



American Heart Association®



We Jump.
We Shoot.
We Save!



Sponsored nationally by
SUBWAY® restaurants.



SUBWAY® is a registered trademark
of Doctor's Associates Inc.



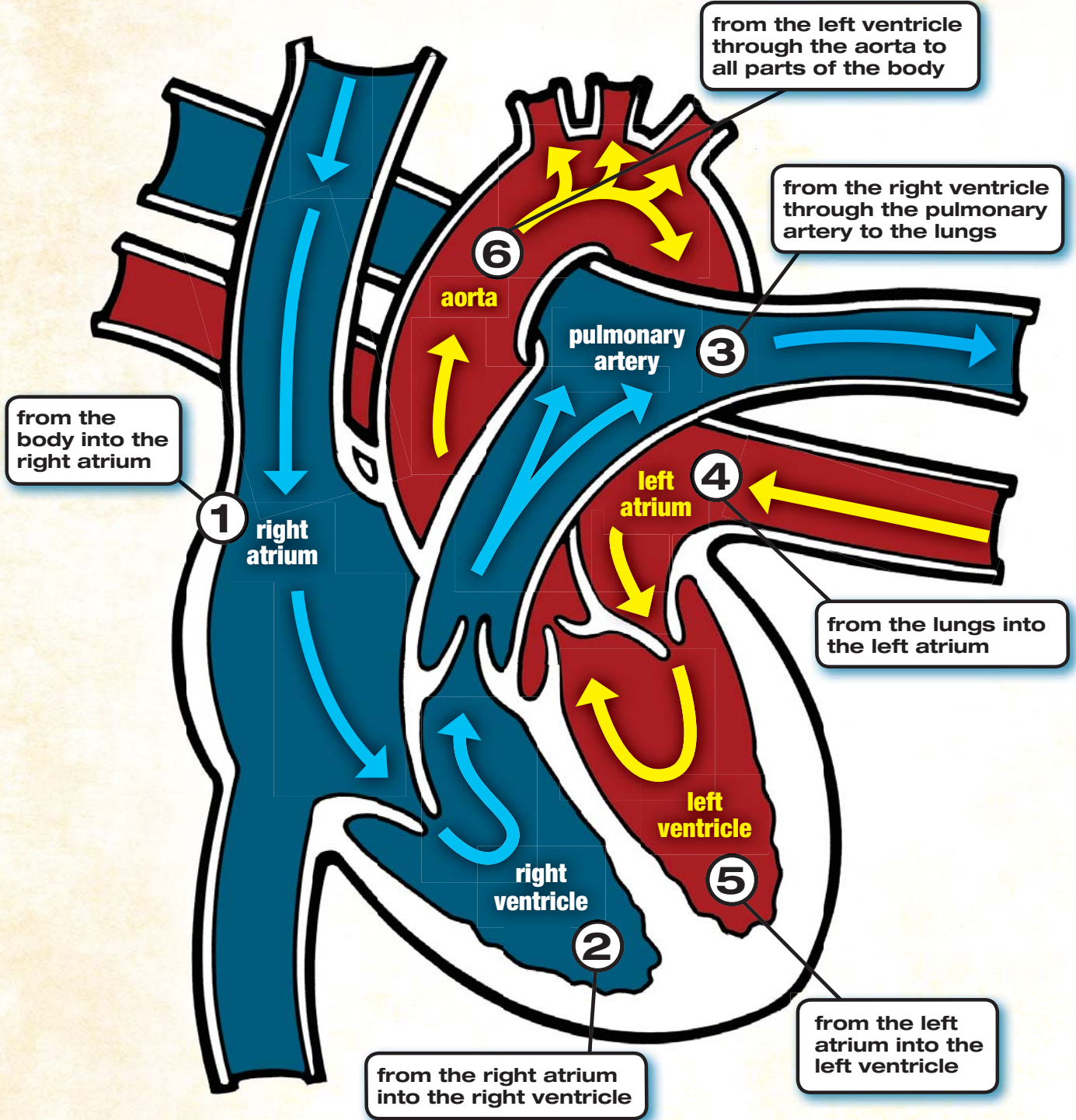
American Alliance for
Health, Physical Education,
Recreation and Dance

AAHPERD is a proud program partner of Jump Rope For Heart and Hoops For Heart.

Middle School Teacher's Resource Guide

How the Heart Works

Use this information to teach about the heart and how it works. Learning about the importance of the heart to their bodies will motivate students to keep their hearts healthy and strong!



Your Amazing Heart

Your heart is amazing and very important. About the size of your fist, it pumps blood and oxygen through your body — and never stops — and gets rid of waste (what your body doesn't need).

In this guide, you'll learn about your heart and how to take care of it so that it beats strong for a long time.

Your heart is a **cardiac** muscle located in the middle of your chest. Cardiac means about the heart. Your heart is also a special muscle because it's an **involuntary** muscle. That means it works without you thinking about it.

(Use the diagram on the facing page to identify the parts of the heart described below.)

The heart has four separate areas, like four little rooms. They're called **chambers**. The right and left side of the heart are divided by a wall called the **septum**. The two chambers on the right side receive blood from your body and send the blood to your lungs. In the lungs, the blood releases waste from the organs and cells in your body and picks up oxygen. Then the blood leaves the lungs and goes back into the heart through the left side.

The heart's top two chambers are called the **atria** (or **atrium**, if you're just talking about one chamber). The right atrium receives blood from the body that does not have oxygen; the left atrium gets blood from the lungs that has oxygen in it.

The heart's bottom chambers are called the **ventricles**. They push the blood out of the heart. As the ventricles push the blood out, the atria are refilling. This repeats over and over.

All the heart's chambers have special one-way doors called **valves**. The valves only let the blood travel forward.

Your heart is a hard-working organ. It never stops working.

When the Blood Leaves the Heart

The blood moves through your body in a complicated network of tiny connected tubes called **blood vessels**. This is called the **circulatory system**.

One type of blood vessel is an **artery**. Arteries carry blood away from the heart and deliver oxygen and nutrients to the body. Arteries look red because they carry blood that's full of oxygen, and oxygenated blood is bright red.

Another type of blood vessel is a **vein**. Veins carry blood from the body back to the heart. Veins are bluish because the blood in them has carbon dioxide and other wastes rather than oxygen. Arteries connect to veins through tiny vessels called capillaries.

Can You Feel Your Heart Beat?

Note to teachers: Help your students learn how their pulse rates show how being active gets their hearts pumping!

Your Pulse: Checking Out Your Heart

You know your heart is working by feeling your **pulse**. As your heart pumps blood through your body, you can feel it "pulsing" or beating on your wrist, neck and upper arm. These places are **pulse points**.

Your pulse shows you how fast or slow your heart is beating. This is called your **heart rate**. Your heart rate is the number of times your heart beats in a minute. Your heart rate is important because it's one of the ways to tell if your heart is working well.

FUN FACT

If all your veins, arteries and capillaries were strung together end to end, they could circle the globe two and half times.

AMAZING FACT

Your heart beats about 35 million times a year. That means if you live to be 80 years old, your heart will beat 2.8 billion times.



Activities

Activity: Resting Heart Rate, Active Heart Rate

Materials: A clock or watch with a sweep second hand, paper and pen/pencil for each student

*Note: A typical resting pulse rate range for 11–15 year-olds is about 50–110 beats per minute.**

Objective: For students to compare their resting heart rate to their active heart rate.

1. Make sure students have been calm and inactive for at least 10 minutes.
2. Have students find their pulse. The easiest place to check your pulse is on the inside of your wrist. To measure the pulse on your wrist, hold your hand in front of you, with the palm up. Gently place two fingers of your other hand at the top of your wrist, near where your hand starts, on the outside edge of your wrist. Do not use your thumb because it has its own pulse. Move your fingers around until you feel a steady beat.
3. When everyone has found their pulse and has fingers on their pulse, say, “Go” and have students silently count their heart rate for the next 15 seconds as you keep time.
4. Say, “Stop counting,” when the 15 seconds are up.
5. Have students write down the number of times their heart beat in 15 seconds.
6. To find their resting heart rate, have students multiply the number of beats they counted in 15 seconds by four to get their beats per minute (bpm). For example, if you counted 20 beats during the 15 seconds, your pulse would be 80 beats per minute (bpm) because $20 \times 4 = 80$.
7. Have students do two minutes of high-intensity physical activity such as jumping rope, running in place, running around the gym or dancing to fast music. Then, repeat steps 2–6, including multiplying the beats they counted in 15 seconds times four.
8. Have students write down their active heart rates.

Discussion: Ask students what difference they noticed between their resting pulse rate and their active pulse rate. Their active pulse rate should be much higher because their hearts were getting a workout. Remind students that getting their heart beating is how it gets exercise and that it’s important to give your heart a workout every day to keep it healthy.

Activity: Heart Math

Use students’ resting vs. active heart rates for a graphing exercise. Use heart rate data to practice percentages.

Use heart rate data for range, mean, median and mode exercises.

STARTLING FACTS
About 23 percent of children — one of every four — do not participate in any free-time physical activity. Only 33 percent of children participate in daily physical education class in schools.

**Source: Natl Health Statistics No. 41 August 24, 2011 Resting Pulse Rate Reference Data for Children, Adolescents and Adults; US 1999–2008*

Get Physical: Good for Your Heart, Your Body, Your Mind

Encouraging some children to be physically active can be a challenge, especially if they don't enjoy being active or don't consider themselves to be "good" at athletics. It's important to be sensitive helping all students find an activity they enjoy. Students should not think of exercise as a punishment or something that's not for them because they don't do it well. Use the information below to:

- Teach students about the benefits of physical activity.
- Teach students about the broad range of activities that can be considered active.
- Motivate every student to find activities that are a good fit for them so they'll be more active.

Physical Activity Gives Your Heart the Workout It Needs: Do you remember that your heart is made up of cardiac muscle? Just like other muscles, your heart needs exercise to stay "in shape" — to stay healthy. Low energy activities (like sleeping or reading or watching TV) don't give your heart as good a workout as active activities (like running, swimming or playing basketball).

How do you know if you're giving your heart a good workout? You're getting an active workout if you're breathing hard and starting to sweat.

Physical Activity Gives Your Body the Workout It Needs: Being physically active every day builds and maintains your muscles and bones, which is especially important for kids because they're still growing. Physical activity builds strength and endurance so you can play and work as hard and as long as you like.

Physical Activity Keeps You Healthy: People who are physically active every day tend to get sick less often than people who are not. They are less likely to become overweight or obese. Being physically active also helps lower the risk of some diseases, such as diabetes, heart disease and some types of cancers.

Physical Activity Helps Your Mind and Brain: Participating in physical activities can make you feel less stressed, happier, more confident and generally better about yourself. Being physically active can help you improve your school work. It also leads to a better night's sleep.

Get Physical, 60 Minutes a Day, Every Day

It's recommended that people 6–17 years old participate in an active activity 60 minutes per day. You can break those 60 minutes up into smaller spurts of physical activity. In fact, just changing some of your daily habits can add up to many minutes of physical activity a day. Here are some examples:

- Instead of riding to and from school in a car or taking the bus, walk or ride your bike, scooter or skateboard (be sure to do this with a sibling or friend and take other safety precautions).
- When running errands or shopping with a parent, ask them to park farther away from shops and stores and walk the extra distance.
- Instead of taking the elevator, take the stairs.
- Many household chores provide opportunities for activity. Help your parents with housecleaning, washing the car, yard work and carrying and putting away groceries. You'll be helping your family along with your heart, body and mind.
- Choose activities that are fun. You don't have to have special equipment or be on a team to be physically active.

Sedentary vs. Active Activities

Watching television, playing video games, playing and socializing on the computer, and talking or texting on cellphones are all

SERIOUS FACT

The risk of heart disease doubles in inactive people compared to people who get regular exercise.

FUN FACT

During exercise, it takes 10 seconds for blood to travel from your heart to your big toe, and back again.

Get Physical: Good for Your Heart, Your Body, Your Mind (continued)

sedentary activities. Yet kids spend hours each day involved in these activities. Worse yet, while involved in these sedentary activities, kids often snack, not thinking about what they're eating, how much they're eating or whether it's good for them.

Next time you're involved in a sedentary activity ... THINK. Think about what you're doing, what you're snacking on and what else you could be doing that's better for your heart, body and mind — and get up and move. Limit TV, video game and computer time to two hours per day. Too much screen time can lead to a sedentary lifestyle and excessive snacking, which increases risk for obesity and cardiovascular disease.

FUN FACT

You only burn about one calorie per minute while watching TV. That's about the same amount you burn when you're sleeping.

Activities

Activity: Developing and Implementing Personal Physical Activity Plans

Materials: Large piece of room wrap or several easel sheets, markers, Middle School Personal Activity Plan Worksheet

Objectives: To raise awareness of ways students can add physical activity to their days; to have each student develop a personal plan for achieving 60 minutes of physical activity a day; and to encourage and help each student activate that plan.

1. Explain to your students that, as a class, they're going to come up with tons of ideas on how to add physical activity to their day. Then, ask questions about different parts of the day and daily activities. Let your students come up with ways to be active during those day parts and activities. Example:

Question: How can you be more active while watching TV?

Possible Responses: We can do physical activities like jumping jacks, sit-ups or squats during the commercials. We can turn the TV off and play an active game indoors or outside.

2. Brainstorming "SHOUT OUT" exercise: Ask your students to shout out responses to each of the questions below, or create your own questions. Encourage answers until students run out of responses, then move on to the next question. Encourage them to think of physical activities that are fun or that they can make fun.

Ask students how they can be more physically active:

- in the morning when getting ready for school
- on the way to and from school
- in the classroom
- during gym class
- between classes
- after school
- with friends
- alone
- with family members
- indoors
- outdoors
- during the day
- in the evening
- while watching TV
- while on the computer
- while playing video games
- around the house
- through programs, organizations or places in the community

3. Go over the responses with your class.
4. Have each student put together a Personal Activity Plan using the worksheet.
5. Have students share their plans.

Discussion: Once a week, have students share how they're doing with their plans, what obstacles they're facing and what works for them. Have students offer help and support to students having difficulties.

Download the Middle School Physical Activity Plan Worksheet at heart.org/educator (For the Classroom)

In-School or At-Home Activity: Walkers/Runners Club

Materials: Indoor and/or outdoor place to walk/run, laps counting chart large enough to list all students in class

Objective: To encourage regular physical activity through peer relationships, encouragement and competition.

1. Announce that you will be starting a Walkers/Runners Club and that everyone is welcome to join.
2. Post the lap counting chart and let students know that they can sign up for the club by adding their name to the chart.
3. Identify an area where students can walk/run and assign a distance to signify a lap.
4. Encourage students to run with friends before and/or after school.
5. Have students fill in the lap counting chart whenever they complete 10 laps.
6. Recognize students as they reach lap milestones 50, 100, 150 and so on.

FUN FACT
Women's hearts beat faster than men's.

Example of Lap Counting Chart

Name/Laps	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
Meredith	■	■	■												
Justin	■	■	■	■	■										
Simon	■	■													
Cassidy	■	■	■	■	■	■	■	■							
Jordan	■	■													
Anna	■	■	■	■	■										
Jack	■	■	■												

Discussion: A week after starting the club, ask the students what makes them want to participate?

What makes them walk or run on a given day and what keeps them from running on other days?

Ask the students who haven't signed up what the obstacles are to signing up?



Preventing Heart Disease and Other Chronic Illnesses

Chronic diseases — heart disease, stroke, cancer, chronic respiratory diseases and diabetes — are the main causes of death worldwide. While hereditary factors (the genes that you inherit) play a part in whether you develop any of these conditions, they are preventable by lifestyle choices you make.

What You Can Change and What You Can't

When it comes to developing a chronic disease, there are two major risk factors:

1. Non-modifiable risk factors
2. Modifiable risk factors

A **non-modifiable risk factor** is one you can't change. Some examples are your gender, ethnicity, age and family history of diseases. While you can't change the genes you inherited, it's important to know your family history when it comes to chronic diseases. If you have a higher risk, you can take extra good care of yourself and let your doctor know of those risks. That way, you can keep an eye on things like blood pressure, cholesterol, blood sugar levels and your weight.

A **modifiable risk factor** is one you have control over. These are the choices you make every day when you decide what and how much you're going to eat, how physically active you're going to be and whether to smoke cigarettes.

What You Can Control

Eating a Healthy Diet and Maintaining a Healthy Weight: Being overweight is unhealthy because the more weight you carry, the greater the strain you put on your heart. People who are overweight are more likely to have high blood pressure, higher cholesterol (both are bad for your heart) and are at higher risk for having diabetes, stroke or heart attack.

Being Physically Active: People who don't get physical activity are twice as likely as active people to develop heart disease. Getting regular aerobic exercise — in which your heart, lungs and muscles are working hard for a continuous length of time — lowers your blood pressure and your cholesterol levels and burns calories, which helps to maintain a healthy weight.

Not Smoking: Smoking is the single most preventable cause of death in the United States. People who smoke have an increased risk of heart disease and are two to four times more likely than a non-smoker to suffer a heart attack. The more cigarettes smoked per day, the higher the risk of heart attack. The easiest way to control this risk is to never start smoking. If you never start smoking, you won't have to worry about quitting.

DISTRESSING FACT

More than 440,000 people die of smoking in the United States every year.



Activities

Activity: Family Health History Tree: Know Your Genetic History

Materials: Family Health History Tree Worksheet

Objective: To make students aware of their genetic health history. To reinforce how important it is to control modifiable factors and to empower students to maintain their health.

1. Talk to students about ancestry and family trees and how genes are passed down from generation to generation.
2. Have students fill in their Family Health History Tree Worksheet by talking to their parents and other relatives to learn about the health history and cause of death of ancestors.
3. Encourage students to try to learn as much as they can about their parents' and grandparents' health histories.
4. *Extension Activity:* Have students interview a family member who has given up smoking or is living with diabetes or had a stroke or heart attack. This will help them better understand these challenges.

Note to Teachers: You might have students who can't do this assignment because they have little or no information on past generations. Have those students choose a family friend or a neighbor to interview.

Discussion: Ask what your students learned about their family health history and relatives, and how it might have an impact on the lifestyle choices they make.

Download Family Health History Tree at heart.org/educator (For the Classroom)

Activity: Take the No Smoking Pledge

Materials: None

Objective: To encourage students to think about their feelings about not smoking and take a personal stand against smoking in the future.

1. Work with your class to create a No Smoking Pledge.
2. Poll the class to see if everyone agrees with the language and requirements of the pledge.
3. Make enough copies of the pledge for each student.
4. Hold a pledge signing ceremony where students bring their pledges up one at a time to sign it.

Discussion: Talk with your students about how easy/hard it is to stick to the pledge now and how that might change in years to come. Ask students to come up with ideas for how they can honor their pledge.



Eating Right: The Food Groups

To have a healthy diet, you need to eat from all five of the food groups: vegetables, fruits, grains, protein and dairy. Each food group gives your body different health benefits and nutrients.

Vegetables: The “Protectables”

Health and Nutrition Benefits

Vegetables have very few things your body shouldn't have too much of, like bad fat (saturated and trans fat), salt (sodium), added sugars or cholesterol.

- Making vegetables a part of your healthy diet can reduce the risk for heart disease and heart attack.
- Making certain vegetables a part of your healthy diet can protect against some kinds of cancer.
- Vegetables that have a lot of potassium can help lower blood pressure.
- Vegetables contain a lot of fiber (which helps your digestion and can lower your chance of heart disease and type 2 diabetes).
- If you're trying to lose weight, vegetables are good because they are low in calories. Also, the fiber in vegetables makes you feel full and that helps you eat less.
- Vegetables are high in Vitamin A, which is needed to keep eyes and skin healthy, and Vitamin C, which helps you absorb iron.

Eat a Rainbow of Vegetables: Different Color Vegetables for Different Benefits

Vegetables come in a rainbow of colors, and different color vegetables give you different health and nutrition benefits:

Dark Green Vegetables include dark green leafy vegetables like romaine lettuce, spinach, broccoli, mustard greens and kale. Dark green vegetables contain a lot of fiber and nutrients that might help protect against certain cancers.

Red Vegetables include tomatoes, red potatoes, radishes, beets and red cabbage. Red vegetables can help protect cells and the heart.

Orange and Yellow Vegetables include pumpkin, sweet potatoes, carrots, rutabagas and acorn squash. Orange and yellow vegetables have a lot of fiber and potassium. Orange vegetables have Vitamin A which is good for your eyesight and may help fight off illnesses.

Green Vegetables include spinach, lettuce, cucumbers, brussel sprouts and artichokes. They may help protect your eyes and can help protect against certain forms of cancer.

Blue and Purple Vegetables like eggplant, purple asparagus and purple cabbage can help protect the cells in your body and may reduce the chance of heart disease.

White Vegetables including lima beans, potatoes, onions, jicama and parsnips may help lower cholesterol, blood pressure and the chance of heart disease.

Your Mom Is Right ... Eat Your Vegetables Every Day

Depending on your calorie needs you should eat 2½–3½ cups of vegetables a day total, spread out over your meals and snacks. Over the course of a week you should include vegetables from the full variety of colors to get all the health and nutrition benefits of vegetables.

Think of different ways to include vegetables in your diet. They can be eaten raw, cooked, added to other dishes and even as a drink with 100 percent vegetable juice (the kind with low or reduced sodium).

Try sliced-up fresh raw vegetables like carrots, celery and cucumber sticks dipped in low-fat, no added sugar yogurt. Make a pizza covered in different colored vegetables. Add cooked, cubed vegetables like zucchini and eggplant to spaghetti. Be creative and adventurous — try a new vegetable every week.

But careful of how vegetables are prepared. Vegetables that are fried, have heavy sauces or are cooked in butter or oil have a lot of added fat that can outweigh the health benefit (yes, that includes french fries)!

FUN FACT

Tomatoes are eaten more than any other single fruit or vegetable in the United States.

Fruit: A Sweet and Healthy Treat

Health and Nutrition Benefits

Most fruits can satisfy a sweet tooth, and, unlike cookies and candy, fruit is a healthy treat.

- Fruit has no cholesterol. Most fruits are low in fat, sodium and calories.
- Fruit can protect against many of the diseases that vegetables protect against, like some cancers, diabetes and heart disease. Fruit contains many of the same nutrients as vegetables.
- Many fruits are good sources of potassium, which helps protect against high blood pressure.
- Almost all fruits (but not fruit juices) have fiber, which can help lower the risk of heart disease. Fiber helps your digestion, and the fiber in fruit helps make you feel full and less hungry without adding a lot of calories.
- Some fruits have a lot of Vitamin C, which helps keep your gums and teeth healthy and helps you heal when you have a cut or wound.

An Apple a Day and Then Some

Depending on your calorie needs, you should have 1½–2 cups of fruit a day, spread out over your meals and snacks. In general, 1 cup of fresh fruit or 100 percent fruit juice or ½ cup of dried fruit would count as 1 serving. But you don't always cut up fruit, so here are some other 1 cup equivalents:

- Apple: ½ of a large apple, a whole small apple
- Banana: 1 large
- Grapes: 32 seedless grapes
- Orange: 1 large
- Pear: 1 medium
- Plum: 3 medium or 2 large

There's a Whole Orchard of Fruit to Try

Fruit can be eaten raw, whole, cut up, cooked, dried or baked. You can add fruit to salads and meat dishes. Mix your favorite fruits up in a blender with ice and low-fat vanilla yogurt (no added sugar) for a delicious smoothie or have a glass of 100 percent fruit juice. Top off your cereal with some cut-up fruit and even try some different fruits in sandwiches. Watch out for canned fruit and canned fruit cocktail because some contain sugary syrup.

FASCINATING AND USEFUL FACT

You can use fruit juice or applesauce in your cake or cookie recipes in place of some of the fat. That will make homemade treats healthier but will taste just as good.

Go, Go Grains!

Health and Nutrition Benefits

Grains are foods that are made from wheat, rice, oats, barley or any other cereal. Grains include bread, cereal, pasta, crackers and rice. Fiber-rich whole grains are loaded with fiber as well as B vitamins and minerals called magnesium and selenium:

- Eating fiber-rich whole grains may help with weight management because the fiber makes you feel full; so you eat less.
- The fiber in grains may help lower cholesterol levels and may lower the risk of heart disease, obesity and type 2 diabetes.
- Whole grains have magnesium and selenium. Magnesium helps build bones and releases energy from muscles and selenium helps your body form antioxidants to help protect your cells from damage.

Two Groups of Grains

Grains are divided into two groups: fiber-rich **whole grains** and **refined grains**. Fiber-rich whole grains are made with all the pieces of the grain. Refined grains have been put through a process called "milling." Milling removes parts of the grain and also removes a lot of the health benefits of fiber. Because of that, refined grain isn't as healthy as whole grain. So you should make at least half the grains you eat fiber-rich whole grains.

Examples of fiber-rich whole grains include brown rice, oatmeal and anything made with whole meal flour. Check food packaging on items like bread, cereal and pasta. It will tell you whether the item has been made with whole grains. Examples of refined grains include white rice, white flour and white bread.

AMAZING FACT

On average, each American eats 53 pounds of bread every year.

Get Your Grains

Depending on your calorie needs, you should eat 5–6 ounces of grains a day, spread out over meals and snacks. In general, 1 slice of bread, 1 cup of ready-to-eat cereal, or ½ cup of cooked rice, cooked pasta, or cooked cereal would equal 1 ounce from either the refined or fiber-rich whole grain group. Here are the 1 ounce equivalents or typical serving equivalents for some other popular grain items:

- 1 full size bagel = 4 ounces
- 5 whole wheat crackers = 1 ounce
- ½ English muffin = 1 ounce
- 1 4½" diameter pancake = 1 ounce
- 3 cups popped popcorn = 1 ounce
- 1 small (6" diameter) corn or flour tortilla = 1 ounce
- ½ cup brown rice = 1 ounce

Go with Whole Grains

For snacks, eat air-popped popcorn or whole grain crackers. Instead of white rice, eat brown rice. Instead of plain pasta, eat whole grain pasta. For breakfast, have a bowl of oatmeal instead of cereal made with refined grains, or look for cereal boxes that say “made with whole grain.”

Protein: Meat, Poultry, Fish, Eggs, Nuts and Seeds (and Sometimes Beans and Peas)

Health and Nutrition Benefits

Protein is essential to our health because it provides your body with what it needs to build bones, cartilage, skin and blood.

- Proteins have B Vitamins. B Vitamins build tissue and are important for the formation of red blood cells.
- The iron in proteins helps carry the oxygen in our blood.
- Eating seafood can help prevent heart disease.
- Peanuts and certain other nuts also may reduce the risk of heart disease. But nuts are also high in calories, so be careful about how much you eat.
- Some meats are high in bad fat (saturated and trans fat), cholesterol and calories and should be eaten only occasionally. Lean meats, chicken (without the skin) and fish (especially oily fish, like salmon and herring) are good choices to be eaten more often.

FUN FACT
Americans eat twice as much protein as they need.

How Many Eggs = How Many Nuts: Figuring Out How Much Protein to Eat

Depending on calorie needs, kids in middle school should eat 5–6½ ounces of protein a day. One ounce of meat, fish or poultry, ½ ounce of nuts or seeds, ¼ cup of cooked beans, 1 egg or 1 tablespoon of peanut butter all equal an ounce of protein. Check the list below for typical size servings:

- 1 small hamburger = 2–3 ounces
- 1 small chicken breast half = 2–3 ounces
- 1 can of tuna (oil drained) = 3–4 ounces
- 12 unsalted almonds = ½ ounce = 1 ounce serving (plus 1 teaspoon oil)

Beans and Peas (also called legumes) can fit in both the vegetable group and the protein group. People who don't eat meat are called vegetarians or vegans, and beans and peas allow them to get protein. Beans and peas include black beans, kidney beans, soybeans and some you might not have heard of, like garbanzo beans and lentils. Legumes are high in potassium and magnesium. Our bodies need magnesium for almost every function, including keeping your heartbeat regular and your bones strong.

Go Lean with Protein

There are many not-as-good-for-you choices in the protein group, so it's important to make good choices.

- Lean meat, chicken with no skin and fish should be cooked with little or no added butter, oil or heavy sauces
- Unsalted nuts and peanut butter should be eaten in small quantities because they're high in calories
- Eat eggs only a couple times a week because they have cholesterol
- Try going meatless one or two days a week. On meatless days get your protein from nuts, seeds, beans and soy.

Dairy: Building and Maintaining Strong Bones

Health and Nutrition Benefits

Dairy products are a great source of calcium, Vitamin D, potassium and protein. They help build and maintain strong bones and teeth.

- Because your bones might still be growing, dairy and its nutrients are especially important for teens.
- Vitamin D helps your body maintain proper levels of calcium and phosphorous which helps build and maintain strong bones.
- Dairy products contain fat, so choose fat-free, low-fat or 1 percent fat instead of regular and 2 percent products.

FUN FACT
Americans eat the equivalent of 10 acres of pizza every day!

Dairy Roundup

The dairy group includes anything made from milk, along with the many types of milk:

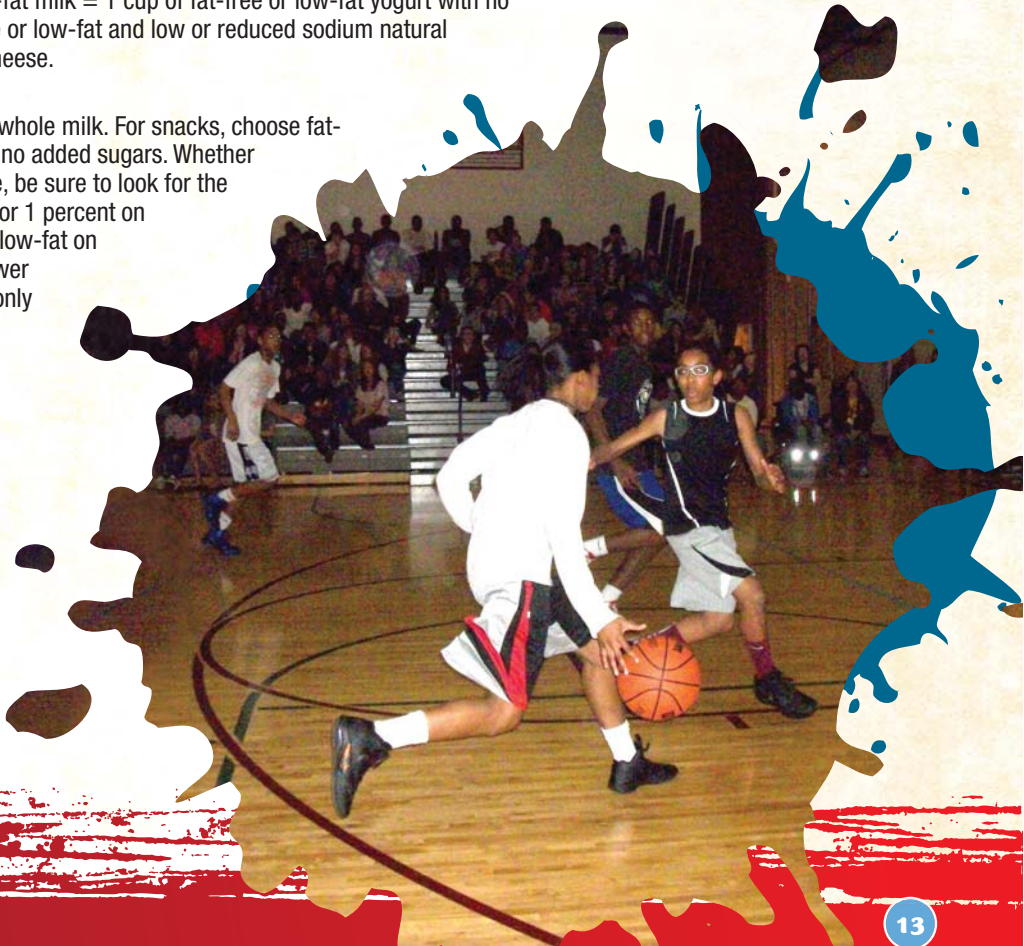
- Milk: fat-free/skim, 1 percent fat, low-fat, chocolate and other flavored milks and soy milk
- Cheeses: fat-free or low-fat, reduced or low sodium
- Yogurt: fat-free or low-fat, no added sugars

For Healthy Bones

Drink 3 cups of milk a day or you can substitute those cups with one of the dairy group equivalents: 1 cup of fat-free or low-fat milk = 1 cup of fat-free or low-fat yogurt with no added sugars, 1½ ounces of fat-free or low-fat and low or reduced sodium natural cheese, or 2 ounces of processed cheese.

Choose Wisely

Pick low-fat or skim milk instead of whole milk. For snacks, choose fat-free or low-fat or nonfat yogurt with no added sugars. Whether your choice is milk, yogurt or cheese, be sure to look for the words nonfat, fat-free, low-fat, skim or 1 percent on the milk label and nonfat, fat-free or low-fat on yogurt and cheese labels (choose lower sodium options). Choose ice cream only occasionally because it usually has sugar and fat.



Activities

Activity: Keeping a Food Journal

Materials: Food Journal Worksheet, pens or pencils

Objective: To raise awareness in students about the food choices they make.

1. Hand out Food Journal Worksheets to students.
2. Tell students that for one week they will be keeping a diary of all the foods and the amount they eat including breakfast, lunch, dinner, snacks and beverages.
3. During the week, periodically check with students to make sure that they are writing down what they've eaten at the time of the meal or snack.
4. When the week is over, have students assess their food choices.

Discussion: How did your diet this week compare with the healthy eating guidelines we learned about?

Did knowing you were keeping track of what you ate make you more conscious of what you were choosing to eat and drink? How so?

Did knowing you were keeping track of what you ate change what you would have eaten or drank? Share some examples.

What grade would you give yourself for the week as a healthy eater? Why?

Download Food Journal Worksheet at heart.org/educator (For the Classroom)

Activity: Meal Makeovers: Making Favorite Foods Healthier

Materials: Paper and pencils or pens

Objective: To demonstrate and reinforce that with a little effort you can eat healthy and still enjoy your favorite foods.

1. Have students list four or five of their favorite foods and meals.
2. Have students list the ingredients that go into the foods and items that go into the meals.
3. Have each student choose one item and one meal to redesign to make it healthier.
4. Have students share the food/meal makeovers with the class.

Discussion: How difficult was it to redesign recipes and menus to make foods healthier?

How did the taste of the healthier alternative compare to the original?

How likely will you be to continue doing this in the future? Why or why not?



Eating Right: Go With Fiber

Fiber is something that everyone needs in their diets. Yet, the average American gets less than half the needed fiber. It is an important part of your diet because it aids in bowel function, helps lower cholesterol and protects against heart disease and diabetes. Fiber also makes you feel full without added calories.

What is Fiber?

Fiber is carbohydrates that can't be digested and is found in the plants we eat like fruits, vegetables, grains and beans. Because we can't digest fiber, it moves through our digestive tracts.

There are two kinds of fiber:

1. **Soluble fiber** dissolves in water.
2. **Insoluble fiber** doesn't dissolve.

It's important to include both kinds of fiber in your diet because they offer different benefits. Soluble fiber helps reduce the cholesterol in your body and helps regulate your blood sugar. Citrus fruit, beans, carrots and apples contain soluble fiber.

Insoluble fiber can be found in many vegetables, nuts and wheat bran. Insoluble fiber moves material through your digestive system, which is why it can help with constipation.

Where to Get Fiber? How Much to Get?

Good sources of fiber include:

- Fiber-rich whole grains like bread and cereals. Make sure it's whole grain because refined grain products don't have the fiber content of whole grain products.
- Fruits including apples, bananas, prunes, pears and berries.
- Vegetables including spinach, broccoli, peas and artichokes.
- Legumes or beans including soy, lentil beans and navy beans.

Girls should get 22–25 grams of fiber a day depending on their calorie intake and level of physical activity. Boys should get 25–31 grams of fiber per day, also depending on their calorie intake and level of physical activity.

Find Foods Rich in Fiber

On packaged food, it's easy to find out how many grams of fiber a serving of food contains. The fiber amount is listed under Carbohydrates on nutrition labels.

Make sure to notice the serving size at the top of the nutrition label, which may or may not be the size of the serving you're planning to have.

Food packaging might also advertise whether the item contains fiber. When a package says, "Good Source of Fiber," it means there are at least 2.5 grams of fiber in each serving size. If a package says "Excellent Source of fiber," it means there are at least 5 grams of fiber per serving.

Nutrition Facts	
Serving Size 3 ounces (85g)	
Amount Per Serving	
Calories 192	Calories from Fat 36
% Daily Value*	
Total Fat 4g	6%
Saturated Fat 0.6g	3%
Trans Fat 0.0g	0%
Cholesterol 49.9mg	17%
Sodium 373.2mg	16%
Total Carbohydrate 35.0g	8%
Dietary Fiber 3.9g	16%
Sugar 14.6g	
Protein 5.9g	
Vitamin A 1%	• Vitamin C 12%
Calcium 3%	• Iron 8%

*Based on a 2000 calorie diet

A lot of the foods that are good sources of fiber are fresh foods that don't have nutrition labels. Following are some fresh foods and the amount of fiber they provide. You can also look online to see how many grams of fiber your favorite fresh foods have.

- ½ cup cooked lima beans = 6.6 grams
- ¼ cup baked beans = 3 grams
- ½ cup of cooked green peas = 4.4 grams
- ¾ cup cooked broccoli = 7 grams
- 1 medium ear of corn = 5 grams
- 1 medium baked sweet potato with peel = 4.8 grams
- 1 medium baked potato with skin = 3.8 grams
- 1 medium orange = 3 grams
- 1 medium banana = 3 grams
- ½ cup raspberries = 4 grams
- 1 ounce unsalted almonds = 3.3 grams

FASCINATING FIBER FACT

You've got to eat it whole. When fruits and vegetables are processed, they lose their fiber. A whole apple, including the peel has 3.7 grams of fiber, but a ¾ cup of 100 percent apple juice has 0 grams of fiber!

Activities

Activity: Weekly Meal Planner with Fiber

Materials: Paper, pen

Objective: To reinforce the importance of fiber in a healthy diet; to raise awareness of foods that are rich in fiber and which foods are not sources for fiber.

1. Tell students that they are going to plan their meals and snacks for a week.
2. Along with following the guidelines in the food groups chapter, they should plan a day's meals and snacks to include their daily recommended amount of fiber.
3. Tell students that it's also important that they choose foods that they like or have an interest in trying.
4. Recommend use of the Internet to find out how much fiber foods have per serving.
5. Have students share their meal plans with each other.
6. *Extension Activity:* As students are researching the fiber contents of food for their meal plans, have them keep track of the foods that they thought would be high in fiber but weren't. Have students bring in a list of those foods. Discuss why students thought those foods would be good sources of fiber and why they weren't.

Discussion: How difficult was it to include foods that have the recommended amount of fiber?

Did you have to include foods you didn't want to eat? Why or why not?

Think about the foods you were eating over the last few weeks. How much of the recommended fiber were you getting?

What types of foods were you leaving out of your diet?



Eating Right: Know Your Portion Size

It's not just about what you're eating, it's also about how much or how little you're eating. Even with the healthiest of foods, too little or too much is not good. You want to eat the portion that is "just right."

With foods from the protein, grain and dairy groups, eating too much and choosing foods that are not healthy will mean that you're taking in too many calories and possibly too much bad fat (saturated and trans fat), sodium (salt), added sugars and cholesterol, which can be bad for your heart. If you don't eat enough of these foods, then you wouldn't be getting enough of the nutrients and vitamins you need, including calcium, protein, magnesium and Vitamins A, C and D.

With food from the fruit and vegetable group, it is important to eat deeply colored vegetables and fruits, such as spinach, carrots, peaches and berries. They tend to be higher in vitamins and minerals than others, such as potatoes and corn. Eat whole vegetables and fruits instead of drinking juices. When fresh foods are not available, choose frozen and canned vegetables and fruits packaged in water without added sugar, saturated and trans fat or salt.

No Two Slices of Bread Are Alike

We learned that a slice of bread equals an ounce and that we need 5 ounces of grains a day. But not all slices of bread are the same size, just like not every apple or banana is the same size. And what does 1½ ounces of cheese look like? It can be confusing.

An easy way to understand portions is to compare the recommended portion size to everyday items. That way, you'll know if you're eating the right portion. The following chart will help you estimate the right portion size:

Food Serving

1 cup of vegetables
1 cup of mashed potatoes
1 medium apple
1 cup strawberries
1 cup cooked pasta

Size of a Baseball



Food Serving

1 ounce dried fruit
¼ cup almonds or walnuts

Size of a Golf Ball



Food Serving

1 small baked potato

Size of a Computer Mouse



Food Serving

1 piece of bread

Size of a Smartphone



Food Serving

½ cup blueberries or grapes
½ cup cooked rice
½ cup cooked beans
½ cup frozen yogurt or ice cream

Size of Half a Baseball



Food Serving

1 waffle
1 piece of lunch meat

Size of a DVD



Food Serving

1 bagel

Size of a 6 oz. Tuna Can



Food Serving

3 ounces of cooked chicken or lean beef

Size of a Deck of Cards



Food Serving

1½ ounces of hard cheese
¼ cup almonds or walnuts

Size of 3 Dice



Food Serving

3 ounces of cooked fish

Size of a Checkbook



Serving Size Does Not (Necessarily) Equal Portion Size

Nutrition labels on packaged foods give you nutrition information for a specific serving size. That serving size is what the manufacturer chooses for that product. So don't assume it's the right size for you.

When checking nutrition labels, make sure to first look at the top of the label where it says serving size. You might have to do some math to figure out how many calories, how much fiber, how much sugar or how many carbohydrates are in your portion size versus that serving size.

FOOD FOR THOUGHT

Food portions have gotten larger and larger over the past 20 years. A typical bagel was 3-inches wide and 140 calories 20 years ago. Today, a typical bagel is double that size and 350 calories!

Activities

Activity: Past and Future Portions Game

Materials: Large box of cereal, bag of potato chips, cereal bowls, two large bowls, measuring cup

Objective: For students to rethink the size of an appropriate portion.

1. Choose two students to pour their usual portion of cereal into a bowl.
2. Have the students show the other students their portion size.
3. Ask students to raise their hands:
 - If that's about the portion size they would have
 - If that's less than the portion size they would have
 - If that's more than the portion size they would have
4. Choose another student to find the actual serving size on the cereal box nutrition label and announce it to the class.
5. Choose two other students to use the measuring cup to determine and show how much cereal the two volunteers choose as their portion vs. the serving size, according to the box.
6. Choose two students to demonstrate the portion of chips they usually eat by putting that amount into the two larger bowls. Ask them if they usually put chips in a bowl or if they eat them out of the bag.
7. Repeat step 3 with chip portions.
8. Have another student find the actual serving size on the bag.
9. Have students calculate how many additional or fewer calories the cereal and chip volunteers ate than the amount of calories shown by serving size on the nutrition labels.

Discussion: Were you surprised by the serving size listed on the packaging?

Have you ever checked to see what the serving was on packaging? Why? For what types of foods?

Does this exercise make you think differently about portion sizes? How so?

Will this exercise make you act differently when it comes to portion size? How so?



In-School or At-Home Activity: Serving Size vs. Portion Size

Materials: Serving Size vs. Portion Size Worksheet, several packaged food items, or if done as homework, the packaged food in students' homes can be used, paper, pencil

Objective: For students to be aware of what manufacturers' recommended serving sizes are versus actual healthy portion sizes and how that could change the amount of calories, saturated fat, trans fat, cholesterol, carbohydrates, sugars, sodium, fiber, nutrients and vitamins they are consuming.

1. Have students choose 10 packaged food items that they normally eat (either from the items brought in to school or from their kitchens).
2. Have students note on their worksheets what that serving size is.
3. Have students figure out the portion they would eat of that item based on how much they should have per day.
4. Have students calculate the difference in size between the nutrition label serving size and the portion size.
5. Using that information, have them calculate the amount of calories, saturated fat, trans fat, cholesterol, sodium, fiber and sugars in their portion vs. the amounts per serving listed on the packaging for each item.
6. Have students share their results with the class.

Discussion: How much of a difference was there between serving size and portion size for most of the items you choose?

Was the portion size usually smaller or bigger than the serving size on the nutrition label?

Did it differ per type of item?

Download *Serving Size vs. Portion Size Worksheet* at heart.org/educator (For the Classroom)

Activity: The Incredible Growing Portion Size Research Project

Materials: Computer with Internet connection

Objective: To make students aware of the amount of calories, saturated fat, trans fat, cholesterol, sodium and sugars they consume at restaurants. To explore how portions sizes have expanded over the past 20 years.

1. Talk to students about food choices they make in restaurants and the portion size of restaurant foods.
2. Starting with the Food For Thought fact in the blue box on the previous page, talk about how food portion sizes have increased tremendously in the past 20 years. (Information on this can be found online).
3. Ask students to research portion size and nutrition information for their favorite restaurants and menu items. (Many restaurants have this information online.) Have them research how portion sizes have increased.
4. Ask students to research what might be healthier, acceptable, alternative choices at those restaurants.
5. Have students present their findings.

Discussion: Did anything that you discovered during your research shock or surprise you? What?

Does knowing the nutrition information (calorie, sugars, etc.) change how you will order when you go to your favorite restaurants? Why or why not?



Eating Right: Sugar, Not So Sweet

Sugar might taste sweet, but too much of it is not so sweet for your health. Products high in sugar, like sodas, juice drinks, candy and cookies, can lead to health problems like obesity, diabetes, high blood pressure, heart disease and cavities.

There's Natural Sugar and Then There's Added Sugar

Natural sugar is already in healthy unprocessed foods like fruits, vegetables and some dairy products.

Added sugars are added when food is processed to make it taste better or have a better texture.

For the most part, you don't need to worry about eating too much of foods with natural sugar. These foods offer many health benefits, and you would have to eat a whole lot of them to eat too much sugar. But limit foods that have added sugars.

SHOCKING FACT
The average American consumes more than 150 pounds of sugar a year.

How Much Sugar Are You Consuming?

Americans consume an average of 22 teaspoons of sugar a day, according to a recent study. How much are you consuming? Here's how much sugar is in some favorite items:



Energy Burst ... Then Sugar Bust

Some people think that sugar gives you energy, but it only gives you a quick burst of energy followed by a drop in energy (also called a crash), which leaves you feeling tired and grouchy.

Beware of Hidden Sugar

You probably know that soda, cookies, candy, doughnuts and cake have a lot of sugar in them. That's one of the reasons you should be careful about eating too much of these foods. Did you know that lots of foods are loaded with hidden sugar – sugar you can't really taste or that you wouldn't expect to find in foods because they're supposed to be good for you?

Here are some foods that sugar is hiding in:

- Ketchup can be 20 percent sugar.
- Granola bars often have high sugar ingredients like chocolate and marshmallows baked into them.
- Protein bars are often made with added sugars to improve their taste.
- Sports drinks can be loaded with sugar to improve their taste.
- Canned and jarred tomato and spaghetti sauces often have added sugars to cut the acidic taste of the tomatoes.
- Oatmeal is naturally low in sugar, but watch out for the packets of flavored oatmeal. Many of them are loaded with sugar.
- Some yogurts have added sugars.

Check for Hidden Sugar

There's one way to make sure you're not eating unwanted sugar: Know how much sugar is in packaged food by checking out the nutrition label and the ingredients list.

The amount of sugar can be found on nutrition labels under Total Carbohydrates. The amount of sugar shown here includes natural and added sugars.

The amount of sugar is measured in grams. To convert the grams into teaspoons, divide the number of grams by 4.2. So for the label shown, the number of teaspoons of sugar in one serving size would be $12 \div 4.2 = 2.85$ teaspoons of sugar.

You'll need to read the ingredient list as well as the nutrition label. Sugar isn't always called "sugar." It often goes by a different name. Check the list below for other names for sugar. When you see any of these in an ingredient list, you'll know that the product contains hidden sugar.

Other Names for Added Sugars

- Sucrose
- Fructose
- Glucose
- Dextrose
- Galactose
- Lactose
- Maltose
- Corn Syrup
- High-Fructose Corn Syrup
- Honey
- Maple Syrup
- Molasses
- Evaporated Cane Juice
- Concentrated Fruit Juice

Nutrition Facts	
Serving Size 1 bar (37.0g)	
Amount Per Serving	
Calories 130	Calories from Fat 27
% Daily Value*	
Total Fat 3g	5%
Saturated Fat 0.5g	2%
Sodium 105mg	4%
Total Carbohydrate 23.0g	8%
Dietary Fiber 2.0g	8%
Sugar 12.0g	8%
Protein 2.0g	
Vitamin A 15%	Vitamin C 0%
Calcium 20%	Iron 10%

*Based on a 2000 calorie diet

Activities

At Home Activity: Find the Hidden Sugar

Materials: None

Objective: To help make students aware of some of the foods that contain hidden sugar and to familiarize them with looking at nutrition labels for hidden sugar.

1. Review with students how to find sugar content on nutrition labels and how to identify sugar on the ingredients list.
2. Ask students to look through the packaged foods in their home in which they wouldn't expect to find sugar.
3. Ask them to read the nutrition labels and ingredient list of those foods and identify two or three items that have hidden sugar in them.
4. Have them bring those items to school or bring a list of foods they found with hidden sugar.
5. Count how many different items students identified that have hidden sugar.
6. Have students calculate the number of teaspoons of sugar in the items they brought.

Discussion: Which items were the most surprising when it came to having sugar in them? Why those items?

Now that you know about hidden sugar, does it change the way you think about food? How so?

Does it change the way you will eat or decide what you will eat? How so?

At-Home Activity: Sugar Investigation

Materials: Middle School Sugar Worksheet

Objective: To make students aware of the amount of sugar they are consuming. To help them realize that they have the power to investigate how much sugar is in the foods they eat, and to provide other important nutritional information.

1. Have students discuss their favorite sweet foods and beverages.
2. Have them write down five of their favorites on the worksheet.
3. Explain to students that many companies list the nutrition information and ingredients of their products online.
4. Ask students to find the amount of sugar in each of their five favorite foods or beverages and fill in the worksheet with the amounts.
5. Have students bring their completed worksheets to share with the class.
6. Have students discuss how often they eat or drink those items. Have them calculate how much sugar they're consuming from those items per week.
7. Ask students to come up with healthier, acceptable sweet alternatives.
8. Have students use the Internet (either at home or at school) to find out how many grams of sugar are in their sweet alternative items. Then, calculate how much sugar they would be consuming each week if they replaced their favorites with the alternatives. Then, calculate the difference between the two.

Discussion: Were you surprised by how much sugar was in your favorite items?

How much sugar would you have guessed would be in those items?

Download *Middle School Sugar Worksheet* at heart.org/educator (For the Classroom)

Extension Activity: Sweet Math

Materials: Students' data from the previous activity

Objective: Math practice

Use the students' data on how much sugar they consumed in a week and how much sugar they would consume in a week with healthier alternatives. This will help them practice percentages, range, mean, median and modes.



Living Heart-Healthy Takes a Heart-Healthy Community

Living heart healthy takes a heart-healthy community to support you. A heart-healthy community has places that support and encourage a variety of physical activities. It also has restaurants and stores that offer a wide variety of healthy food choices at reasonable prices.

Is your community a heart-healthy one? You've learned what it takes to have a healthy lifestyle: being active at least 60 minutes a day and eating healthy foods in healthy portions. So, you can assess if your community supports a healthy lifestyle.

You Be the Judge

Ask yourself: How much does your community support a healthy lifestyle? Does it offer what you need to stay physically active and eat healthy? It's time to find out.

Evaluate Places and Programs for Physical Activity

- Does your community have public parks where you can play games, jog, ride a bike and take a walk? Are those parks clean and safe for you and your friends? Are there playing fields, jogging/walking paths, bike paths and enough space for everyone to enjoy the park?
- Does your community have centers and/or clubs that offer programs that encourage physical activities and are free or affordable? Is there a variety of physical activities offered for everyone, including sports teams, dance, martial arts, swimming, yoga and biking?
- Are there organized community sports leagues that allow everyone to participate?
- Does your community have well-maintained sidewalks and paths so you can walk or ride your bike safely?

Evaluate Food Options in Your Communities

- Does your community have restaurants, stores and farmer's markets that offer healthy food options? Are healthy foods priced so everyone can afford them?
- What size portions do the restaurants serve? Are they a healthy size portion or are they super-sized?

AMAZING FACT

In 1970, Americans spent about \$22 billion at restaurants. In 2010, they spent almost \$433 billion.

Do Changes Need to Be Made? Lead the Charge!

After completing the following activities, you should have a good idea how supportive your community is for a healthy lifestyle. But what if your community is lacking in resources for physical activity or options for healthy eating? Then it's time for a change.

Work with your class to lead the way in making a change in your community. Here are some ideas to create change:

1. Find out who the elected leaders are in your community, including the people who head up parks and recreation.
2. Create a petition for the changes you feel your community needs and get as many people as you can to sign the petition.
3. Be clear about the changes you want and communicate why these changes are important for everyone in your community.
4. Deliver the petition to the community leaders.
5. If there is no place for programs for physical activity, talk to your principal about ways the school gym and facilities could be used for after school programs.
 - Put a plan together to show how it can work and get as many students involved as you can.
6. If restaurants and stores don't offer healthy foods, write a letter to the managers requesting healthier options. Have as many people sign the letter as you can and deliver the letter in person.
7. Don't give up. It might take several tries, along with getting more people involved, before you start seeing a change.

Activities

Activity: Food Options Report

Materials: Paper, pen or computer

Objective: To increase awareness of healthy options.

1. Talk with students about healthy food choices in grocery stores, convenience stores and restaurants.
2. Pair up students. Assign a restaurant and a grocery store to each pair of students.
3. Have students research the healthy food offerings and healthy food prices vs. the prices for less healthy foods by visiting those stores and restaurants or by researching online.
4. Have students write a report on their findings and share it with the class.
5. Have the class put together a preferred list of stores and restaurants, based on most abundant and varied offering of healthy food choices.

Discussion: Were you surprised by what you found when you looked for healthy options at the stores and restaurants?

In general, were there more or less healthy options than you thought there would be?

Was there a difference in price between healthy and less healthy items? What did that look like? Why do you think that is?

In-School or At-Home Activity: Active Places, Active Programs Research

Materials: Computers with Internet connection

Objective: To make students aware of all the options within their community for physical activity and to encourage students to find the physical activities that are most fun for them.

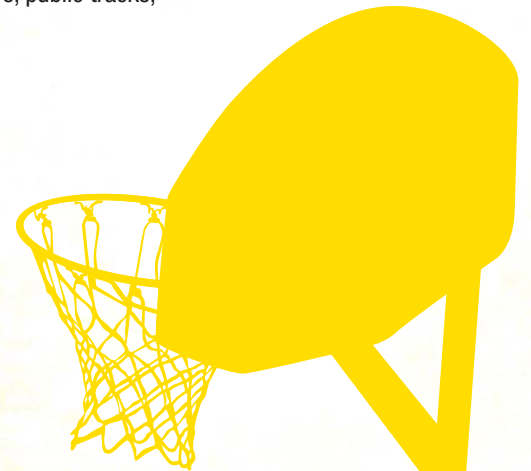
1. Discuss with students what types of physical activities they find the most fun. Encourage all students to participate by mentioning activities that aren't top of mind, like yoga, various dance programs, mall walks, etc.
2. Talk to students about the different types of places and programs a community might have for physical activity. Examples: YMCA, Boys & Girls Club, gyms, health clubs, public parks, park district programs, public tennis courts, golf courses, pools, bowling alleys, public tracks, running and fitness courses, dance studios, bike trails, hiking trails, etc.
3. Have students make a preliminary list of places and activities.
4. Ask students to use the computer to research which ones are found in your community.
5. Have students write reports on their findings including what types of places/classes/programs they found, cost of these programs, when and where.
6. Have students present their reports, then compile a list of possibilities for physical activity that includes something for everyone in your class.

Discussion: Which places/classes/programs interest you the most? Why?

How likely will you be to check out those programs? Why or why not?

How likely will you be to take part in one or more of these programs? Why or why not?

What types of activities are you interested in but couldn't find in your community? What can you do about that?



Some Kids Have “Special” Hearts: About Congenital Heart Defects

Some kids are born with special hearts; their hearts are not completely healthy. This condition is called **congenital heart disease** or **congenital heart defects**. This happens when the heart or the blood vessels around the heart don't develop correctly before a baby is born.

Many Different Treatments

There are many types of congenital heart defects and a wide range of how serious the heart defects are. So there are many ways to treat congenital heart defects. Some people may only need to go to a special heart doctor called a **cardiologist** regularly, while others may need medications or even surgery.

SHOCKING FACT

Every year about 32,000 babies are born with a heart defect in the U.S.

Learn More, Do More

Because of the research doctors have conducted in the past 10 years, they've learned a lot more about congenital heart defects and how to help kids who have special hearts.

Doing Your Part

The money you raise for the American Heart Association by participating in Hoops For Heart helps kids with congenital heart defects. This money funds research into new medicines and treatments for heart problems in order to find cures for as many as possible.

Activities

Activity: Learn About Some Special Kids With Special Hearts

Materials: Computer with Internet connection

Objective: To humanize congenital heart disease, to give students a deeper understanding of the impact of the disease on children, and to encourage compassion and understanding for those children.

1. Have students go to www.heart.org/hoops and select Kids We've Helped. Read about kids with congenital heart disease.
2. Have students write down their thoughts after reading about the children.
3. Have students share what they wrote with the class.
4. Discuss with your students what they think it would feel like to live with a special heart.

Discussion: What would it be like to be born with a heart defect?

How would your life be different?

How does it feel to be helping kids like these?

At-Home Activity: Learn More About Congenital Heart Defects

Materials: Computer with Internet connection

Objective: For students to dig more deeply into the topic, practice research techniques and writing skills.

1. Have students go to http://www.heart.org/HEARTORG/Conditions/CongenitalHeartDefects/Congenital-Heart-Defects_UCM_001090_SubHomePage.jsp as a starting point for their research on congenital heart defects.
2. Have students choose one of the topics listed on that webpage as the topic for their research.
3. Make sure all topics are covered.
4. Have students research the topic and write a paper.
5. Have students share their reports.
6. Discuss each topic after students' presentations so that all students gain an understanding of all topics.

Unhealthy Heart Dangers: Heart Attack and Stroke

It's important that kids learn about heart attacks and strokes. If they begin healthy lifestyle habits while they're young, they're more likely to continue those habits for life. These choices can prevent a heart attack or stroke later. It's also important that they understand the warning signs of heart attacks and strokes so they can take the proper action if they're with anyone showing these warning signs.

SAD FACT

In our country, heart disease kills about one-third more people than all types of cancer combined.

How Heart Attacks Happen

We learned that the heart pumps blood full of oxygen and other nutrients to all parts of the body. The heart muscle also needs oxygen and nutrients. In a person with a healthy heart, blood flows freely through arteries and veins. It's like the pipes that bring water to your home — when everything is working as it should, water comes through the pipes into your sinks and bathtubs and gets carried away through the drains. Water shouldn't flow too slowly or back up.

Unhealthy habits, like not getting enough physical activity or eating a lot of unhealthy food — *over time* — can cause a fatty substance, called **plaque**, to build up inside the blood vessels. This can limit the blood flow through the vessels or totally block the blood from going through the blood vessels. If either of these things happen, the heart can't get the oxygen and nutrients it needs and it starts to die. When this happens, it's called a heart attack.

The Warning Signs of a Heart Attack

People in the movies always seem to feel a sudden, sharp pain in their chests, then drop dramatically to the floor when they're having a heart attack. And, yes, sometimes that's how it happens. But most heart attacks come on slowly, with the person feeling uncomfortable or mild pain.

It's important to know the signs of a heart attack because getting medical help quickly can mean the difference between surviving a heart attack or not.

A person having any of these symptoms should talk to their doctor or call 9-1-1:

- Discomfort in their chest that lasts for more than a few minutes or goes away and then comes back
- Discomfort in other areas of the upper body, including pain or discomfort in one or both arms, the back, neck, jaw or stomach
- Having trouble breathing with or without chest discomfort
- Breaking into a cold sweat, having nausea/vomiting or feeling lightheaded

People can survive a heart attack if they receive medical care quickly. If you are with someone who has any of the symptoms of a heart attack, get help immediately by calling 9-1-1.

How Strokes Happen

A stroke can happen when a blood vessel that carries oxygen to the brain gets blocked or bursts. When that happens, part of the brain can't get the oxygen it needs, so it starts to die. Without the help of a doctor or hospital right away, a stroke can cause injury to the brain.

The people who are at the most risk for a stroke are over age 55, don't eat a healthy diet, don't get a lot of physical activity, may be overweight or have certain medical problems.

The Warning Signs of a Stroke

Just like with a heart attack, it's important to get medical help as quickly as possible for people having a stroke. The sooner they get medical help, the better their chances are for making a complete recovery from the stroke.

People who are having a stroke may show the following symptoms:

- Sudden numbness or weakness of the face, arm or leg, especially on one side of the body
- Sudden confusion, trouble speaking or difficulty understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or loss of coordination
- Sudden, severe headache with no known cause

As with a heart attack, if you are with someone who has any of the warning signs of a stroke, get help immediately by calling 9-1-1.

Activities

Activity: CALL 9-1-1! Teaching How to Call 9-1-1 in an Emergency

Materials: Disconnected land line phone or cell phones

Objective: To teach students how to call 9-1-1 in case of an emergency and make them as familiar and comfortable as possible with the process.

1. Explain what an emergency situation is — a family member or friend is unconscious or seriously hurt, a fire, an intruder in the house — and what is not an emergency situation: a cut, bump or bruise, a stolen item, a lost item or pet.
2. Stress that students should never call 9-1-1 unless it's an emergency, and that it's against the law in some places to use the number if it's not an emergency.
3. Students need to know their address (apartment number as well) and phone number even though most 9-1-1 calls are traced.
4. If possible, students should call 9-1-1 from a land line instead of a cellphone (because a land line is traceable).
5. When they call 9-1-1, they will be asked their name, location, the type of emergency, who needs help and if that person is awake or unconscious.
6. Teach students to stay on the phone with the 9-1-1 operator until help comes and the 9-1-1 operator tells them they can hang up.
7. Have them speak clearly and loudly, even if they are scared. Emphasize it's OK if they don't know all the answers to the operator's questions. Let them know that it's OK to feel scared during an emergency, but that it's important to stay calm to get help as quickly as possible.
8. Have students role play calling 9-1-1 on the phone, with you as the operator.

Discussion: Encourage students to discuss any fears they have about calling 9-1-1 and ask students to offer tips on dealing with those fears.

Activity: Research and Report on the History and Advancements in Medical Treatments for Heart Disease and Improvements in Cardiovascular Health

Materials: Computers with Internet access

Objective: For students to explore how medicine has advanced in treating and preventing heart disease and stroke. For students to expand their knowledge of how the heart works by learning about ways to treat and prevent heart disease. To inspire students to take good care of their hearts.

1. Ask your students if they know of anything, other than medication, that can treat heart disease and decrease the risk of heart disease.
2. Challenge them to research advancements in the treatment and prevention of heart disease since 1900 and report back to the class on their findings.
3. *Extension Activity:* Ask students if they know anyone who has survived a heart attack or has heart disease. Have them interview that person (if appropriate) on what it's like living with a heart condition.

Discussion: Talk with your class about the benefits of living and maintaining heart health versus having to undergo the medical treatments. What are the pros and cons?

SAD FACT

Even though getting quick medical treatment can greatly improve the chance of recovery, only about 50 percent of stroke patients get to a doctor or hospital within two hours of the stroke



American Alliance for
Health, Physical Education,
Recreation and Dance

1900 Association Drive
Reston, Virginia 20191
aahperd.org



**American
Heart
Association®**

7272 Greenville Ave.
Dallas, Texas 75231-4596
heart.org