

Introduction

Food & Nutrition for You, Second Edition, is a comprehensive text that prepares students for a healthy lifestyle. It provides essential information about how food supplies the nutrients every body needs, and how to make healthy food choices. In addition, it introduces students to safe and sanitary food handling, proper use of kitchen equipment, culinary arts, and basic cooking techniques.

This clear, concise text is designed to engage students by focusing on subjects that are relevant to their lives today. It puts facts into context by utilizing real-life examples, and presents information in short, colorful segments that capture the attention and interest of students.

The book is organized into three sections:

In Part 1, *The Food We Eat*, students are introduced to basic information about nutrition, and how eating provides the fuel our bodies need. They learn about the factors that influence our decisions about what to eat, and how to make healthy choices using dietary guidelines and MyPlate. Students investigate the role food plays in families and societies, and they learn how to plan meals for a variety of people and occasions, including budgeting and shopping.

Part 2, *Kitchen Basics*, prepares students for entering the kitchen and learning how to cook. This section covers all aspects of recipes, including how to measure, use fractions, and make conversions. Students learn how to identify and use kitchen equipment, basic cooking methods, and how to present food and serve meals. In-depth coverage of sanitation and food safety includes information about how to recognize and eliminate potential risks and dangers, government regulations, and industry standard methods and procedures.

In Part 3, *Nutrition and Cooking*, students learn about the different types of foods, including nutritional value, purchasing and storage procedures, and basic preparation skills. Each chapter includes three or more recipes that highlight the selected type of food.

Integrated throughout the book are features that provide tips, descriptions, and discussion points about relevant topics, such as assuring a safe food supply, the impact of technology on food, sustainable agriculture, food allergies, organic farming, and international cuisine. These features are visually designed to stand out from the main text using color and graphics. They include:

- *Hot Topics*, which present timely and sometimes controversial trends in food and nutrition
- *Cool Tips*, offering suggestions, fun facts, and tips

- *Safe Eats*, which provide food safety and sanitation information
- *What's Cooking?*, which include information about specific foods, nutrition, and making healthy food choices
- *Basic Culinary Skills* provide step-by-step, illustrated instructions for tasks
- *Career Close-Up* for tips and facts about working in the food service industry
- *Check the Label*, which lists descriptive terms and definitions
- *Utility Drawer*, containing descriptions of specialized tools and equipment
- *Figures*, which are photos that include captions and questions to encourage critical thinking and discussion

Numerous activities in every chapter integrate the core subjects of math, science, language arts, and social studies with the food and nutrition content. These features are designed to teach important skills such as collaboration, global awareness, critical thinking, and community involvement while reinforcing important messages about health, wellness, nutrition, and smart choices.

Chapter activities include:

- *Why You Need to Know This*, a “bellringer” or opening activity designed to focus the class on the current subject while encouraging discussion and collaboration
- *Science Study* activities provide an opportunity for students to use the scientific process to test the food and nutrition concepts presented in the text
- *By the Numbers* activities integrate basic math skills with food and nutrition concepts by measuring, calculating, and converting
- *Case Studies*, which present real-life scenarios with questions to prompt critical thinking and problem solving
- *Put It to Use* activities that provide students with the opportunity to put the information they studied in the chapter into context in their own lives
- *Write Now* activities challenge students to use language arts skills to produce essays, stories, and other types of written documents relating to the chapter content
- *Tech Connect* activities provide the opportunity for students to use technology in self-directed exploration of relevant topics, and to communicate the information to their peers
- *Team Players* are group activities where students can work collaboratively on projects ranging from research presentations to cooking competitions
- *Put It Together* is a matching activity that reinforces vocabulary and terminology
- *Try It!* are recipes in a range of difficulty and complexity that can be adapted to any cooking environment. They include nutritional information, safety guidelines, and chef's tips and suggestions.

Navigating the Textbook

How Food Choices Influence Health

The food you eat can actually determine how healthy you will be, both now and as your body ages. Nutritional intake has a direct effect on health, appearance, effective job or school performance, and personal life. Science has found a very strong correlation between certain types of diets and the likelihood of developing or avoiding certain diseases. In fact, the National Cancer Institute estimates that *three out of four* deaths in the United States each year are caused by diseases that are linked to what we eat: heart disease, high blood pressure, stroke, cancer, and diabetes.

Diet and weight have a strong correlation to many types of **cancer**. According to the M. D. Anderson Cancer Center and the American Cancer Society, experts estimate that 30% to 40% of all cancers could be avoided if people would maintain a healthy body weight, eat a proper diet, and exercise regularly. They recommend these dietary guidelines to avoid cancer:

- Eat a plant-based diet high in fruits, vegetables, whole grains, and legumes.
- Eat at least five servings of fruits and vegetables every day.
- Limit your intake of red meat.
- Limit your intake of fat, especially saturated (animal-based) fats.
- Limit your consumption of alcohol, if you drink at all.
- Eat a variety of fruits, vegetables, and starchy plant foods (such as rice and pasta).
- Eat a diet that is high in fiber.

Certain **heart diseases** may be preventable, and are influenced by what we eat. You can drastically cut your risk of heart disease by eating a diet that reduces saturated fats and emphasizes fruits and vegetables. Regular exercise is also important.

Vascular diseases like **high blood pressure** may also be related to diet. To lower the risk of developing high blood pressure, or to help control it if you already have it, minimize consumption of animal and hydrogenated vegetable fats. This will reduce saturated fats, trans fats, and dietary cholesterol. You should also control the intake of sodium and exercise regularly to maintain normal body weight.

Cool Tips

Vitamin C, vitamin E, and beta carotene, which forms vitamin A, are **antioxidants**. They protect body cells from oxidation, a process that can lead to cell damage and may play a role in cancer. Plant foods contain **phytochemicals**, chemicals that may affect human health. A growing body of evidence indicates that phytochemicals may also help protect against cancer. To get these benefits, eat more fruits and vegetables that contain vitamins A and C and beta carotene—dark green leafy vegetables such as spinach, kale, collards, and turnip greens. Citrus fruits, such as oranges, grapefruit, and tangerines, are also high in antioxidants. Other red, yellow, and orange fruits and vegetables, or their juices, are also healthy choices.

Hot Topics

Many factors influence your health—some of them are within your control, and some you are born with. The ones you are born with are your gender, your genetics, and heredity. While you can work to maximize your health with these factors, they are determined before you are born. Your age is another thing that you can't change. The factors that are lifestyle choices are within your control. You can make good decisions about them, or poor decisions, but only you can make the choices. These include choosing not to smoke, having an active lifestyle or not moving your body enough, choosing not to drink alcohol, and choosing not to use illegal drugs. You also can choose to eat a healthy diet and to manage stress. Do you have any lifestyle habits that may increase health risks?

Cool Tips

Offers suggestions, fun facts, and tips

Hot Topics

Presents timely and sometimes controversial trends in food and nutrition

Figures

Photos that include captions and questions to encourage critical thinking and discussion

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BASIC CULINARY SKILLS

Sharpening a Knife

- 1 Choose an appropriate stone; the duller the blade, the coarser the stone you will need to start with.
- 2 Lubricate the stone with mineral oil or water. You should use the same thing each time with that stone (water or oil); don't mix it up.
- 3 Point the blade at the stone at a 20-degree angle and slide the entire cutting edge of the blade smoothly across the stone, in one direction only. You can start at either the heel or the tip, as long as you go in the same direction each time. Use your other hand to guide the blade and to keep the pressure consistent.

- 4 Make 10 passes on each side of the blade.



- 5 Switch to a finer stone, and repeat the process. Repeat again with the finest stone.
- 6 Hone the knife to remove any burrs. (See the next set of steps.)
- 7 Clean and sanitize the knife, and clean the stone.

Basic Culinary Skills

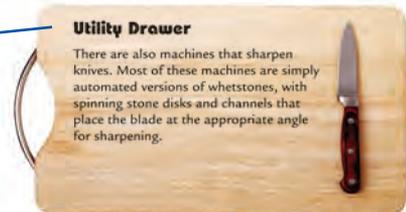
Provides step-by-step, illustrated instructions for tasks

Utility Drawer

Contains descriptions of specialized tools and equipment

Utility Drawer

There are also machines that sharpen knives. Most of these machines are simply automated versions of whetstones, with spinning stone disks and channels that place the blade at the appropriate angle for sharpening.



- Rice is a grain product that is used worldwide. Most of us are familiar with white rice and brown rice. Wild rice, which is closely related but a different plant, is not really a rice at all, but a cereal grain. We often refer to rice in terms of short, medium, or long grain. Generally, the smaller the grain, the stickier the rice. Long grain is what most of us have as a side dish with lunch or dinner. Medium grain is more popular in meals such as paella or risotto because it creates a denser consistency. Short-grain rice sticks together extremely well, which is why it is used to make sushi.

FIGURE 11-4

Rice is a primary source of nutrients and calories for many populations around the world. It comes in three sizes—short grain, medium grain, and long grain. While usually served as a side dish, rice may also be used as an ingredient in other recipes, such as rice pudding, a filling in stuffed cabbage or grape leaves, or in soups and salads. Why is rice an important food source?

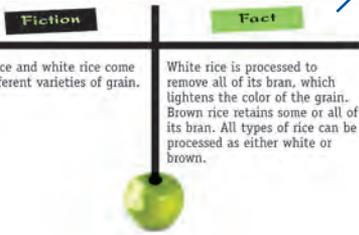


Check the Label

Converted rice Partially cooked rice from which the hull is removed. It is then dried and milled to produce either white or brown rice.

Enriched rice White rice fortified with vitamins and elements such as thiamin, niacin, and iron. It is more nutritious than white rice that hasn't been enriched, but less nutritious than brown rice.

Wild rice The seed of a marsh grass that grows in areas of North America. It is not really a rice at all, but a cereal grain.



Fiction & Fact

Provides interesting facts to challenge common misconceptions

Check the Label

Lists descriptive terms and definitions

What's Cooking?

Includes information about specific foods, nutrition, and making healthy food choices



The heat in an oven is not as intense as the heat generated by a grill, but it still may be too hot for delicate food. One way to control oven heat is to put the food in a pan or baking dish and then set that pan in a larger pan. Then, add enough water to the larger pan to come up around the sides of the smaller pan. This is known as baking foods in a **water bath**. Because water can heat only to 212° F, it insulates and protects the food. A water bath is used to create a creamy, smooth consistency in the food, such as in crème brûlée.

food, you should let the pan pre-heat for 5 minutes before adding any oil. Chefs refer to this as **conditioning the pan**. Once the pan is hot, you can add oil. The oil will heat up and you can start cooking right away. If you add cold food to a cold pan with cold oil, the food will cook unevenly and your food will lose its taste.

Roasting is basically the same thing as baking except that it generally refers to a whole item or a large piece of food. For example, you would roast a whole chicken, but you would bake cut-up chicken parts. When meats are roasted or baked, they are sometimes seared before being placed in the oven. Searing is a type of sautéing, and is covered in the next section. As the food roasts, you can **baste** it to keep it moist. To baste, you spoon or ladle the juices from the bottom of the pan onto the top and sides of the food. After the food has roasted or baked, let it **rest** a few minutes before serving, to allow time for the juices to redistribute, moving back to the outer parts of the food so it is more tender.

Sautéing is a technique that cooks food quickly, often uncovered, in a very small amount of fat in a pan over high heat. Food that is suitable for sautéing is typically quite tender and thin enough to cook in a short time. Food is often coated with seasoned flour before sautéing. Sautéed foods are cooked primarily through contact with the hot pan. The fat helps to keep the food from sticking, and can add flavor if you choose a tasty fat, such as butter or olive oil. Turn sautéed food halfway through cooking. Resist the temptation to move food around unless it is cooking too quickly or getting too dark.

You can vary the steps in sautéing to produce different effects. There are four important variations of sautéing:

- **Stir frying** is very similar to sautéing, but you use a wok (a pan with a round bottom and high sides). Foods for a stir fry are usually cut into small strips, so they can cook quickly. When stir frying, you constantly stir and toss the food as it is cooking.



SCIENCE STUDY

Does food really taste different if it is roasted versus broiled versus baked?

For this experiment, you will need two whole chickens. Cut one of them up into pieces; leave the other one whole. Roast the whole chicken at 375° for about one hour, or until done to 165° internally. (Use a meat thermometer.)

At the same time, bake half of the pieces of the other chicken in a glass dish in the same oven, also at 375°, for 50 minutes, or until done to 165° internally.

Then turn the oven to broil and broil the remaining chicken pieces until done (about 20 minutes), turning the pieces frequently so they do not burn.

Sample the results. Do they look different? Taste different? Is the texture of the meat different? Is one more juicy or crispy than another?

Science Study

Provides an opportunity for students to use the scientific process to test the food and nutrition concepts presented in the text

- Most vegetables are low in carbohydrates. Exceptions include tubers and seeds, which are a good source of starch.
- The skin and pulp of most vegetables provides cellulose—or dietary fiber.

Preparing Vegetables

Some vegetables are served raw, while others are cooked. When cooked right, vegetables are beautiful, delicious, and nutritious. When cooked wrong, they are drab, lifeless, and lose their nutrients. The goal is to preserve color, texture, flavor, and nutrients.

The first step in preparing vegetables is always to clean them properly. You can then cut and trim them as needed.

Wash vegetables thoroughly before use in cool running water, even if you plan to cook them. Washing removes surface dirt, bacteria, insects, and chemicals.

Pay particular attention to leafy vegetables, to those that have stalks, and those that have roots. They almost always trap dirt between the leaves and the stalk, and along the root.

Preparation Skills

- Some vegetables are peeled before cooking. Use a swivel-bladed peeler, a paring knife, or a chef's knife.
- Remove woody stems from mushrooms, asparagus, artichokes, and broccoli.
- Peel onions and garlic by removing the dried outer layers of skin to reveal the moist inner layers.

BY THE NUMBERS

Does the way you chop a vegetable affect the volume?

Start with three carrots weighing 4 ounces each. Small chop—or dice—the first, medium chop the second, and large chop the third. Measure and record the volume of each, using a measuring cup. Discuss the results as a class.



FIGURE 19-9 Vegetables are usually served raw in salads. What vegetables do you like in a salad?

Safe Eats

Fresh vegetables can harbor bacteria and pathogens that cause illness. Follow standard sanitary practices to minimize risk:

- Wash all vegetables with cool tap water immediately before eating or using.
- Wash hands, utensils, and working surfaces frequently, with hot soapy water, and sanitize them after working with fresh vegetables.



FIGURE 19-10 Onions are usually diced, chopped, or minced before cooking. Can you think of any vegetables that are usually cooked whole?

By the Numbers

Integrate basic math skills with food and nutrition concepts by measuring, calculating, and converting

Career Close-Up

Provide tips and facts about working in the food service industry

Safe Eats

Provide food safety and sanitation information

Is Nutrition?

The science of food and how it affects our health, well-being. Well-being and wellness are sometimes in the same thing, but they don't. Wellness is the general state of good health, especially as an actively sought state. Well-being includes wellness, and also happiness and satisfaction. All bodies need fuel in order to function, and food provides a different balance of the valuable nutrients your body needs, such as carbohydrates, proteins, vitamins, and water. You'll learn more about these nutrients in the chapter. Studying nutrition helps you understand the building blocks so that you can choose the foods that deliver what your body needs.



FIGURE 1-1 At many fast food restaurants, healthier choices are becoming available, in response to consumer demand. The last time you were at a fast food restaurant, what were some of the lower-calorie, lower-fat options?

Nutrition scientists have developed various sets of guidelines over the years to build strong human bodies using optimal combinations of these building blocks. Part of studying nutrition involves understanding these guidelines and comparing them to our diets—and the diets of anyone for whom we are responsible. If you pursue a career in the culinary arts, you will probably be planning meals for others to enjoy, and you will want to make each meal nutritious as well as tasty.

The study of nutrition also covers factors that influence a person's eating patterns, including food availability, convenience, and safety. The "best" meal choices can vary, depending on where you live, how much money you can spend on food, how much time you have to prepare and eat meals, and the refrigeration and cooking techniques available to you. For example, your choices of what to eat differ when you have 15 minutes to grab a bite before class, rather than more time to grocery-shop and cook a family dinner.

Career Close-Up

Dietitians are experts in the field of nutrition. They help people develop diet plans that achieve specific goals, such as weight management, recovery from surgery or illness, or lower cholesterol. Many dietitians are employed by hospitals or clinics, where they design custom meal plans for patients who need special diets such as low-sugar, low-sodium, bland, or liquid. Dietitians also work for schools and nursing homes to develop balanced meal plans.

A registered dietitian must, at the minimum, earn a Bachelor's degree in nutrition, complete a 9- to 12-month internship, and pass a certification examination. In some states, dietitians must also be licensed.

A nutritionist performs some of the same duties as a dietitian, but is not registered or licensed and typically has less education/training. A nutritionist might provide nutrition counseling at a weight loss center, for example, or to families applying for government assistance programs.



FIGURE 1-2 Hospitals typically hire registered dietitians to counsel patients on their diets, whereas weight loss centers and government agencies typically hire nutritionists, who are then supervised by dietitians. Why do you think hospitals insist on the higher level of training and education?