

# Nutrition and Your Health

## Chapter 19

*Nutrition and Wellness*

## Chapter 20

*Health and Fitness*

### Unit Preview

This unit is about how to stay healthy by managing your nutrition and physical activity. In this unit, you will learn about:

- Eating healthful meals that include all the food groups.
- Using the Dietary Guidelines and MyPyramid.
- The importance of fitness to your physical and mental health.
- The roles exercise and nutrition play in maintaining a healthy weight.

### Explore the Photo

Eating healthful foods is essential if you want to maintain your mental and physical health.

*What are some healthful foods that you already eat and enjoy?*



## Life Skills Project Preview

### Play with Your Food!

When you are done studying this unit, you will complete a project in which you will:

- ✓ Write a play about good nutrition and fitness.
- ✓ Interview an expert on diet and exercise.
- ✓ Perform your play in front of your class.

The prewriting activity below will help you get started.



### Prewriting Activity Take a Poll

Ask your classmates and friends what they think the most important health topics are for your age group. Suggest topics you may have read about such as junk food, diets, trans fat, and working out.

- What health topics are students interested in learning about?
- What health topics are most important to you? Why?





# Nutrition and Wellness

## Section 19.1

### *Nutrients for Health*

■ **Main Idea** Eat healthful and balanced meals with nutrients to help regulate your body functions.

## Section 19.2

### *Healthful Eating*

■ **Main Idea** Use the Dietary Guidelines from MyPyramid to promote a balanced diet.



### Explore the Photo

When you choose to eat nutritious foods and get plenty of physical activity, you can help prevent illness and protect your health.

*What good choices have you made to take care of your health?*



### Writing Activity

#### Persuasive Paragraph

**Eat the Right Food** With your busy schedule of homework, classes, family obligations, and other activities, it can be difficult to eat the right foods. It is important, however, to eat a nutritious, balanced diet, even when it seems like you are too busy to think about it. Write a paragraph for teens to persuade them to find time for healthful foods.

**Writing Tips** Follow these steps to write a persuasive paragraph.

1. State your position clearly.
2. Make sure each sentence in the paragraph includes details to support the main idea.
3. Use facts to back up your position.

## Reading Guide

## Before You Read

**Check for Understanding** If you have questions as you are reading, that means you are checking your understanding of the material. To get the most out of the text, try to answer those questions.

## Read to Learn

## Key Concepts

- ✓ **Distinguish** the difference between hunger and appetite.
- ✓ **Describe** the functions of proteins, carbohydrates, and fats in the human body.

## Main Idea

Eat healthful and balanced meals with nutrients to help regulate your body functions.

## Content Vocabulary

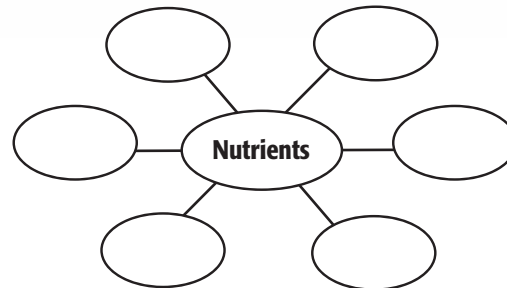
- |                |                |
|----------------|----------------|
| ● wellness     | ● fiber        |
| ● nutrient     | ● whole grain  |
| ● appetite     | ● cholesterol  |
| ● calorie      | ● vitamin      |
| ● protein      | ● mineral      |
| ● amino acid   | ● osteoporosis |
| ● carbohydrate |                |

## Academic Vocabulary

- adequate
- brittle

## Graphic Organizer

As you read, write down the six nutrients found in food. Use a graphic organizer like the one shown to help you organize your information.



**Graphic Organizer** Go to this book's Online Learning Center at [glencoe.com](http://glencoe.com) to print this graphic organizer.

## Academic Standards



## English Language Arts

**NCTE 8** Use information resources to gather information and create and communicate knowledge.



## Mathematics

**NCTM Number and Operations** Understand numbers, ways of representing numbers, relationships among numbers, and number systems.



## Social Studies

**NCSS I C Culture** Apply an understanding of culture as an integrated whole that explains the functions and interactions of language, literature, the arts, traditions, beliefs and values, and behavior patterns.

**NCTE** National Council of Teachers of English

**NCTM** National Council of Teachers of Mathematics

**NSES** National Science Education Standards

**NCSS** National Council for the Social Studies

**W**hat is your favorite food? Is it pizza, or hamburgers, or maybe yogurt? Perhaps you are a vegetarian and you love vegetable lasagna. Eat a variety of foods to supply your body with the energy you need. Balance your diet by including appropriate foods from all of the food groups.




## Look and Feel Good

Your diet affects the way you look and feel. Eating healthy foods can help you look your best. Reaching for your best level of health is called **wellness**. Exercise, adequate rest, and personal hygiene also contribute to your personal health and wellness.

Feeling good and being healthy go hand in hand. Along with exercise and rest, food affects how you feel, no matter what your age. Food is your source of energy for physical and mental activities. You need energy to perform well in school and in all your activities. Without **adequate**, or enough, nutrients, you may tire easily and feel less alert. A **nutrient** (<sup>1</sup>nōō-trē-ənt) is a substance in food that is important for the body's growth and maintenance. Proper nutrition has a direct effect on achievement. When you eat right, you are more likely to have the energy needed to perform mental and physical activities well. Eating right can help you look, feel, think, and act your best.



 **Nutrition Value** Getting the right nutrients from the foods you eat is very important to your health. *What are some of the body processes which are affected by the nutrients you eat?*



### As You Read

**Connect** Food tastes good, and eating the right foods can keep you healthy. What healthful foods have you eaten today?

### Vocabulary

You can find definitions in the glossary at the back of this book.



### Physical Health

#### **Eat Nutritious Foods**

Eating well-balanced meals can help you function at your best in school. When you have the right nutrients in your meals, it can help you focus on your school work and provide energy for other activities.



A healthful eating style helps protect you from illness. When you get the nutrients you need, your body is better able to fight infections, heal wounds, and recover quickly when you do get sick.

## Satisfying Your Hunger

When your stomach growls, you are experiencing a sign of hunger. Hunger is the physical need to eat. Hunger tells you that your body needs food, but it does not tell you what to eat. It is up to you to learn to select healthful foods and decide how much to eat.

Appetite is different from hunger. **Appetite** is the desire to eat. When you smell fresh strawberries or a chocolate cake, you might experience an appetite for those foods without necessarily being hungry.

When your hunger is satisfied, it is time to stop eating. Some people still have an appetite, however, so they continue to eat. If people eat too much food, or food that is too high in calories, they may gain weight. A **calorie** is a unit that measures the energy used by the body and the energy that food supplies to the body. However, that energy is stored as fat if you eat food that has more calories than your body uses.



Reading Check

**Explain** How can proper nutrition benefit achievement?

### Figure 19.1 What Do Nutrients Do?

**Meet the Nutrients** There are six kinds of nutrients and each one has an important function.  
*How do nutrients help the functions of the body?*

- **Proteins** help the body to build, repair, and maintain cells and tissue.
- **Carbohydrates** provide energy and fiber.
- **Fats** provide energy and supply essential fatty acids for normal growth and healthy skin.
- **Vitamins** help your body use other nutrients, store and use energy, and fight infection.
- **Minerals** help build sturdy bones and teeth, maintain healthy blood, and aid in the regular elimination of body wastes.
- **Water** carries nutrients to body cells, aids in digestion, removes wastes, and helps control your body temperature.

## Nutrient Functions

Nutrients in food keep you healthy, help you grow, and give you energy. Nutrition is the study of nutrients and how the body uses them. Nutrients are released from food during digestion. Digestion is the process of breaking down food into a form the body can use. Nutrients are then absorbed into the bloodstream and carried to cells where they perform different, important functions. **Figure 19.1** describes the functions of the six kinds of nutrients.

Nutrients affect body processes such as your heartbeat, blood flow, and breathing. These processes, in turn, affect the way you feel and how much energy you have. They also affect the quality of your skin, hair, and nails. To keep your body functioning properly, you must choose foods that supply enough of each nutrient. Lack of nutrients can cause health problems.

### Proteins

A **protein** is a type of nutrient that is needed to build, repair, and maintain body cells and tissues. Your skin, hair, blood, muscles, and vital organs are all made of proteins. During the teen years, you need proteins to help your body grow and develop to its adult size.



### Count Calories

Tony is trying to eat 2,700 calories per day, and would like to consume  $\frac{1}{3}$  of those calories at each meal. For lunch, he eats a large bag of potato chips (380 calories), a cheeseburger with mustard and ketchup (545 calories), and a can of soda (155 calories). What fraction of his total daily calories did Tony consume for lunch? Was this more or less than  $\frac{1}{3}$ ?

**Math Concept Comparing Fractions** To compare two fractions with different denominators, rewrite each one as an equivalent fraction with a common denominator. For example, to compare  $\frac{5}{6}$  and  $\frac{3}{4}$ , you would rewrite them as  $\frac{10}{12}$  and  $\frac{9}{12}$ .

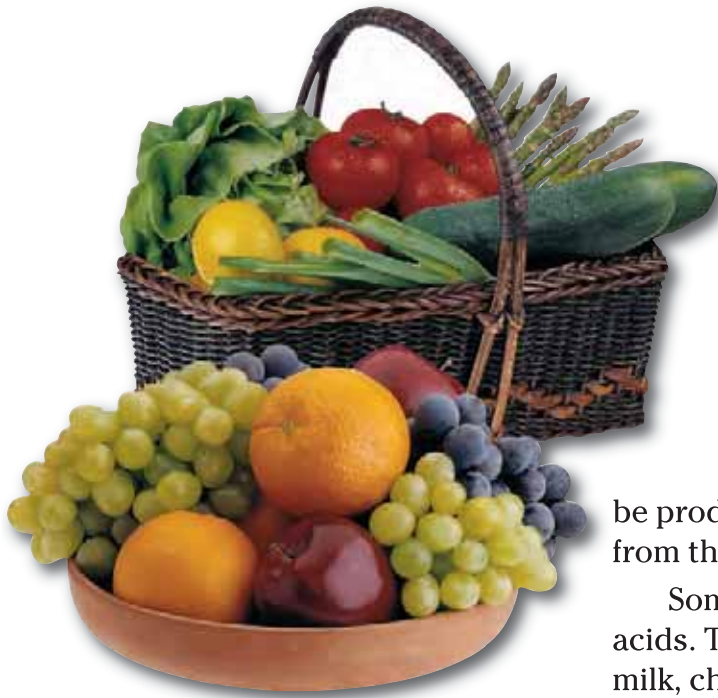
**Starting Hint** Add up the calories for the chips, cheeseburger, and soda. Write this total as the numerator of a fraction, with 2,700 as the denominator. Reduce to lowest terms. Then, compare that fraction to  $\frac{1}{3}$  by rewriting each fraction with common denominators.

**Math** For more math help, go to the Math Appendix located at the back of this book.

**NCTM Number and Operations** Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

**Combine Proteins** Combining proteins will provide the essential amino acids your body needs. **Why are amino acids important to your health?**





**Fiber Source** Fruits and vegetables are good sources of fiber. *Why is eating enough fiber important?*

Even after you stop growing, you still need proteins to help your body repair itself. Billions of worn-out body cells are replaced every day, and proteins are used to make those new cells.

Each protein is a different combination of amino acids. **Amino acids** are the building blocks that make up proteins. Your body manufactures some amino acids. Others, called essential amino acids, cannot be produced by your body. They must come from the food you eat.

Some foods contain all the essential amino acids. These foods, such as meat, fish, poultry, milk, cheese, and eggs, are called complete proteins. Other foods are good sources of protein, but they lack one or more of the essential amino acids. These foods, called incomplete proteins, come from plants and include dry beans, nuts, and grains.

By combining proteins from grains with proteins from dry beans or nuts, you can get all the essential amino acids that your body needs.

## Carbohydrates, Fiber, and Whole Grains

**Carbohydrates** (*kär-bō-'hī-,drāts*) are the starches and sugars that give the body most of its energy. Starches are found in grains, such as oats, rice, and wheat. Foods made from grain, including bread, tortillas, pasta, and cereals, also provide starch. Potatoes, corn, dry beans, and nuts are additional sources of starch.

Natural sugars are found in fruits and milk, which are also high in other nutrients. Candy, cake, and soft drinks also contain sugar, but they are high in calories and low in other nutrients. They should be eaten less often than fruits and milk.

Almost all carbohydrates come from plant sources, which also provide fiber. **Fiber** is plant material that your body cannot digest. Although fiber is not a nutrient, eating the right amount of fiber-rich foods helps the body function normally. Fiber provides bulk, which helps move food through your digestive system. It also helps your body eliminate waste. A diet rich in high-fiber foods can reduce the risk for certain diseases, such as colon cancer.

Good sources of fiber include foods made from whole grains. **Whole grains** are foods that contain the entire edible grain. Whole wheat breads, whole wheat cereals, and popcorn are whole grain foods. Fruits and vegetables, especially those with edible skins, stems, and seeds, also contain fiber.

## Fats

Like carbohydrates, fats are an important source of energy. Fats contain twice as many calories as carbohydrates. There are 9 calories in 1 gram of fat. Saturated fats are the least healthful type of fat. Read labels to find out how much fat is in the foods you eat.

Your body relies on fat cells to store energy and to help regulate body temperature. Your skin needs fats to stay smooth, and your nervous system needs them to work properly. Fats also carry several vitamins needed by the body.

Saturated fats are found in food from animal sources, such as meats, egg yolks, cheese, and butter. Saturated animal fats contain a waxy substance called **cholesterol** (kə-<sup>1</sup>les-tə-,rōl). Your body produces all the cholesterol it needs, so you do not need to add cholesterol to your diet. In fact, diets high in cholesterol have been linked to an increased risk of heart disease. Unsaturated fats come from plants. These fats are found mainly in vegetable oils, such as olive, corn, or canola oil. No more than 30 percent of the calories you consume should come from fat, with the majority being unsaturated fats.


## Vitamins

A **vitamin** is a substance that is needed in small quantities to help regulate body functions. **Figure 19.2** on page 427 lists different vitamins and describes the ways in which these vitamins benefit your body.

The essential vitamins include A, B-complex, C, D, and E. Your body cannot make most vitamins, so you must get them from the foods you eat. These nutrients can easily be obtained from a variety of delicious foods.

**Vitamin A** Have you ever walked into a dark room after being in the bright sunlight? Vitamin A helps your eyes to adjust to the dark. It also helps keep your skin healthy and helps your body resist infection. Dark green, leafy vegetables, deep yellow vegetables, and dairy products are good sources of vitamin A.



 **Vitamin Source** Dark green, leafy vegetables contain vitamin A. *Why is important to eat foods containing vitamin A?*



### **Dietary Supplements**

It may seem easy to fill in nutritional gaps with vitamin and mineral pills, but they are not risk-free. If you do choose to supplement your diet, follow these tips:

- Do not mix supplements with prescription medication.
- Talk to a pharmacist or doctor about which ones are right for you.
- Avoid supplements that promise you will lose weight, or prevent or cure illness.
- Only take the recommended amount.

### **B-Complex Vitamins: Thiamine, Niacin, and Riboflavin**

B-complex vitamins give you energy by helping your body use calories from carbohydrates, fats, and proteins. Riboflavin, found in dairy products, helps keep your eyes and skin healthy. Thiamine and niacin, found in meat, dry beans, and grain products, promote a healthy nervous system. B-complex vitamins come from many different foods. When selecting grain products, such as flour and bread, try to choose whole-grain or enriched foods.

**Vitamin C** Ascorbic acid, also called vitamin C, helps your body fight infection and helps wounds heal. It also helps to keep your gums healthy. Good sources of vitamin C include oranges, melons, berries, and dark green, leafy vegetables, such as spinach and broccoli.

**Vitamin D** Vitamin D helps your body absorb and use minerals, such as calcium and phosphorus. It is essential for normal bone and tooth development. Your body can make its own vitamin D when your skin is exposed to sunlight. Foods that provide vitamin D include fortified milk, fish oils, beef, butter, and egg yolks.

**Vitamin E** To keep red blood cells healthy, your body needs vitamin E. You can find it in vegetable oils, yellow vegetables, grains, nuts, and green leafy vegetables.

## **Minerals**

Food also contains **minerals**, which are elements needed in small amounts for strong bones and teeth, healthy blood, and regular elimination of body wastes. Like vitamins, minerals are essential to good health.

Every day your body uses minerals. Minerals such as iron, zinc, and iodine, are needed only in small amounts. Calcium, phosphorus, and magnesium are needed in greater amounts. **Figure 19.2** describes the minerals your body needs and the various foods in which they can be found.

**Calcium** Young people need calcium to develop strong teeth and bones. Calcium is also necessary throughout life to reduce the risk of **osteoporosis** (*äs-tē-ō-pä-<sup>1</sup>rō-səs*), a condition in which bones gradually lose their mineral content. Bones can become weak and **brittle**, or easy to break. Calcium also helps your muscles move and your heart beat.



**↑ Milk and Calcium** Milk is a good source of calcium. *What are some other sources of calcium?*



## Figure 19.2 Vitamins and Minerals

**Give Your Body What it Needs** Vitamins and minerals are essential to good health. *Why is it better to get vitamins and minerals from healthful foods than to replace foods with vitamin and mineral supplements?*

Vitamins	Function and Benefits	Food Sources
<b>Vitamin A</b>	Promotes healthy skin, eyes, nose, mouth, throat	Dark green vegetables, deep yellow vegetables, fruits, eggs, dairy products
<b>B-Complex Vitamins</b>	Help carbohydrates, fats, and proteins produce energy	Whole-grain foods, pork, organ meats, dry beans, peas
■ <b>Thiamine</b>	Promotes healthy growth, appetite, digestion, nervous system	Whole-grain foods, pork, organ meats, dry beans, peas
■ <b>Riboflavin</b>	Promotes healthy skin, eyes	Milk, cheese, yogurt, eggs, organ meats, poultry, fish, enriched breads, cereals
■ <b>Niacin</b>	Promotes healthy digestive tract, nervous system, skin	Whole-grain foods, liver, meat, fish, poultry, nuts
<b>Vitamin C</b> (also called ascorbic acid)	Helps the body fight infection and heal wounds; promotes healthy gums	citrus fruits, berries, melon, broccoli, spinach, potatoes, tomatoes, green pepper, cabbage
<b>Vitamin D</b>	Works with calcium to build strong bones and teeth	Fortified milk, fish liver oil
<b>Vitamin E</b>	Keeps oxygen from destroying other nutrients and cell membranes	Vegetable oil, salad dressing, margarine, grains, fruits, some vegetables
<b>Vitamin K</b>	Helps blood clot	Green leafy vegetables, egg yolks
Minerals	Function and Benefits	Food Sources
<b>Calcium</b>	Promotes healthy teeth, bones, heart function, muscles, soft tissue, nerves, blood clotting	Milk, cheese, yogurt, green leafy vegetables, fish with edible bones
<b>Fluoride</b>	Helps make teeth strong	Drinking water
<b>Iodine</b>	Helps the thyroid gland work properly	Saltwater fish, iodized salt
<b>Iron</b>	Aids in the body's use of oxygen	Meat, liver, eggs, dry beans, dried fruits, whole-grain foods, spinach
<b>Magnesium</b>	Promotes and regulates many body functions and produces energy	Nuts, peanut butter, seeds, dry beans and peas, whole-grain foods, milk, fish, green leafy vegetables, bananas
<b>Phosphorous</b>	Promotes healthy bones and teeth; helps the body produce energy	Milk, yogurt, cheese, egg yolk, meat, fish, poultry
<b>Potassium</b>	Helps regulate body fluids and heart function	Orange juice, bananas, meat, nuts, dried fruits
<b>Zinc</b>	Promotes wound healing; affects growth, taste, appetite, smell	Meat, organ meats, eggs, poultry, seafood, cheese, milk
<b>Sodium</b>	Helps regulate body fluids and muscle function	Table salt, cured meats, pickles, many processed foods



### Physical Health

#### Get Plenty of Sleep

Sleeping the recommended number of hours of sleep each night keeps you alert and ready to learn. If you are sleepy, you are less likely to remember the information you have heard or read.



When you bleed, calcium aids vitamin K in helping your blood clot. Calcium also helps keep your nerves and soft tissues healthy. The best sources of calcium are dairy products and dark green, leafy vegetables.

**Iron** Like calcium, iron is one of the most important nutrients. Iron is an essential component of blood. It helps carry oxygen to your brain, your muscles, and all of your body's cells. Oxygen helps your body produce energy for physical activity. Females need about twice as much iron as males. The best sources of iron are meat, poultry, dry beans, dried fruits, and dark green, leafy vegetables.

### Water

Water helps regulate your body functions and carries nutrients to body cells. It aids in digestion, removes wastes, and helps control your body temperature. Water is lost through perspiration and urine, so you must replace it. You should drink at least eight glasses of water each day. When you play basketball, tennis, or engage in other physical activities, your body produces sweat, and you need even more water.

## Section 19.1 After You Read

### Review What You Have Learned

1. **Explain** how you can achieve a high level of wellness.
2. **Identify** good sources of Vitamin A.

### Practice Academic Skills



#### English Language Arts

3. Create an informative pamphlet that communicates the importance of minerals in a healthful meal plan. Use information from the chapter for your pamphlet. Find clip art, graphics, or photos to make your pamphlet attractive, informative, and easy to read.

**NCTE 8** Use information resources to gather information and create and communicate knowledge.



#### Social Studies

4. Think about how food plays a part in tradition and culture. Name one of your family's traditions which includes food. Does the food serve a purpose other than nutrition? Be prepared to share your findings and conclusions with the class.

**NCSS 1C** Apply an understanding of culture as an integrated whole that explains the functions and interactions of language, literature, the arts, traditions, beliefs and values, and behavior patterns.



**Check Your Answers** Check your answers at this book's Online Learning Center at [glencoe.com](http://glencoe.com).

## Reading Guide

## Before You Read

**Use Notes** When you come across an unfamiliar section or term, write down the word or a question. After you finish the section, look up the terms or try to answer your questions based on what you have read.

## Read to Learn

## Key Concepts

- ✓ **Explain** how MyPyramid can help you have a healthy lifestyle.
- ✓ **Name** the consequences of being overweight.
- ✓ **Identify** examples of healthful snacks.
- ✓ **Describe** how to choose your meals when dining out.

## Main Idea

Use the Dietary Guidelines from MyPyramid to promote a balanced diet.

## Content Vocabulary

- MyPyramid
- diabetes
- portion
- sodium


## Academic Vocabulary

- component
- refined

## Graphic Organizer

As you read, write down eight topics from the Dietary Guidelines. Use a graphic organizer like the one shown to help you organize your information.

Dietary Guidelines	
1.	5.
2.	6.
3.	7.
4.	8.

 **Graphic Organizer** Go to this book's Online Learning Center at [glencoe.com](http://glencoe.com) to print this graphic organizer.

## Academic Standards



## English Language Arts

**NCTE 8** Use information resources to gather information and create and communicate knowledge.



## Science

**NSES A** Students should develop abilities necessary to do scientific inquiry.



## Social Studies

**NCSS III J People, Places, and Environments** Analyze and evaluate social and economic effects of environmental changes and crises resulting from phenomena such as floods, storms, and drought.

**NCTE** National Council of Teachers of English

**NCTM** National Council of Teachers of Mathematics

**NSES** National Science Education Standards

**NCSS** National Council for the Social Studies

**W**ith so many food options, it is easy to see how it is sometimes difficult to choose the right foods to eat. Tempting advertisements for fast food and soda are often directed at young people. However, you can use the MyPyramid as a guideline for eating right. By following its suggestions, you can live a healthy lifestyle.



## As You Read

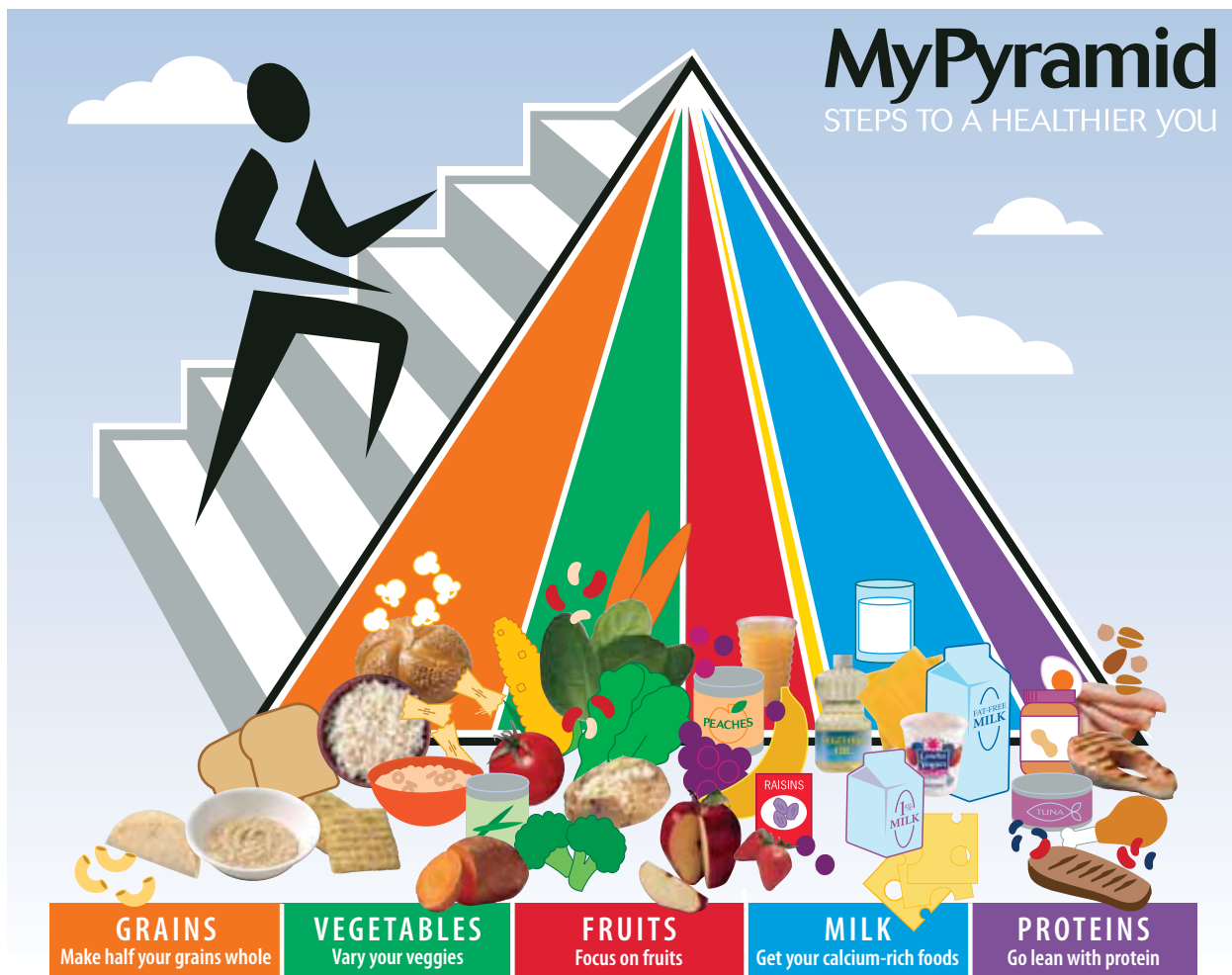
**Connect** Think about your weight. What are some of the influences that affect the way you see yourself?

# MyPyramid and the Dietary Guidelines

**MyPyramid** is a colorful representation of how to make healthful food choices and increase physical activity. Each colored band represents a food group. The width of each band is a guide to portion size. **Portion** is an appropriate amount of food for one person. The smallest band, the yellow one, represents oils and is not considered a food group. The person climbing the side of MyPyramid represents the physical fitness **component**, or part. Your level of physical activity varies depending on your age and also affects how you eat. People who are physically active need to eat more than less active people. Also, as you can see in **Figure 19.3**, nutrition requirements change depending on your age and what stage of life you are in. The important point to remember is that you need to eat foods from all the food groups to get the nutrients you need.

## Vocabulary

You can find definitions in the glossary at the back of this book.



**MyPyramid** The keys to a healthy lifestyle are being aware of what you eat and following dietary guidelines. *What steps can you take to eat more healthfully?*

## Figure 19.3 Nutrition Across the Life Span

**Nutrition Stages** There are different nutrition requirements for every age. *What are the nutrition requirements for your age group?*

<b>Life Span Period</b>	<b>Nutrition Requirements</b>
<b>Pregnancy</b> (includes nursing mothers)	Approximately 300 additional calories are required each day for increased energy needs.
<b>Infancy</b> (Birth-1 year)	Most of the infant's nutritional needs during the first year are met through human milk or infant formula.
<b>Early Childhood</b> (2-5 years)	Breakfast is especially important, and nutritious snacks help meet the child's daily nutrient needs.
<b>Middle Childhood</b> (6-11 years)	Snack foods may need to be monitored because consumption of sugary foods and empty calorie foods increases during this stage.
<b>Adolescence</b> (12-19 years)	An increased need for calcium occurs due to rapid bone growth. Teens need to increase their intake of foods from the milk group.
<b>Young Adulthood</b> (19-39 years)	Eating a well-balanced diet and exercising on a regular basis are good beginnings for young adults. Iron and calcium intakes are very important.
<b>Middle Adulthood</b> (40-65)	Eat a variety of foods, maintain desirable weight, avoid too much fat and cholesterol, increase fiber intake, avoid too much sugar and sodium, exercise regularly, refrain from smoking, and limit stress.
<b>Older Adulthood</b> (over 65 years)	A healthy diet can help reduce some of the effects of aging. Vitamins B <sub>6</sub> , B <sub>12</sub> , C, D, E, and thiamin, calcium, iron, and zinc are important. Regular exercise is needed.

How can you make sure that your diet contributes to your wellness? **Figure 19.4** on page 432 describes the Dietary Guidelines, which take into account the important effect diet has on your health.

By following the Dietary Guidelines, you can ensure that you are eating the right types of foods. You can also reduce your chances of developing certain health problems. Of course, food alone cannot make you healthy. Good health also depends on your heredity and environment. Your exercise habits also play an important role in your health. Following the Dietary Guidelines can help keep you healthy, and perhaps even help improve your health.



**Explain** What are the benefits to following the Dietary Guidelines?

## Figure 19.4 Dietary Guidelines

**Improve Your Health** To ensure you are eating the right types of foods, follow these Dietary Guidelines. *What else can you do to maintain and improve your health?*

- **Get enough nutrients within your calorie needs.** Choose a variety of nutritious foods and beverages from the basic food groups.
- **Maintain a healthy weight.** To maintain body weight in a healthy range, balance your intake of calories from food and beverages with the calories you burn in physical activities.
- **Be physically active every day.** Regular physical activity promotes health, well-being, and a healthy body weight. Teens should be physically active for at least 60 minutes every day.
- **Choose whole grains, fruits, vegetables, and milk.** Choose a healthy eating plan that emphasizes fruits, vegetables, whole grains, and fat-free or low-fat milk and milk products.
- **Limit fats and cholesterol.** For teens, total fat intake should only be 25 to 35 percent of the total calorie intake. Most fats should come from sources such as fish, nuts, and vegetable oils.
- **Be choosy about carbohydrate foods.** Choose fiber-rich fruits, vegetables, and whole grains often. Look for foods and beverages low in added sugars.
- **Reduce sodium (salt) and increase potassium.** Choose and prepare foods with less salt. Eat plenty of potassium-rich foods, such as fruits and vegetables.
- **Keep food safe.** Know how to prepare, handle, and store food safely to keep you and your family safe.

## Maintain a Healthy Weight

A person who is at a healthy weight is not overweight or too thin. Being overweight is linked with illnesses such as high blood pressure, heart disease, stroke, cancer, and diabetes. **Diabetes** is a condition in which the body cannot control blood sugar properly. Although being too thin is less common, it is also linked with disease and a greater risk of early death.

How can you know if your weight is “healthy”? You should not compare your weight with that of your friends. There are differences among people of the same age and even the same height. For example, people with a large body frame usually weigh more than people of the same height with a smaller body frame. Also, people with a lot of muscle may also weigh more than people of the same height with less muscle. There are many different healthy weights for people of the same height. At this time in your life, growing and gaining weight are normal. To determine if your weight is right for you, consult your doctor. He or she can consider all the factors that contribute to a healthy weight for you.



**Examine** How can you determine if your weight is right for you?



# How To...

## Measure Food Portions

**A**ctual portion sizes can be deceiving. When you fill your bowl with ice cream, you actually may be eating several helpings. Follow these guidelines to judge the right portion when a measuring cup is not handy.

<p><b>½ cup of fruit juice</b> = size of a 4-oz juice box</p> 	<p><b>1 small apple = 1 cup</b> = size of a baseball</p> 	<p><b>½ cup of sliced fruit</b> = size of a small computer mouse</p> 	<p><b>2 cups</b> <b>Fruit Group</b></p>
<p><b>½ cup of carrots or other vegetables</b> = size of a small computer mouse</p> 	<p><b>10 medium fries count as ½ cup</b> = size of a deck of cards</p> 	<p><b>1 cup of raw vegetables</b> = size of a baseball</p> 	<p><b>2½ cups</b> <b>Vegetable Group</b></p>
<p><b>1 cup of milk</b> = an 8-oz carton of milk</p> 	<p><b>1 cup of yogurt</b> = size of a baseball</p> 	<p><b>1½ oz. of low-fat natural cheese*</b> = size of two 9-volt batteries</p> <p><small>*Counts as one cup</small></p> 	<p><b>3 cups</b> or equivalent <b>Milk Group</b></p>
<p><b>2-3 oz of meat, poultry, or fish</b> = size of a deck of cards</p> 	<p><b>1 tablespoon of peanut butter counts as 1 oz</b> = size of one 9-volt battery</p> 	<p><b>½ cup of beans counts as 2 oz</b> = size of a small computer mouse</p> 	<p><b>5½ ounces</b> or equivalent <b>Meat &amp; Beans Group</b></p>
<p><b>½ cup of cooked pasta = 1 oz</b> = size of a small computer mouse</p> 	<p><b>1 cup of dry cereal = 1 oz</b> = size of a baseball</p> 	<p><b>1 slice of bread counts as 1 oz</b> = size of a CD*</p> <p><small>*About the thickness of 10 CDs (½ inch)</small></p> 	<p><b>6 ounces</b> or equivalent <b>Grains Group</b></p>



### **Physical Health**

#### **Exercise Frequently**

Exercise helps relieve stress and builds your endurance. It can also help you sleep better. When you get enough sleep and exercise, you will be more prepared to learn.




## **Eat Right**

Eating the right foods can help you live a long and healthy life. It is important to check the labels of foods before you buy them. Not all foods labeled low fat or sugar-free are healthful. For instance, cereals made with whole grains may also be higher in fat than another cereal, but can still be very healthful. Compare several brands of an item to see which one is really most healthful.

## **Fats and Cholesterol**

Fat is an important nutrient that provides energy. However, health experts recommend a diet that is low in fat and cholesterol. The amount of fat in your diet depends on what you eat over several days, not in one meal or type of food. For example, if you like a small amount of butter on your baked potato, you will not be getting too much fat as long as you limit the amount of other fats you eat. Some foods that contain fats and cholesterol, such as meats, milk, cheese, and eggs, also contain high-quality protein and important vitamins and minerals. Choose low-fat versions of these foods such as non-fat or low-fat milk and cheese. Eating meals and snacks low in fat and cholesterol can help lower your risk of obesity and heart disease.



 **Healthy Weight** Different body types have different healthy weights. *What are some of the factors that affect what a person's healthy weight is?*

Cholesterol is carried through your bloodstream by lipoproteins. Two of the main kinds are high-density lipoprotein (HDL) and low-density lipoprotein (LDL). The cholesterol carried by HDL is sometimes called “good” cholesterol. That is because HDL helps remove cholesterol from the blood and may reduce the risk of heart disease. The “bad” LDL cholesterol builds up in the arteries and may increase the risk of heart disease.

## Vegetables, Fruits, and Grains


These foods are an essential part of a varied and healthful diet. They contain complex carbohydrates, fiber, and other nutrients that contribute to good health. In addition, these foods are usually low in fats. If you eat the suggested amounts of these foods, you are also likely to decrease the fat that you are eating and get more fiber. Fiber is found naturally in whole-grain breads and cereals, dry beans and peas, vegetables, and fruits.

## Sugar

Sugar is a type of carbohydrate that is found in many foods. Sugar provides calories, and most people like the way it tastes. Eating too much sugar is not healthful, but it is not necessary to avoid sugar entirely. Fruit contains natural sugar. Many foods such as cookies, some cereals, and soft drinks, contain **refined**, or chemically processed, sugar. Natural sugar is preferable to refined sugar so try to make most of your sugar intake natural sugar.

## Salt and Sodium

Salt contains **sodium**, a mineral that helps regulate the amount of fluid in our bodies. You need some sodium to stay healthy. However, most Americans take in more sodium than they need. Too much sodium can lead to high blood pressure, heart attack, and stroke. These risks increase as you get older. To reduce the amount of sodium you eat, flavor your food with herbs and spices instead of salt. Avoid salty snacks, and choose processed food made with less sodium.



**SCIENCE YOU CAN USE**

**Hidden Sodium**

Salt may be hidden in foods that do not taste salty, such as cake or bread. Many cereal manufacturers add salt to cereal to bring out the taste of the sugar.

**Procedure** Survey your own cupboard. Choose one type of food, such as canned soup or cereal. Scan the ingredient lists for salt. The closer to the beginning of the list of ingredients, the more salt there is in the food product. Read the nutrition label to find out how much salt is in each serving.

**Analysis** Write down your findings. Note the amount of sodium (salt) listed on the nutrition label per serving. Indicate where in the ingredients list salt is listed.

**NSES A** Develop abilities necessary to do scientific inquiry.





### Nutrition Source

Dining out can provide good sources of nutrition as well as time to spend with friends.

*What sources of nutrition can be found in pizza?*



## Snacks

Consume empty-calorie snacks in very limited amounts. Empty-calorie foods are foods that are high in calories but low in nutrients. Potato chips, candy, and soft drinks are examples of empty-calorie foods. They often contain large amounts of sugar, salt, and fat, but little nutrition. Select whole-grain items from the bread group. A wide variety of nutrient-dense snacks can be found in the fruit group and vegetable group. For example, blend orange juice and a banana with non-fat yogurt and ice cubes to make a healthful fruit smoothie. Mix nuts, raisins, pretzels, and dry cereal to form a healthful grab-and-go snack.



### Reading Check

**Identify** What are some examples of foods that are high in calories but low in nutrients?

## Dining Out

Do you enjoy dining out? Maybe you like getting together with friends over a meal. Perhaps your family enjoys eating at a restaurant to try new foods. When you dine out, remember to choose your meals with the same attention to nutrition as when you eat at home.

As you look at a menu, the most important point to remember is to choose foods from all of the food groups. Here are some tips for ordering when you dine out:

- Eat only until you feel satisfied. Overeating is more common when dining out.
- Most portion sizes are larger than a serving. Bring leftovers home.
- Select dishes that are low in fat, sugar, salt, and calories. For example, baked potatoes have much less fat than French fries.
- Choose nutrient-dense dishes. For example, order whole-wheat or vegetable pasta. Instead of soft drinks or milk shakes, order juice or milk.
- Remember that sauces and salad dressings add calories. Choose sauces made with tomatoes, rather than sauces made with butter and cream. Ask for dressing on the side of your salad, so you can control the amount.
- Limit desserts. Consider sharing one dessert with your dining companions.

## Section 19.2 After You Read

### Review What You Have Learned

1. **Explain** what the person climbing the side of MyPyramid represents.
2. **Determine** the best way to know if your weight is right for you.
3. **Identify** the effect of too much sodium in your diet.
4. **Describe** tips for ordering when you are dining out.

### Practice Academic Skills

#### English Language Arts


5. Prepare a presentation for younger children about how to use MyPyramid. Use information from the chapter and other resources to best communicate how younger children can make good choices for eating. Be ready to share your presentation with elementary students.

**NCTE 8** Use information resources to gather information and create and communicate knowledge.

#### Social Studies

6. Conduct research to learn about environmental factors that can affect food production. Is there any way we can anticipate these and plan for them? If an environmental event negatively affects food production, is there anything we can do to improve the situation? Write a summary of your discoveries.

**NCSS III J** Analyze and evaluate social and economic effects of environmental changes and crises resulting from phenomena such as floods, storms, and drought.

 **Check Your Answers** Check your answers at this book's Online Learning Center at [glencoe.com](http://glencoe.com).

# Discovering Careers

## Focus on Careers in Food and Nutrition ▼



Do you like to cook? Are you interested in nutrients and how to eat well? Do you want to help people learn how to make their own healthful food choices? If you answered yes to any of those questions, you might want to consider a future career in the nutrition field. The following chart explores several careers in nutrition.

### Career Activities ▼

#### At School

1 Select three of the careers listed. Research the education, training, and work experience required for each career. Write a summary of your results.

#### At Home

2 Prepare a dinner menu for your family using MyPyramid as your guideline.

#### At Work

3 Name five ways you can practice good nutrition and wellness in the workplace. Share your findings with your classmates.

#### In the Community

4 Contact and interview someone in your community who works in nutrition. Ask this person to describe what his or her typical work day is like. Share what you learned with your class.

Job Title	Job Description
<b>Nutritionist</b>	Develops nutrition education materials and classes. Teaches nutrition education courses. Counsels pregnant women on proper nutrition.
<b>Dietitian</b>	Plans therapeutic diets. Oversees preparation and service of meals. Consults with health care personnel to determine nutritional needs and diet restrictions.
<b>Food and Drug Inspector</b>	Inspects establishments where foods, drugs, and cosmetics are manufactured. Investigates handling of consumer products. Enforces legal standards of sanitation.
<b>Hospital Chef</b>	Oversees food preparation for hospital patients. Trains and supervises kitchen staff. Uses safe food-handling procedures. Develops menus for the special requirements of patients.

Learn More Online  [glencoe.com](http://glencoe.com)

**Career Investigations** Go to this book's Online Learning Center for activities and worksheets to help you explore careers.





### Chapter Summary

#### Section 19.1 Nutrients for Health

You can have an appetite without being hungry. Eating a diet low in fat and cholesterol can lower your risk for obesity and heart disease. Proteins are needed to build, maintain, and repair your body. Carbohydrates provide energy. Fats provide energy, keep skin smooth, and help your nervous system work. Vitamins, minerals, and water help regulate your body functions. All contribute to your good health.

#### Section 19.2 Healthful Eating

MyPyramid and the Dietary Guidelines help promote a balanced diet. A person who is at a healthy weight is not overweight or underweight. Eating the right foods can help you live a long and healthy life. Vegetables, fruits, and grains are an essential part of a varied and healthful diet. Empty-calorie snacks and desserts should be limited. When you dine out, choose your meals carefully.

### Words You Learned

1. Use each of these content and academic vocabulary words in a sentence.

#### Content Vocabulary

- wellness (p. 421)
- nutrient (p. 421)
- appetite (p. 422)
- calorie (p. 422)
- protein (p. 423)
- amino acid (p. 423)
- carbohydrate (p. 424)
- fiber (p. 424)
- whole grain (p. 425)
- cholesterol (p. 425)
- vitamin (p. 425)
- mineral (p. 426)
- osteoporosis (p. 426)
- MyPyramid (p. 430)
- portion (p. 430)
- diabetes (p. 432)
- sodium (p. 435)

#### Academic Vocabulary

- adequate (p. 421)
- brittle (p. 426)
- component (p. 430)
- refined (p. 435)

### Review Key Concepts

2. **Distinguish** the difference between hunger and appetite.
3. **Describe** the functions of proteins, carbohydrates, and fats in the human body.
4. **Explain** how MyPyramid can help you have a healthy lifestyle.
5. **Name** the consequences of being overweight.
6. **Identify** examples of healthful snacks.
7. **Describe** how to choose your meals when dining out.

### Critical Thinking

8. **Determine** if there are any fast-foods or beverages that you enjoy that are healthful.
9. **Evaluate** your diet for a week based on MyPyramid and the Dietary Guidelines.

## Real-World Skills and Applications

### Problem-Solving

10. **Choosing Restaurants** Compile nutrition information from three different restaurants in your area. Using information from MyPyramid and the Dietary Guidelines, make a list of the top three main dishes from each restaurant. Suggest healthful appetizers, side dishes, beverages, and dessert options.

### Technology Applications

11. **Create a Spreadsheet** Using spreadsheet software, create a spreadsheet to keep track of the fruits and vegetables you eat. Record the number of servings of each fruit and vegetable you eat every day for one week. At the end of the week, show the varieties and your total servings. Review your results, then decide if you are eating enough fruits and vegetables, or if you need to add more to your meals and snacks.

### Financial Literacy

12. **Comparison Shopping** Packaging and processing makes food items more expensive. You may be surprised to find what the cost of processed snacks and foods is. With your family, write out a shopping list for one week of meals at your home. Make your usual list, and then create another list that includes only foods that meet MyPyramid and the Dietary Guidelines. Choose healthful foods and snacks such as fruits and vegetables instead of processed or sugar-filled snacks. Take both lists to the grocery store and track the cost for each list. What is the difference in cost? Which list is the most expensive? What changes could you and your family make based on the results of your findings? How can you live a healthier lifestyle?



13. **State of Nutrition** Draw or print out a map that shows the outlines of a region in the United States, such as the Southwest, the Pacific Northwest, or the Eastern Seaboard. For each state in your selected region, find out what foods are produced there. For example, Wisconsin is known for its cheese products. Draw a picture of the food product in the outline of the state that produces it.

14. **Wellness Organizations** Conduct research to find out about government and community organizations that help people with nutrition and wellness issues. Make a list of low-cost or no-cost organizations that provide people with information about such topics as prenatal care, nutrition assistance, or food delivery for individuals who cannot leave their homes. Prepare a brief presentation on your findings to the class.



15. **Organic Foods** With permission from your parents or teacher, go online to find information about organic foods. What does organic mean? What kinds of organic food products can you find in grocery stores? How much do they cost in comparison to non-organic foods? Include your list in your Life Skills Binder.

## Academic Skills



### English Language Arts

16. **Write an Advertisement** You have been asked to create a full-page advertisement for your local newspaper that shows how to apply the guidelines from MyPyramid into daily eating habits. The advertisement needs to appeal to a variety of readers with colorful graphics, catchy phrases, and photos. Use poster board to create the advertisement and share with your class.

**NCTE 8** Use information resources to gather information and create and communicate knowledge.



### Social Studies

17. **Research Family Food** Choose a cultural background from your own family history. Research the kinds of food that the culture has eaten historically. How has the diet of this particular culture affected its health and life span? How do you incorporate this lifestyle and diet into your family today? Write an overview of what you have found.

**NCSS 1C Culture** Apply an understanding of culture as an integrated whole that explains the functions and interactions of language, literature, the arts, traditions, beliefs and values, and behavior patterns.



### Mathematics

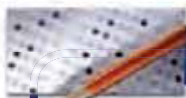
18. **Limiting Fat** Jennifer's health class inspired her to start a more healthful eating plan. Her doctor recommended that she consume 2,200 calories a day. Yesterday, she calculated that she consumed 110 grams of fat during the day. What percent of Jennifer's total calories came from fat? If she wishes to reduce her fat intake to 30% of her daily calories, how many grams of fat should she have per day?

#### Math Concept Calculating Percents

To find what percent a number is of another number, divide the first number by the second number, multiply by 100, and add the % symbol.

**Starting Hint** There are 9 calories in one gram of fat. Jennifer's total fat calories equal  $110 \times 9$ . Divide that total by 2,200 and multiply by 100 to find her current fat percentage. Reverse the process using the 30% amount to determine her optimal fat intake in grams.

**NCTM Problem Solving** Apply and adapt a variety of appropriate strategies to solve problems.



## Standardized Test Practice

### Essay

Read the writing prompt and write an essay using details and examples to illustrate your points.

**Test-Taking Tip** Plan out your essay before you begin writing. Jot down the main points or details you want to focus on in the margins of your test. Refer to these points frequently as you write. This will help you remain focused.

19. Living a healthy lifestyle is a goal we should all have. Write an essay describing a person you know who is living a healthy lifestyle. Specifically describe the choices that person makes and how he or she lives a healthy lifestyle. Your essay should inspire readers to make their lifestyle healthier.