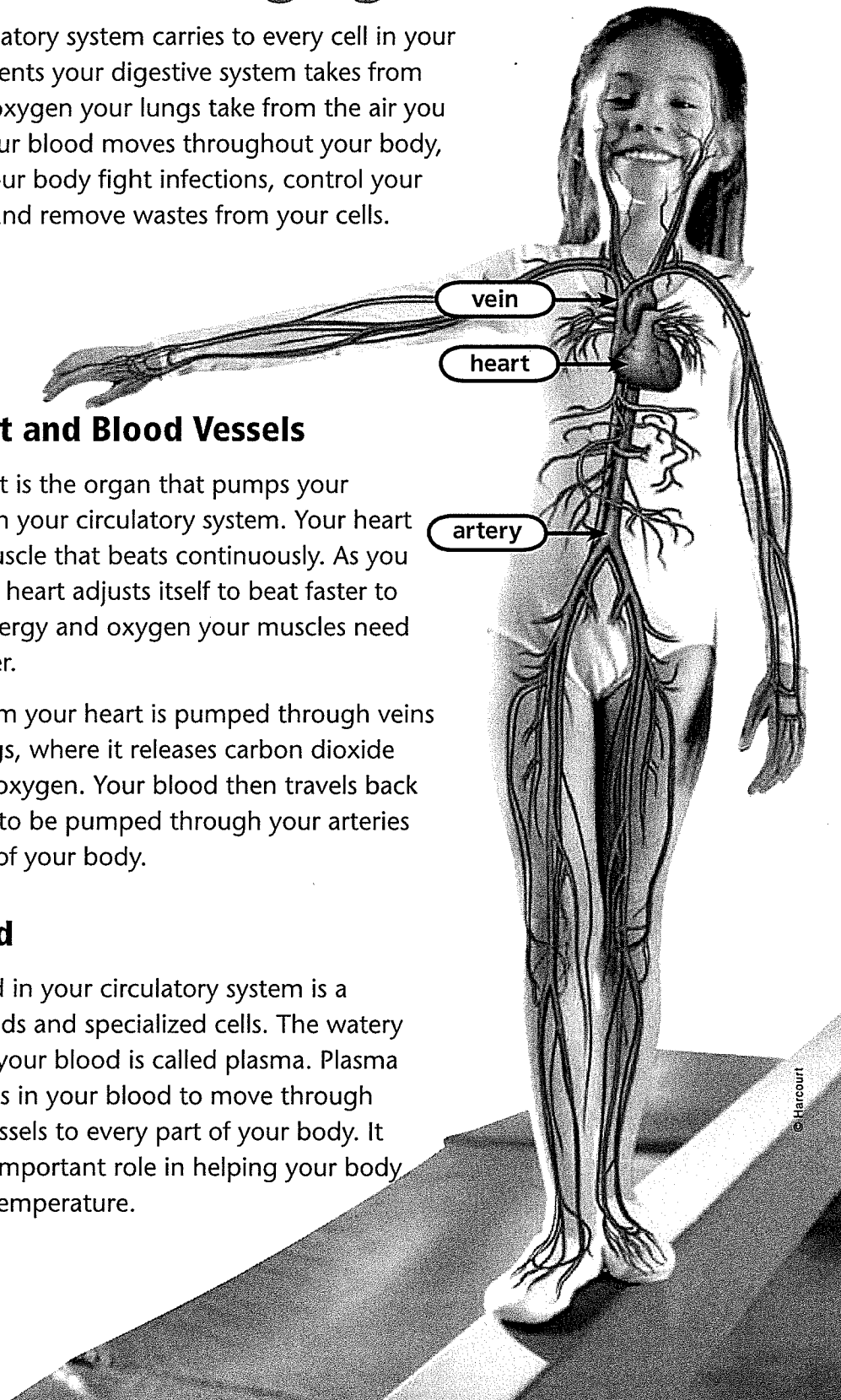
## Your Heart and Blood Vessels

Your heart is the organ that pumps your blood through your circulatory system. Your heart is a strong muscle that beats continuously. As you exercise, your heart adjusts itself to beat faster to deliver the energy and oxygen your muscles need to work harder.

Blood from your heart is pumped through veins into your lungs, where it releases carbon dioxide and picks up oxygen. Your blood then travels back to your heart to be pumped through your arteries to every part of your body.

## Your Blood

The blood in your circulatory system is a mixture of fluids and specialized cells. The watery liquid part of your blood is called plasma. Plasma allows the cells in your blood to move through your blood vessels to every part of your body. It also plays an important role in helping your body control your temperature.



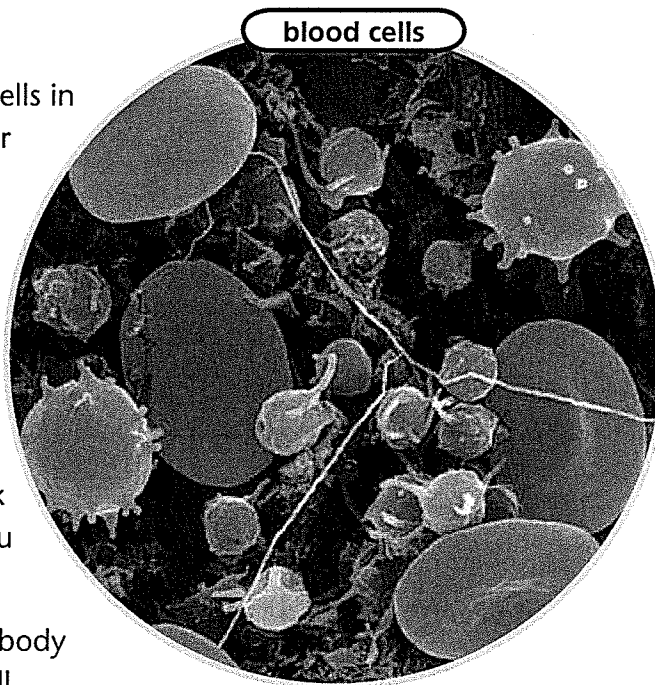
## Blood Cells

There are three main types of cells in your blood. Each type of cell in your circulatory system plays a special part in keeping your body healthy and fit.

**Red Blood Cells** are the most numerous cells in your blood. They carry oxygen from your lungs throughout your body. They also carry carbon dioxide back to your lungs from your cells, so you can breathe it out.

**White Blood Cells** help your body fight infections when you become ill.

**Platelets** help your body stop bleeding when you get a cut or other wound. Platelets clump together as soon as you start to bleed. The sticky clump of platelets traps red blood cells and forms a blood clot. The blood clot hardens to make a scab that seals the cut and lets your body begin healing the wound.



## Caring for Your Circulatory System

- Eat foods that are low in fat and high in fiber. Fiber helps take away substances that can lead to fatty buildup in your blood vessels.
- Eat foods high in iron to help your red blood cells carry oxygen.
- Drink plenty of water to help your body replenish your blood.
- Avoid contact with another person's blood.
- Exercise regularly to keep your heart strong.
- Never smoke or use tobacco.



# Your Skeletal System

Your skeletal system includes all of the bones in your body. These strong, hard parts of your body protect your internal organs, help you move, and allow you to sit and to stand up straight.

Your skeletal system works with your muscular system to hold your body up and to give it shape.

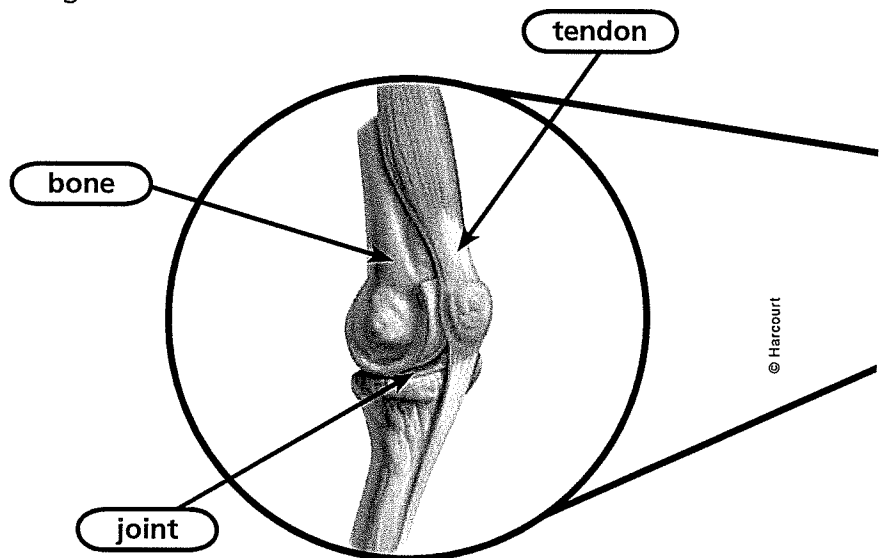
Your skeletal system includes more than 200 bones. These bones come in many different shapes and sizes.

## Your Skull

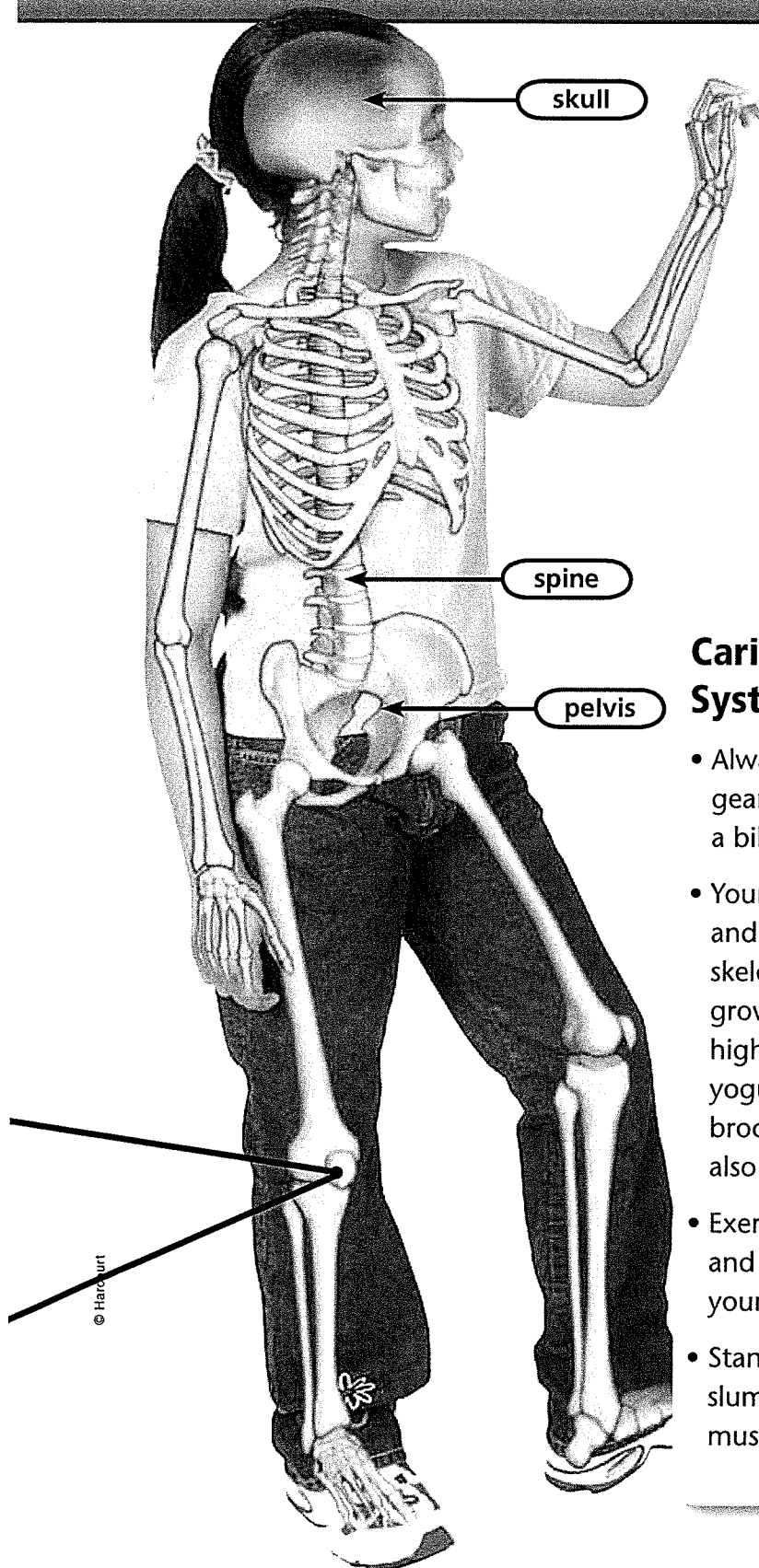
The wide flat bones of your skull fit tightly together to protect your brain. The bones in the front of your skull give your face its shape and allow the muscles in your face to express your thoughts and feelings.

## Your Spine

Your spine, or backbone, is made up of nearly two dozen small, round bones. These bones fit together and connect your head to your pelvis. Each of these bones, or vertebrae, is shaped like a doughnut with a small round hole in the center. Your spinal cord is a bundle of nerves that carries information to and from your brain and the rest of your body. Your spinal cord runs from your brain down your back to your hips through the holes in your vertebrae. There are soft, flexible disks of cartilage between your vertebrae. This allows you to bend and twist your spine. Your spine, pelvis, and leg bones work together to allow you to stand, sit, or move.



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## Caring for Your Skeletal System

- Always wear a helmet and proper safety gear when you play sports, skate, or ride a bike or a scooter.
- Your bones are made mostly of calcium and other minerals. To keep your skeletal system strong and to help it grow, you should eat foods that are high in calcium like milk, cheese, and yogurt. Dark green, leafy vegetables like broccoli, spinach, and collard greens are also good sources of calcium.
- Exercise to help your bones stay strong and healthy. Get plenty of rest to help your bones grow.
- Stand and sit with good posture. Sitting slumped over puts strain on your muscles and on your bones.

# Your Muscular System

A muscle is a body part that produces movement by contracting and relaxing. All of the muscles in your body make up the muscular system.

## Voluntary and Involuntary Muscles

**Voluntary Muscles** are the muscles you use to move your arms and legs, your face, head, and fingers. You can make these muscles contract or relax to control the way your body moves.

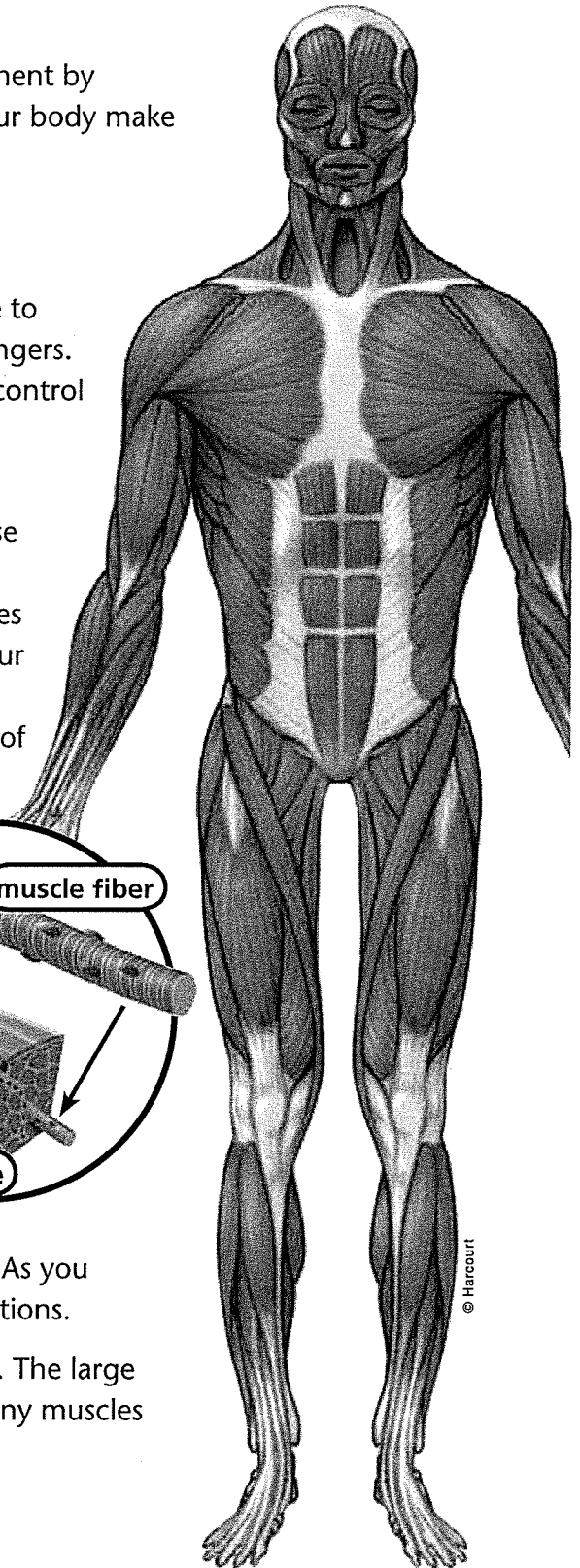
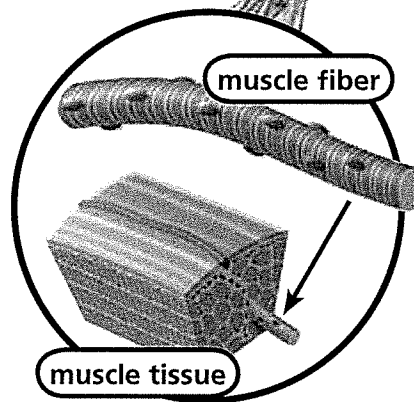
**Involuntary Muscles** are responsible for movements you usually don't see or control. These muscles make up your heart, your stomach and digestive system, your diaphragm, and the muscles that control your eyelids. Your heart beats and your diaphragm powers your breathing without your thinking about them. You cannot stop the action of these muscles.

## How Muscles Help You Move

All muscles pull when they contract. Moving your body in more than one direction takes more than one muscle. To reach out with your arm or to pull it back, you use a pair of muscles.

As one muscle contracts to extend your arm, the other relaxes and stretches. As you pull your arm back, the muscles reverse their functions.

Your muscles let you do many kinds of things. The large muscles in your legs allow you to walk and run. Tiny muscles in your face allow you to smile.



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arm muscle

## Your Muscles and Your Bones

The muscles that allow you to move your body work with your skeletal system. Muscles in your legs that allow you to kick a ball or ride a bicycle pull on the bones and joints of your legs and lower body. Your muscles are connected to your skeletal system by strong, cordlike tissues called tendons.

Your Achilles tendon just above your heel connects your calf muscles to your heel bone. When you contract those muscles, the tendon pulls on the heel bone and allows you to stand on your toes, jump, or push hard on your bicycle's pedals.

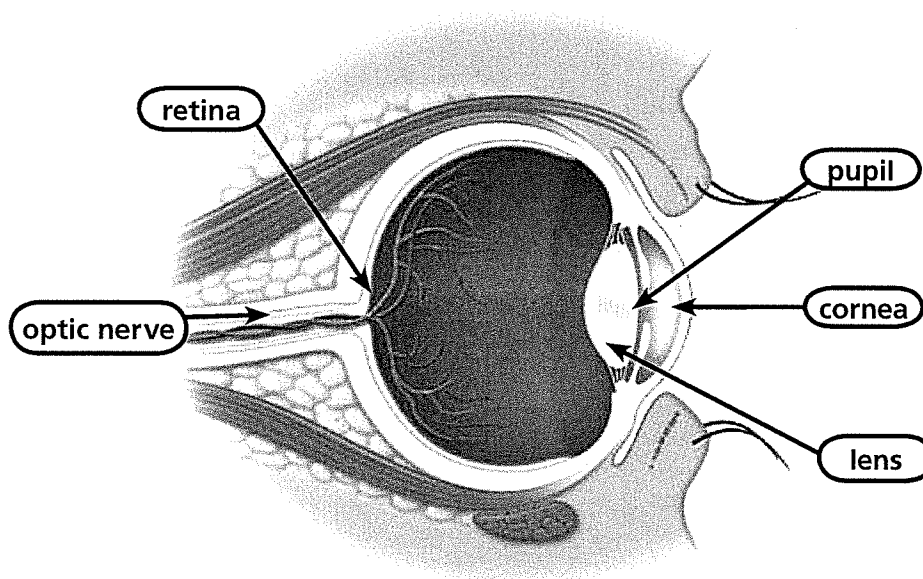
## Caring for Your Muscular System

- Always stretch and warm your muscles before exercising or playing sports. Do this by jogging or walking for at least ten minutes. This brings fresh blood and oxygen into your muscles and helps prevent injury or pain.
- Eat a balanced diet of foods to be sure your muscles have the nutrients they need to grow and remain strong.
- Drink plenty of water when you exercise or play sports. This helps your blood remove wastes from your muscles and helps you build endurance.
- Always cool down after you exercise. Walk or jog slowly for five or ten minutes to let your heartbeat slow and your breathing return to normal. This helps you avoid pain and stiffness after your muscles work hard.
- Stop exercising if you feel pain in your muscles.
- Get plenty of rest before and after you work your muscles hard. They need time to repair themselves and recover from working hard.

# Your Senses

## Your Eyes and Vision

Your eyes allow you to see light reflected by the things around you. This diagram shows how an eye works. Light enters through the clear outer surface called the cornea. It passes through the pupil. The lens bends the incoming light to focus it on the retina. The retina sends nerve signals along the optic nerve. Your brain uses the signals to form an image. This is what you "see."

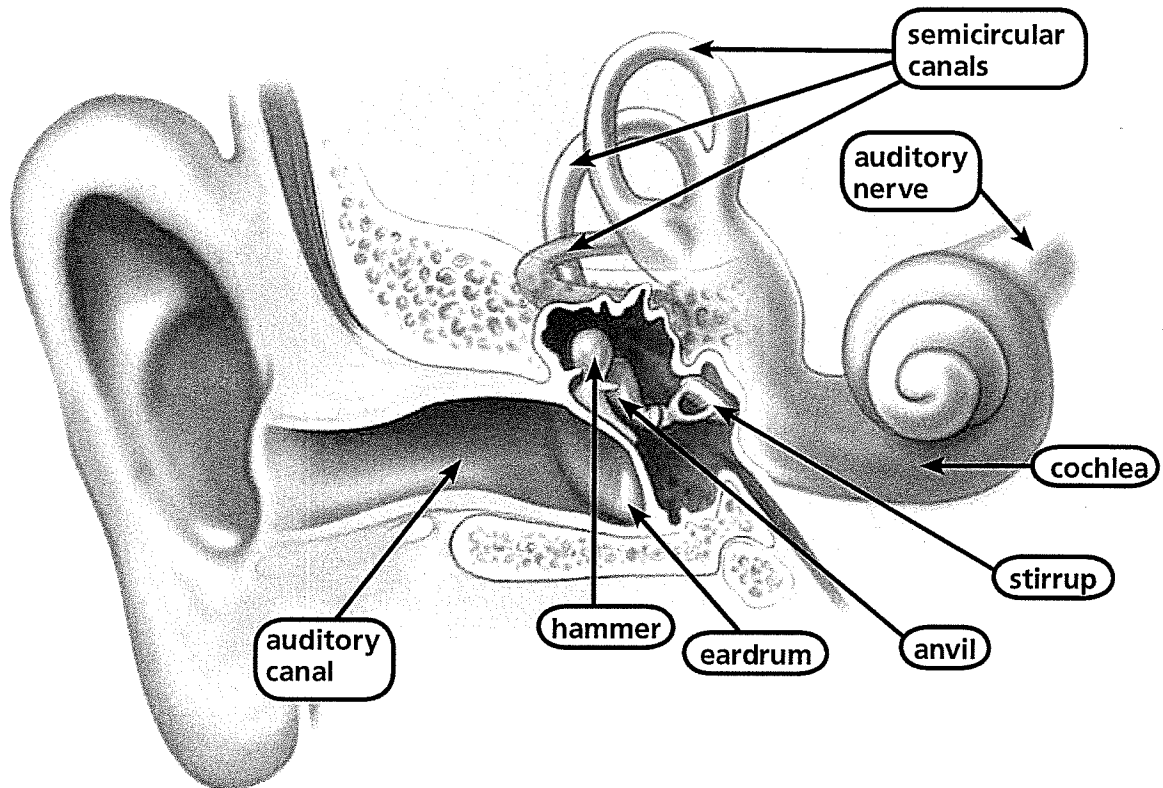


### Caring for Your Eyes

- You should have a doctor check your eyesight every year. Tell your parents or your doctor if your vision becomes blurry or if you are having headaches or pain in your eyes.
- Never touch or rub your eyes.
- Protect your eyes by wearing safety goggles when you use tools or play sports.
- Wear swim goggles to protect your eyes from chlorine or other substances in the water.
- Wear sunglasses to protect your eyes from very bright light. Looking directly at bright light or at the sun can damage your eyes permanently.

## Your Ears and Hearing

Sounds travel through the air in waves. When some of those waves enter your ear you hear a sound. This diagram shows the inside of your ear.



### Caring for Your Ears

- Never put anything in your ears.
- Wear a helmet that covers your ears when you play sports.
- Keep your ears warm in winter.
- Avoid loud sounds and listening to loud music.
- Have your ears checked by a doctor if they hurt or leak fluid or if you have any loss of hearing.
- Wear earplugs when you swim. Water in your ears can lead to infection.