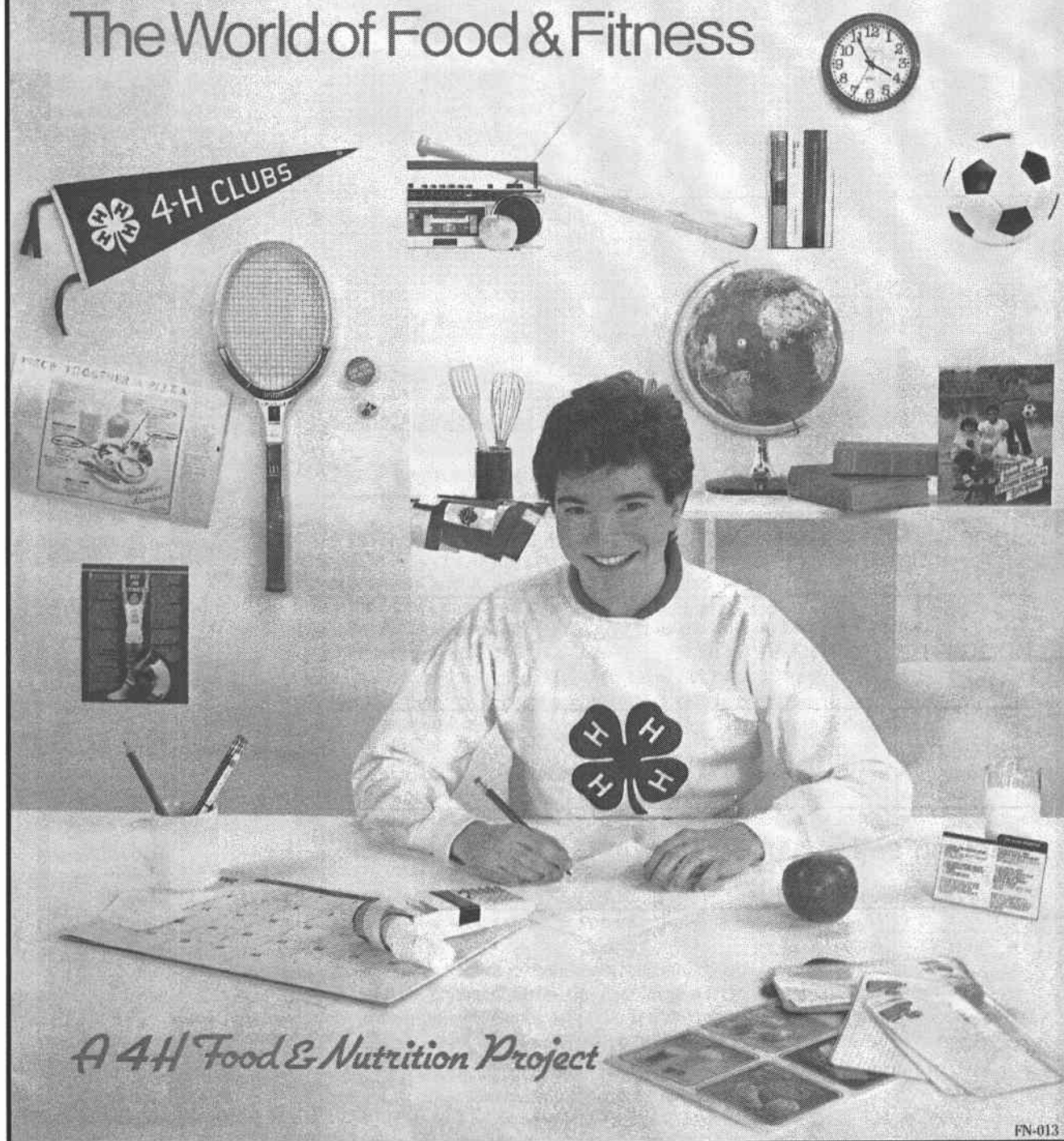


# FIT IT ALL UNIT 3 TOGETHER

## The World of Food & Fitness



*A 4-H Food & Nutrition Project*

FN-013

# FIT IT ALL<sup>UNIT 3</sup> TOGETHER

## The World of Food & Fitness

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This advanced unit on food and nutrition has been prepared in consultation with the National 4-H Food & Nutrition Developmental Committee composed of representatives of Extension Service, U.S. Department of Agriculture and the Cooperative Extension Services of the State Land-Grant Universities.

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## What do you like to do?

Do you like to cook, or are you interested in reading the latest running magazine to learn about shin splints? Do you learn best from books, or do you like to talk to people and try things for yourself? Well, whatever your interests and style—have we got a project for you!

This project on food, nutrition and fitness will meet your needs and interests because you'll design it yourself. You'll set goals, plan activities and decide how your project can best be evaluated. That's why we call it a "self-determined project."

Learning how to make decisions, establish plans and then carry out those plans are skills you'll use throughout your adult life. Whether you become a homemaker or a heart surgeon, an astronaut or an agricultural researcher, you'll need skills in decision-making. This project is designed to help you acquire those skills.

As you read through this manual, you'll see that it includes information on a wide variety of subjects—everything from nutrition to our food supply, from fitness to food around the world. It covers such a wide variety of subjects to give you an idea of the range of topics you might choose for your self-determined project in "The World of Food and Fitness." Your project may include several subjects discussed in this manual, or it may be based on only one. The choice is up to you.

### **You can make several other choices as well:**

- You can explore a single subject—like food safety. Or, you can choose a broader topic, like world hunger.
- You can select a project that requires a lot of research, such as finding out how the agricultural products grown in your region have changed during the past 25 years. Or, you can plan an action-oriented project, such as developing and carrying out your own nutrition and fitness plan.
- You can work on your project by yourself, or you can plan a project with other 4-H'ers.

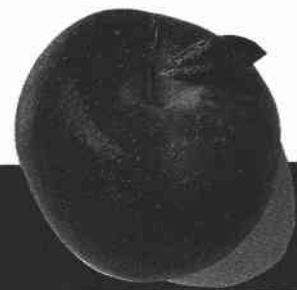
Whatever project you select, you will be learning other skills as well—skills in setting goals, in making realistic plans to meet those goals and in evaluating your achievements.

To get started, follow these four steps. They'll help you **Fit It All Together** for a great 4-H project.



## 1

## STEP : Make a Choice



Choose a topic that interests you. Read this manual for an overview of important topics in "The World of Food and Fitness." Note the subjects that most interest you. List 4-H food and nutrition projects you've enjoyed in the past. Think about other things you want to learn. The "Try It" sections throughout the manual suggest many different activities you might include—they should help you think of others.

On the back cover is the Project Planning and Evaluation Form. Use this form as you plan and carry out the four steps of your self-determined project. You may want to make a copy of the form and do your planning on that, especially if you think you might try more than one project from this manual. You may also want to make an enlarged version of the form so you'll have more space to write.

Complete Step 1, which includes questions you should ask yourself as you choose your project. You will also want to talk with parents, volunteer leaders and perhaps your

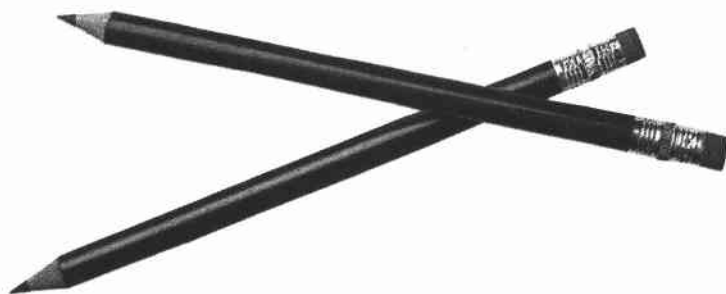
County Extension Agent. They can give you valuable advice.

This is the time to decide whether you want to plan an individual or a group project. You might consider two different ways of getting involved in group projects. In one, a group of 4-H'ers could plan and carry out their project together. This type of group project requires real cooperation, because everyone must reach agreement on how you carry out the project.

In another way you could work more informally. Find a group of friends who are doing individual projects based on this manual. Meet occasionally

- to share what you've learned
- to prepare a group meal demonstrating nutrition information you've researched
- to plan a culminating activity presenting information to your community or school.

Group support can keep you going. It provides incentive and fun.



## 2

## STEP : Plan Your Project

Now start making your written plan—a skill you'll use throughout your life. Business people always write plans before starting any new project. They have learned, "If you fail to plan, you're planning to fail." Baseball star Yogi Berra put it another way: "You've got to be very careful if you don't know where you are going because you might not get there."

First, state your goal—a concise description of what you want to accomplish in this project. Write your goal in the space provided in Step 2 on the Planning and Evaluation Form. Answer the questions in Step 2 to determine what you

need to learn.

Even if your project is action-oriented, you need some information about your subject. Find it by reading books and magazines, interviewing resource people, attending meetings and visiting places, such as food manufacturers, research labs and hotel or restaurant kitchens.

Plan some activities. Examples are included in the "Try It" sections throughout the manual. Write your preliminary plan in Step 2 of the Planning and Evaluation Form.

# STEP 3: Carry Out Your Project

Look over what you've written so far. Ask yourself:

- Have I outlined what I plan to do?
- How much time will this project take?
- Will I be able to do all the activities I've planned? Should I cut some out? (You want to stay interested throughout the whole project. Don't get bogged down because you planned something too elaborate.)
- How much will this project cost? Can I afford it? What other resources will I need?
- If this is a group project, can our group work together?

Review your preliminary plan with adults, volunteer leaders, parents and other 4-H'ers. Make any changes and write your final plan and timetable in the space provided on the Planning and Evaluation Form. Then sign an agreement to do the work with your 4-H leader, your parent or another adult.

Finally it's time to get started. Talk to resource people and ask for their help. Begin to work your plan. You're off and running—so have fun.



# STEP 4: Evaluate Your Project

From your past experience in 4-H, you know the importance of keeping records. For this project, your records can be really exciting. They'll help you see your progress right before your eyes.

Ask yourself these questions in determining the kinds of records to keep:

- How can I show the extent to which I am learning or accomplishing what I set out to do?
  - How can I describe or show what I did?
  - How can I show the data collected and the results of my investigations or work?
  - Is there any reason to show how I used my time and energy?
  - Do I need to keep track of money spent and received?
- Your records might include diaries, outlines, stories, notebooks, written reports, tables, charts, drawings, recipes and photographs. Use your imagination.

Complete Step 4 on the Planning and Evaluation Form describing the records you will keep.

Once you've completed your project, share what you've learned. You're now a "resource person" for others in your community.

So that's it—4 steps to a great 4-H project. You've taken the first step. You're ready to explore the world of food and fitness. **To help you evaluate your progress, try answering these questions:**

Yes	No	Could Use Help	
_____	_____	_____	Have I set up goals that I can achieve?
_____	_____	_____	Is it hard for me to admit I don't understand something?
_____	_____	_____	Do I get off the track easily?
_____	_____	_____	Am I satisfied with a mediocre project?
_____	_____	_____	Am I willing to compromise and take suggestions from leaders and others?
_____	_____	_____	Have I grown personally in carrying out this project?
_____	_____	_____	Have I shared what I have learned in this project so it can help others in my club, school or community?

# Nutrition And Fitness In Your World

People used to think certain foods were "magic." In many societies, warriors believed they would fight better if they ate raw meat just before a battle. For centuries, people wouldn't eat tomatoes because they thought they were poisonous.

Luckily, we live in a time when people no longer believe in food magic. Or do they? For the next few days, try listening to what people say about food. Here are some of the things you might hear—all of them myths:

"I just ate fries and a bag of cookies, but I won't gain weight. I ate a grapefruit at the same time, and the grapefruit burns off the calories."

(See page 25 if you believe this one.)

"I'm going to eat a steak and some cottage cheese. I've got to have strong muscles for the game in three hours."

(You can't build muscles in three hours. Foods containing complex carbohydrates, such as pasta, would be a better choice for energy.)

"I quit eating sugar a long time ago. Now I eat only honey. It's a lot better for you than sugar."

(There are no significant nutritional differences between sugar and honey.)

**T**he list could go on and on. The sad truth is that many Americans still believe that some foods are "magic"—that they possess special properties that can make you instantly healthier (or sicker), more beautiful (or less attractive), stronger (or less able to compete).

How can you find some common-sense answers to your questions about nutrition? That's one of the purposes of this project.

When we talk about "nutrition," we're also talking about fitness. They go together. Scientists tell us that activity level has a lot to do with whether food—such as a slice of pizza—will help build muscle, be used for energy or be stored as fat. As your activity level increases, fewer food calories will be used to make body fat.

As scientists have studied nutrition, they have learned a lot, but there is still more to learn. They do know that all

food is made up of nutrients, which are substances your body needs. While scientists do not yet know all of the functions and interrelationships of nutrients or the precise amounts needed by the body, they do know:

- Most foods contain several nutrients.
- No one food contains all the nutrients you need for good health.

To date, scientists have identified more than 40 nutrients that your body needs in varying amounts. New information continues to unfold. The chart on the next page lists the major groups of nutrients and their functions.

How do you get the nutrients you need in the amounts that your body requires? There is no "ideal" diet for everyone. Our needs—as well as our tastes—vary. The key is to remember three words: **BALANCE**, **VARIETY** and **MODERATION**.

## BALANCE

means getting all the nutrients—carbohydrates, fats, proteins, vitamins, minerals and water—in adequate amounts and in proper proportion to one another. Balance also means making sure the calories we get from food equal the calories used by the body. If you eat more calories than your body uses, you'll gain weight. If you eat fewer calories than you need, you'll lose weight. Without balance, the body cannot function at an optimum level.

## VARIETY

means selecting many different foods from each of the food groups and preparing them in different ways. Eating a wide variety of foods provides the basis for getting optimum amounts of all the nutrients needed for good health. For variety choose different foods from the food groups each day:

4 or more servings of vegetables and fruits, 4 or more servings of breads and cereals, 4 servings of milk and other dairy foods, 2 servings of meat, poultry, fish or beans . . . and not too many fats and sweets.

## MODERATION

helps keep your caloric intake in balance. Further, it will help you avoid getting too much of any one nutrient. By eating moderate amounts of a wide variety of foods, you will not exceed or neglect your need for any single nutrient. You can be fit and trim and eat almost anything you want, but not as much as you may want—and not every day.



A  
NIBBLE  
ABOUT  
NUTRIENTS

### **CARBOHYDRATES,**

protein and fat all provide energy. However, because of the amount eaten, carbohydrates are the major sources of energy in our diet. Sugars are simple carbohydrates and are readily absorbed. Starch is a complex carbohydrate that must be broken down into simple carbohydrates by your body in order to be absorbed. Complex carbohydrates are found in whole grains, enriched or fortified breads and cereals, and in fruits and vegetables. Foods containing complex carbohydrates are important sources of vitamins and minerals. Fiber is also a carbohydrate; it adds bulk to your diet and helps the body eliminate waste material.

### **PROTEINS**

are used to make new cells and repair or replace old ones. They are also needed to make enzymes and some hormones. In general, the protein from animal sources is better used by the body than is the protein from plant sources. However, plant source

proteins can be better used if they are combined with animal source proteins or if different plant source proteins are mixed together. For example, try cereal with milk, macaroni with cheese or beans with rice.

### **FATS,**

which supply the body with the essential fatty acids, are carriers of vitamins A, D, E and K. Fats help form cell membranes. They are the most concentrated source of energy. Fats contain more than twice as much energy (calories) as the same amount of either protein or carbohydrate. Some fats are easy to identify, such as those found in butter, margarine and oil. Others, such as those found in meat and poultry, nuts, cheese and fried foods, may be "hidden."

### **VITAMINS**

help the body's enzymes use other nutrients and help speed up biochemical reactions that keep the body working. For example, vitamin D

helps the body absorb calcium. Folacin helps make red blood cells. Even though vitamins are required in very small amounts, they are essential for life.

### **MINERALS**

also help speed up biochemical reactions essential to life. In addition, some minerals are needed to build body structures. For example, potassium is needed for muscle contraction. Calcium is needed to build strong bones and teeth. Vitamins and minerals work together for good health. The absorption of iron, for instance, is enhanced when vitamin C is consumed at the same time.

### **WATER**

carries nutrients to the body cells and removes the waste materials from them. It also helps regulate body temperature. Fifty to 70 percent of the body's weight is water. You could live several days without food, but not without water.



# Eating Healthy?

## PICK PASTA!

*Knowing about nutrition means understanding about food and food preparation so you can meet your nutritional goals. Pasta, particularly with a low-fat vegetable topping like the one in the recipe here, meets many of the dietary recommendations included in this manual.*

Maybe you've always called it "macaroni." Perhaps you don't know a tortellini from a rigatoni or lasagna from fettuccini. But you're probably seeing a lot more pasta dishes today than you've ever seen before.

Pasta, the Italian word for "paste," is an edible dough made of semolina flour and water. Spaghetti, macaroni, ravioli and the wide variety of egg noodles with which we are familiar are all pastas.

Pasta fits perfectly into our fast-paced lifestyle. It's quick. It's inexpensive. It's low in calories. And it's nutritious.

Pasta contains complex carbohydrates and is a good source of vitamins B<sub>1</sub>, B<sub>2</sub>, niacin and iron. It's low in fat and sodium. It's an excellent source of energy—many marathon runners feast on pasta for days before a big race. And believe it or not, pasta is a great diet food. When combined with a source of animal protein like cheese or meat, the resulting protein mix is excellent.

You can buy pasta in dozens of sizes and shapes, from spaghetti to wide lasagna noodles, and from alphabets and shells to fancier cartwheels, twirls, bow ties and stars.

Pasta is versatile, too. You can serve it alone or with toppings. You can serve it hot topped with cheeses, meats or traditional tomato sauce, or you can make a combination (casserole) dish. You can serve it cold or in a salad, or even add it to homemade soups. An imaginative cook can prepare a variety of scrumptious dishes, from low-calorie ones if you're watching your weight to higher calorie ones if you're not. Only cheese and eggs are as versatile.

Be creative! Try different toppings on your pasta. Tomato-based sauces are traditional, of course, but can be combined with leftover poultry, seafood and meat to make interesting combinations. Cheeses, like cheddar, mozzarella, Monterey Jack and ricotta (low in fat) also make delicious toppings. Remember, whole milk cheeses are high in fat, so you might choose lower calorie toppings if you're watching your weight.

Pasta. It's positively peerless!

Here's a pasta dish that uses fresh, colorful vegetables cooked just until crisp but tender. The Italians call it "Pasta Primavera," because it was first made with the earliest vegetables of springtime. Today you can use almost any fresh and frozen vegetables and enjoy this dish year-round.

### Pasta Pointers

**Don't overcook your pasta.** The Italians cook it "al dente"—a little chewy. Homemade pasta will cook in nearly the time it takes for the water to return to a boil. Packaged pasta takes a little longer. Use plenty of water and bring it to a full boil before adding the pasta.

**Prepare your topping** before you start to cook the pasta. Then drain the hot pasta in a colander, serve onto plates, add the topping and enjoy. There's no need to rinse pasta with water if you use this method.

**Try a different pasta shape.** Instead of the traditional spaghetti or elbow macaroni, try making a pasta dish with rotelle (little wheels), agnolatti (angel's hair) or one of the other 600 pasta shapes available in this country.

**Make your own pasta.** A food processor and a pasta machine make the job easier, but all the equipment you really need is a bowl, a wooden spoon, a flat surface for oiling, a cutting board and a knife.

**Uncooked pasta can be** stored for up to one year in the dark under normal conditions without significant nutrient loss.



Conchiglie—shells



Farfalle—butterflies



## Pasta Primavera

- 1 small (14 oz.) can tomatoes, coarsely chopped and drained (reserve juice)
- ¼ cup olive or safflower oil
- ½ teaspoon oregano (use fresh or dried flakes)
- ¼ teaspoon basil (use fresh or dried flakes)
- 1 large (or 2 medium) clove garlic, peeled and chopped
- ½ cup coarsely chopped onion (try a red onion)
- 1 medium zucchini, cut in matchsticks\* or ¼" rounds

- 1 medium carrot, cut in matchsticks
- 1 medium green or red pepper, cut in matchsticks
- 1 cup broccoli florets (fresh or defrosted frozen)
- 1 cup any other vegetable or mixture (celery, fresh asparagus, peas, snow peas, etc.)
- ¼ cup chopped parsley
- 1 pound pasta cooked according to package directions (try linguine, penne or spaghetti)

\*matchsticks—cut vegetables into pieces about 2" long and ¼" wide

In a nonstick pan, heat oil and saute garlic for 2 minutes over low-medium heat. Be careful not to burn the garlic. Add onions, salt and pepper to taste, and saute for 3 minutes, stirring with a wooden spoon. Add chopped tomatoes, spices and half the parsley. Cook over low heat for 10 minutes.

Add vegetables that require longer cooking—carrots, celery, mushrooms, red or green pepper. Cover and cook 5 minutes over medium heat. Stir occasionally. Add vegetables that require less cooking—broccoli, zucchini, squash, peas, fresh asparagus cut into 2" sections. If sauce seems too dry, add reserved strained tomato liquid, 1 tablespoon at a time. Cover and cook for 5–7 minutes until vegetables are crisp-tender. Remove cover. Add remaining parsley. If sauce is too liquid, cook over high heat for 2 minutes until some liquid evaporates. Correct seasonings.

Serve over pasta. Serves 4–6 people

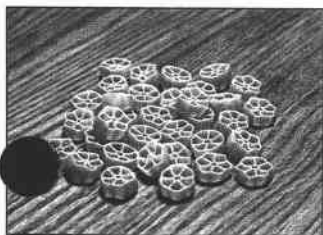


*The Italians usually eat pasta as a first course. Americans enjoy pasta both as a first course and as a main dish. Here's a menu featuring pasta as a main dish:*

## Menu Plan



Pasta Primavera  
Bread sticks (made from  
biscuit dough with parmesan  
cheese topping)  
Fresh fruit  
Milk



**Ruote**—cartwheels



**Rotelle**—wheels



**Penne**—pens

## DIET AND DISEASE

In the early history of our country, many diseases were caused by a deficiency of certain nutrients in the body. For example, many old-time sailors, whose diet included too little vitamin C, suffered from scurvy. People whose diets con-

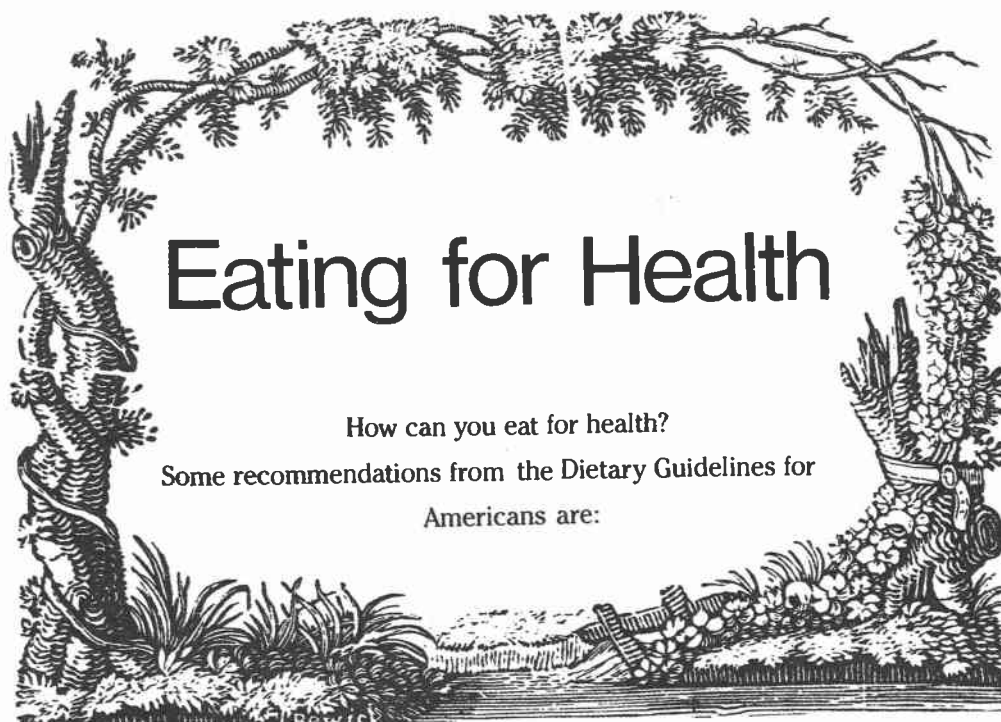


tained too little vitamin D sometimes developed rickets. In the United States today, our extensive and varied food supply, as well as improved processing and handling of foods and the vitamin fortification of many foods, has virtually eliminated these diseases.

**N**utritionists are currently studying the relationship between diet and other diseases, such as heart disease, cancer and high blood pressure. Although there is still a great deal to be learned, a number of studies indicate there may be a relationship between diet and these diseases.

While these studies have not established a cause-and-effect relationship, they have shown risk factors related to the development of a disease. A "risk factor" does not show that something *causes* a certain disease. But it can show

that people with that risk factor seem to be *more likely* to develop a disease. For example, the risk factors associated with high blood pressure include: heredity, race, age, relative weight, stress, smoking, excessive sodium and insufficient calcium intake. As you look at these risk factors, you'll see that there are some things, like heredity, age and race, you can't control. Other risk factors—like maintaining a reasonable weight and not smoking—are things you *can* control.



## EAT A VARIETY OF FOODS.

Most foods contain a number of nutrients in varying amounts, but no one food can supply all the essential nutrients in the amounts your body needs. For example, milk provides significant amounts of calcium, but very little iron. On the other hand, meat is valued for the iron it contains, but supplies very little calcium. Of course, both



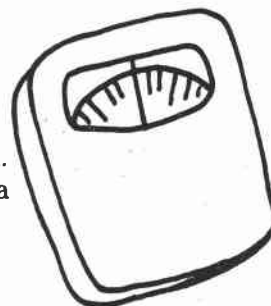
milk and meat also contain many other important nutrients. By eating a variety of foods, you are more likely to get all the nutrients you need.

That's why it's a good idea to select foods each day from each of the major food groups. And try to vary your food choices *within* the food groups also.

## MAINTAIN REASONABLE WEIGHT.

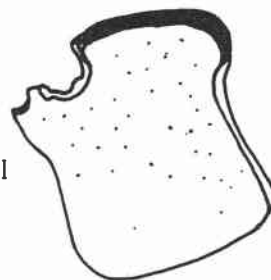
If you are too fat, your chances of developing some chronic disorders are increased. Obesity is associated with high blood pressure, increased levels of blood fats and cholesterol, increased risks of heart attacks, strokes, diabetes and many other types of ill health.

Your health practitioner (school nurse, doctor or nutritionist) can help you determine a reasonable weight range for you.



## EAT FOODS WITH ADEQUATE STARCH AND FIBER.

Complex carbohydrates, such as starch, are found in breads and cereals, beans, peas, nuts, seeds, fruits and vegetables. They also contain fiber, which promotes normal bowel regularity and may contribute to reducing the risk for certain kinds of cancer.



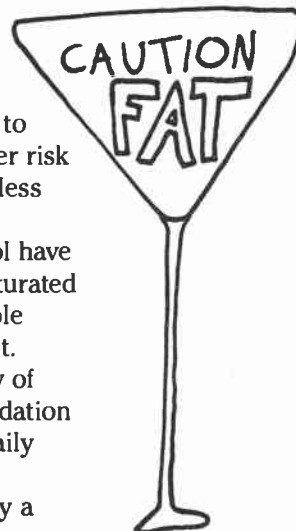
## AVOID TOO MUCH FAT, SATURATED FAT AND CHOLESTEROL.

Populations like ours with diets relatively high in saturated fats and cholesterol tend to have high blood cholesterol levels. Individuals within these populations have a greater risk of having heart attacks than individuals within populations eating diets that contain less fat.

Generally speaking, people who eat large amounts of saturated fats and cholesterol have higher blood cholesterol levels. However, some people can consume diets high in saturated fats and cholesterol and still maintain desirable blood cholesterol levels. Other people may have a high blood cholesterol level even if they eat a low-fat, low-cholesterol diet.

Especially if you have other risk factors for cardiovascular disease—family history of premature heart disease, high blood pressure, diabetes or smoking—this recommendation is appropriate. But even for the U.S. population as a whole, it is sensible to reduce daily consumption of fat.

This does not mean you may not eat any particular food, or that you may not enjoy a wide variety of foods. Moderation is the key.



## AVOID TOO MUCH SODIUM.

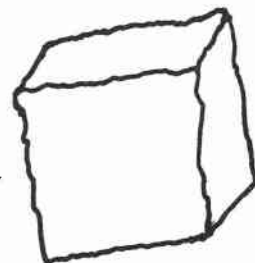
The major hazard of too much sodium is for people with high blood pressure. The National Institutes of Health estimates that about 60 million Americans have some degree of high blood pressure. Sodium intake is one of the factors known to affect high blood pressure. Obesity also seems to play a major role. If people with high blood pressure reduce their sodium intake, their blood pressure will usually fall—although not always to normal levels.

Sodium is present in many foods and beverages, especially in salty snacks, sandwich meats, pickled foods and condiments. Baking soda, baking powder and even many medications also contain sodium.



## AVOID TOO MUCH SUGAR.

Eating too much sugar may cause tooth decay. The risk of decay is not just a matter of how much sugar and sugar-containing foods you eat, but how often you eat them and whether they stick to your teeth. It's important to brush your teeth after meals and after eating sweet or sticky snacks.



# Fitness In My World



**T**he United States appears to be in the middle of a fitness boom. Magazine covers feature favorite TV or movie stars working out. Newspapers carry stories about fitness. Exercise clothes are popular for everyone.

You'd assume that today's young people are more fit than ever before. Wrong! In fact, young people ages 10 to 18 are less physically fit than the teenagers of the 60's. And less than half of all young people are physically active year-round.

Our lifestyle is a major reason Americans are overweight and unfit. Nowadays, we are more likely to *watch* sports than to be physically active ourselves. We're also likely to snack, frequently on calorie-dense, nutrient-poor foods.

Fitness is a condition that helps you look, feel and do your best. It gives you the ability to get through periods of stress, because exercise actually has a tranquilizing effect on your body.

To be physically fit means your heart, lungs and every muscle in your body are working at optimum level, so fitness provides a foundation for good health and "wellness." Fitness also helps to reduce stress and may improve, to some degree, your mental alertness and your emotional well-being.

Regular aerobic exercise is one of the best ways to get

physically fit. It can help regulate your heart rate, weight and the amount of fat in your body. Here are some other benefits:

- Exercise is one of the most effective ways to reduce stress and improve mental outlook. If you tend to be anxious, tense or depressed, try swimming, bicycling, dancing or some other aerobic activity at least three times a week.
- People who exercise regularly tend to give up other habits that are bad for their health. As exercisers become more health conscious, some give up habits like smoking or overeating.
- People who are more physically fit are more confident about themselves. Exercisers can often see their skills improving, which gives them a real sense of pride and accomplishment.
- Exercise uses calories as energy and therefore prevents their storage as fat in the body.
- Muscle is firmer than fat, so people who exercise appear trimmer even if they don't lose a pound.

How can you tell if you're fit? One way is by measuring yourself against national standards. Here are a few tests: strength, flexibility, muscular endurance and cardio-respiratory endurance, which are the four separate components of fitness.



# FITNESS EVALUATION

## One-Mile Run (Cardiovascular endurance)

If you haven't run before, work up to this test. Start by running a little, then walking. Gradually increase the amount you run. When you're ready, mark off a one-mile course. See how quickly you can run (or run and walk) the mile.

By age 14, the norm for boys is 7 minutes, 10 seconds. The norm for girls is 9 minutes, 35 seconds.

My score \_\_\_\_\_

My goal \_\_\_\_\_



## Situps (Abdominal strength)

Lie on your back with your knees bent and your feet about 1 foot apart. Cross your arms across your chest. Have a partner hold your ankles and keep your heels on the floor. Sit up and turn your trunk to the left, touching your right elbow to your left knee or thigh. Return to starting position. Count "one." Sit up and touch left elbow to

right knee. Return to starting position. Count "two." Continue for 60 seconds. By age 14, the norm for boys is 42 situps in one minute.

The norm for girls is 35 situps in one minute.

My score \_\_\_\_\_

My goal \_\_\_\_\_



## Sit and Reach (Flexibility)

For this test, you will need a box about 12" high and a ruler at least 18" long that measures in centimeters. Attach the ruler flat across the top of the box. The 23-centimeter measurement should be exactly in line with the front edge of the box. The section of the ruler showing numbers higher than 23 centimeters should be over the box; the section showing numbers lower than 23 should extend beyond the front edge of the box (see the illustration). (Check with your physical education teacher. Your school may own the equipment you need

for this test. The Leader's Guide for this project also includes instructions on making or adapting equipment to use.) Remove your shoes and sit on the floor with your feet flat against the front edge of the box, under the ruler. Your knees should be straight (not bent) and your feet should be shoulder-width apart. Reach your arms forward, with one hand on top of the other. For the test, reach forward along the ruler, as far as you can. Hold that position for one second. Have a friend record the measurement of how far you reached with both fingertips. You have four tries—take the highest measurement as your score. By age 14, the norm for boys is 28 centimeters.

The norm for girls is 33 centimeters.

My score \_\_\_\_\_

My goal \_\_\_\_\_



## GET FITT

Want to get fit? Then get FITT. Those four letters will help you plan an exercise program that includes everything you need for fitness:

## F = Frequency.

You have to exercise 3–5 times a week if you want to increase your fitness.

## I = Intensity.

For exercise to build your cardiorespiratory endurance, it has to raise your heart rate to between 65% and 80% of its maximum. Most people can determine their maximal heart rate this way:

$220 - (\text{your age in years}) \times (.65 \text{ to } .80) = \text{maximal heart rate}$

Here's an example

$220 - 15 = 205 \times .65 = 133$

$220 - 15 = 205 \times .80 = 164$

So a 15-year-old would have to exercise to raise the heart rate to between 133 and 164 beats per minute.

While you're exercising, take your pulse occasionally. Slow



down and gently place your fingers (never your thumb) to the side of your Adam's apple or your wrist. Count for 6 seconds. Then add a zero to get your approximate pulse per minute. If your pulse rate is too low, increase your intensity. If it's too high, slow down—but don't stop altogether or you could end up with cramped, sore muscles.

## T = Time.

To promote muscular and cardiovascular endurance, you need to plan an exercise session that raises your heart rate to the maximal range for at least 15 minutes. Gradually increase that time to 30 minutes of vigorous activity.

## T = Type.

Your exercise program should include some exercises that will promote strength, some that will promote flexibility and some that will promote endurance. For example, you might start with 5 to 10 minutes of slow stretching exercises for flexibility. Then you might bicycle for 15 minutes to work on muscular and cardiorespiratory endurance. You could finish with some pushups for strength and another set of slow stretches.

There is no one perfect exercise for strength, flexibility or endurance. So try to choose an exercise program that includes activities you will enjoy. Your fitness program shouldn't be something you *have* to do—make it something you'll *want* to do as a regular part of your life.

# NUTRITION AND FITNESS

## ASSESSMENT

### I. HOW DOES MY DIET RATE? Changes I want to make in my eating habits:

I currently eat a diet that includes each day:

4 or more servings of vegetables and fruits Yes/No

4 or more servings of breads and cereals Yes/No

4 servings of milk and other dairy foods Yes/No

2 servings of meat, poultry, fish or beans Yes/No

and not too many fats and sweets Yes/No

The amount of fat in my diet is:

Probably too high

Probably too low

About the right amount

The amount of sugar in my diet is:

Probably too high

Probably too low

About the right amount

The amount of sodium in my diet is:

Probably too high

Probably too low

About the right amount

The amount of starch and fiber in my diet is:

Probably too high

Probably too low

About the right amount

(Your County Extension Agent may be able to help you find the answers to these questions.)

### II. MY FITNESS STATUS

My personal fitness goals are:

Changes I want to make in my fitness habits:

My fitness evaluation indicates that I need to work on:

Strength OK Need to improve

Flexibility OK Need to improve

Endurance OK Need to improve

I exercise regularly (at least 3 times per week for at least 30 minutes)

Usually Often Never

When I exercise, I raise my heart rate to the maximal range for 15 to 30 minutes

Usually Sometimes Never

My exercise program includes some work on strength, flexibility and endurance

Usually Sometimes Never

I have found an aerobic exercise that I enjoy Yes No



Much of what you can learn in this 4-H project will come from pursuing some areas of your own special interest. Here are some ideas to get you started:

**Test** your fitness. Set up a testing program for younger 4-H'ers or other members of your club.

**Develop** a fitness directory for your community. Include a list of experts. Survey your community to find out the opportunities for free and low-cost fitness. In many communities, the County Cooperative Extension Service and others have sponsored food and fitness fairs. Find out if one is planned for your community and get involved.

**Keep** a food diary for 3 days. Evaluate your diet for its nutritional value. List 3 changes you'd like to make in your own eating behavior.

**Get together** with a group of friends or your club to plan some changes in your eating behavior and to give one another support.

**Write** and perform a skit or puppet show about taking—or not taking—responsibility for your own nutrition, including the influences that cause you to eat things you might not have planned to.

**Learn** some of the ways that diet may be used to control high blood pressure. Teach what you have learned to someone else.

**Learn** how to take your blood pressure, then study the risk factors for heart disease. Learn some of the ways diet can be used to help reduce the risk of heart disease. Teach what you have learned to someone else.

**Help** design a program to assist others in evaluating their own risk factors for high blood pressure, heart disease or osteoporosis (a disease associated with the loss of bone mass).

**Learn** more about current nutrition research. Share what you have learned with others.



To Find Out More About Fitness

Your public school physical education department

Your local government recreation department

Your church athletic leagues

Your local YMCA or YWCA

Governor's Council on Physical Fitness (or Sports, Health, Wellness) in 32 states

President's Council on Physical Fitness and Sports

# Our Food Supply



**T**om was packing his lunch for a hike with his friends. His mother asked what he planned to drink.

"I took one of those boxes of orange juice, Mom—it's easy to pack and it doesn't need to be refrigerated," Tom replied.

"It sure is getting easier to enjoy the foods we love," Tom's mother said. "Not too long ago, we could buy orange juice only in refrigerated bottles or as a frozen concentrate."

"Grandma remembers being able to drink orange juice only a few months of the year—she said oranges just weren't available at other times," Tom added.

"And my grandmother told me that oranges used to be such a special treat that she once was given one for her birthday!" Tom's mother recalled.

Today when you walk into a grocery store, you see thousands of different foods—nearly 10,000 in a typical store. Because of new technology, changes in agriculture, and improvements in transportation, Americans today enjoy a rich and varied food supply.

From the time of the first settlers until the mid-1800's, most Americans lived on farms. They ate mostly what they could grow themselves. The few people who lived in towns and cities ate what was grown in the surrounding countryside. For many people, that meant a diet that consisted mainly of pork and corn. A typical winter day's meals might have included: breakfast—salt pork and grits; lunch—salt pork, applesauce made from dried apples and hoe cake (corn meal cooked on a hoe over an open fire); dinner—corn meal mush.

During the summer and autumn, these early Americans enjoyed many fresh vegetables and fruits. But there were few reliable ways to preserve those foods so they could be enjoyed year-round. Fruits like apples were dried—and

cookbooks of the period advised cutting out sections of dried fruit that were infested with insect eggs!

Because there was no refrigeration, fresh meat and milk lasted only about a day. Some wealthy Southern families, however, shipped ice from lakes in New England to keep fresh foods cooler.

Improved technology made the first changes in our food supply. Home canning, which became popular in the mid-1800's, offered homemakers a way to preserve foods and nutrients so fruits and vegetables could be enjoyed year-round. It was the first major new food preservation technology developed in 8,000 years! Later, refrigeration and the development of frozen foods meant that Americans could enjoy their favorite foods year-round, not just when they were "in season."

Our food supply has also changed in response to consumer demand. Not long ago, consumers said that price was the most important thing they considered when making decisions about which foods to buy. Today, most American consumers say they are looking for **quality**—price is still important, but they are willing to pay more for a product if they think it is of high quality. Also important to today's consumers:

● FRESHNESS ● CONVENIENCE ● NUTRITIONAL VALUE ● SAFETY ● CONCERNS ABOUT HEALTH AND WEIGHT

Farmers have responded to the changes in consumer demand by growing more and different fruits and vegetables. Because of improved methods of refrigeration and transportation, strawberries grown in California can be on grocery store shelves in Vermont the next day.

Improved agricultural methods mean that farmers today can grow popular foods like tomatoes, oranges and lettuce year-round. Specialized farming plays an important role, too—because a farmer no longer has to grow all the food to feed his own family; he can grow one or two crops more efficiently.



One example of the way that farmers are responding to consumer demand is the development of aquaculture—commercial growth and harvesting of fish. Because Americans are eating more fish, some farmers have even experimented by combining aquaculture with agriculture. In some places, catfish are raised in rotation with crops such as rice. The catfish actually reduce the need to purchase crop fertilizers.

Food processors have also responded to changing consumer demand. The growing number of employed women, our busy lifestyle and the changing American family have all led to increased demand for products that are faster and more convenient to prepare. That's why you see so many foods that can be prepared in microwave ovens. Other changes in packaging allow foods to be kept without refrigeration (see the sidebar on the next page).

International trade has led to other changes in our food supply. Today, about one-sixth of what we eat comes from other countries. Tropical fruits, like pineapples and bananas, many spices, coffee and cocoa beans are grown in other countries.

Immigrants brought traditional foods with them when they came to this country. Pita bread and tacos can now be found on supermarket shelves next to English muffins and bagels. Imported cheeses, spices and seasonings are also growing in popularity.

One major change in our food supply is the speed with which these new foods become part of a "typical" American's diet. In the past, it normally took 20 to 30 years before a new food was accepted by the general public. Today, thanks to improved communication and marketing, the process takes only a few years.

International trade is important for American farmers. Today, farm exports take the production of about 1 harvested cropland acre out of 3.

In some states, one-third to one-half of farm income comes from agricultural exports. For example, we sell beef, soybeans and corn to Japan and wheat to Egypt, Brazil, the U.S.S.R. and China.

U.S. agricultural exports vary from year to year. The value of the dollar relative to other currencies, world demand for agricultural products, and the supply of products available from other countries can all influence the amount American farmers can sell overseas.

What are your favorite foods today? Were they available 10 or 20 years ago? What about tomorrow? It's possible that some foods that will become your favorites haven't even been developed yet. Our food supply is constantly evolving and improving.



The average supermarket offers thousands of food items. Americans spend \$279 billion annually at our nation's markets for food to be eaten at home. Americans spend another \$111 billion on food away from home.



The United States has a land resource that is the envy of the world. Nearly half our land—more than 1 billion acres—is farms and ranches. Corn, shown here, is the leading crop.

Then	and Now
<b>Fifty years ago</b> Number of farms in the U.S.: 6.7 million Average farm size: 152 acres Number of farmers and farmworkers*: 12 million, each of whom produced enough food and fiber for 10 people	<b>Today</b> Number of farms in the U.S.: 2.3 million Average farm size: 445 acres Number of farmers and farmworkers: 3.5 million, each of whom produces enough food and fiber for 79 people
<small>*Farmworkers include the farmer and unpaid family members who work on farms (⅓ of all farmworkers) as well as full-time and part-time employees.</small>	





This picture will give you an idea of what a family of four eats in a year—about 2½ tons of food!

Laser guided earth movers level fields to provide uniform distribution of irrigation water.



These oranges are on their way to become juice at a Florida processing plant. In terms of farm income, oranges are our leading fruit crop. Grapes are second and apples third.



## What's Ahead for

## Food Packaging?

Consumer demand for greater convenience has led to the development of many new ways to package food. Today, new packaging materials make it possible to present food in containers that are lighter weight, easier to handle and less fragile than ever before.

Many of these new containers allow food to be cooked more rapidly, by popping it into boiling water or a microwave oven. One new technique is called **retorting**—and it's very similar to traditional home canning. Food is put into a container, the container is sealed and then brought to a high temperature. The heat sterilizes the food and makes it "shelf stable"—safe to store in the cupboard for a year or more. These retortable packages can be reheated in a pot of boiling water. Fruit juices and milk are being sold in **aseptic** packages—square boxes made of paper, plastic and foil. In this packaging method, food and the container are sterilized separately and then the container is filled in a sterile environment. This packaging method,

experts say, preserves the quality, freshness and taste of food and enables it to be stored safely at room temperature.

Here are some other packaging methods you may be seeing in the near future—if they aren't already on your grocery store shelves today.

**Vegetables and fruits**—wrapping these foods in film, then rapidly shrinking the film, preserves freshness and extends shelf life.

**Jellies, jams and condiments**—a new, extra-strong plastic has been developed to allow these foods to be sold in squeeze bottles.

**Snack foods**—hermetically sealed foil packages are flushed with nitrogen to help keep contents fresh longer.

**Main courses**—complete frozen meals are packaged on a plastic plate, allowing them to go from freezer to microwave to table.

# The New American Apple Pie



**A**mericans are rediscovering their traditional foods. But many old favorites were high in fat and calories. It is possible, as in this recipe, to adapt recipes to reduce fat and calories.

"It's as American as apple pie." The earliest settlers loved this dessert because apples grew so abundantly. This new, lower-fat version of a traditional American favorite uses whole wheat flour and margarine for the crust. You can adapt the recipe by using other fruits that are in season. Use  $\frac{1}{2}$  to 1 cup sugar, depending on the natural sweetness of the fruit. Experiment with different spices in place of the cinnamon and nutmeg. You can also use the crust with quiches or vegetable fillings like spinach or zucchini.

## Fresh Apple Filling

5 cups sliced tart apples  
1 tablespoon lemon juice  
Few gratings lemon rind  
 $\frac{1}{2}$ –1 cup granulated white or firmly packed  
brown sugar  
 $\frac{1}{4}$  cup all-purpose flour  
 $\frac{1}{2}$  teaspoon cinnamon or nutmeg

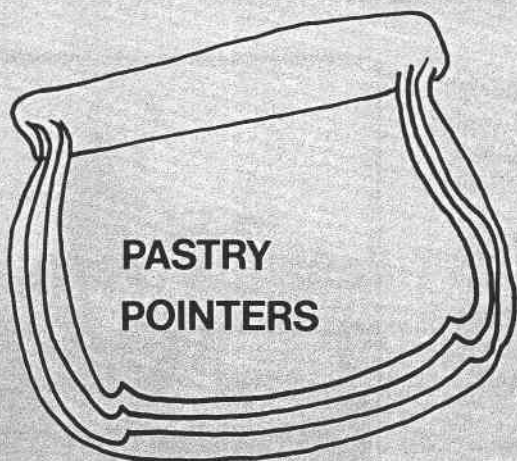
Wash and pare apples. Cut into thin slices. Add the lemon juice and rind to the apples. Mix apples, sugar, flour and spices and place them in the pastry-lined pie pan. Cover with pastry. Bake at  $425^{\circ}$  for 15 minutes; then bake at  $350^{\circ}$  for 30 minutes longer.

## Whole Wheat Pie Crust

1 cup whole wheat flour  
1 cup white flour  
1 teaspoon salt  
4–6 tablespoons ice water  
 $\frac{2}{3}$  cup margarine

Mix the flours and salt together. Cut in the margarine with a pastry blender or two forks. Add water, a little at a time, mixing dough with a fork. Add just enough water so that the dough gathers into a ball.

Rolling and fitting pastry for a pie takes a little practice. If you have never made pastry, check a reliable cookbook for specific directions on rolling and shaping.



- Pastry has four major ingredients. **Flour** forms the basic structure of the pastry. **Fat** provides the tenderness. **Liquid** develops the dough. **Salt** adds flavor.
- For tender pastry, all the flour particles should be coated with fat. If you are making a pastry with solid fat, blend the fat and flour until there is no dry flour. The mixture should be uniformly crumbly.
- Use only enough water to make a pastry that is neither sticky nor dry. Beginners often think the dough is dry and add more water before the mixture is well blended.
- Chilling helps make the dough easy to handle. If you're having trouble with your pastry, put it in the refrigerator for 15–20 minutes.
- Use as little flour for rolling as you possibly can. The pastry recipe already has the proper amount of flour. Too much flour makes your pie crust tough.

## TIPS

### Have your pie . . . and eat it, too

Most dessert pies are high in calories, fat and sugar. But you can still enjoy these special treats.

- Serve moderate portions.
- Use less crust. A one-crust pie contains less fat than a two-crust pie. A lattice top gives a two-crust effect, but still reduces total fat.
- Choose recipes that use less sugar. Fresh fruit pies can give you a chance to enjoy fruit's natural sweetness. Reduce the sugar called for in one of your traditional pie recipes. If you like the taste, reduce the sugar still more.
- Choose toppings carefully. If you're watching calories, try a fruit-flavored yogurt on your pie instead of ice cream.
- Serve pies elegantly. Choose attractive dessert plates or china. Garnish with a sprig of mint or some fresh fruit. Make your dessert a feast for the eyes as well as the mouth.

## HERE'S WHERE

**To Learn More About Agriculture in Your State**  
**State department of agriculture**—develops regulations for agriculture, promotes agriculture and agricultural products grown in your state. Write to the state department of agriculture or check your local library for their publications.

**State commodity groups**—provide information about specific agricultural commodities. Can provide specific information and arrange farm visits. Your County Extension Agent has addresses of commodity groups in your state.

**County Extension Agent**—the best source of information on local agricultural products, local chapters of state and national organizations, information on the nearest Land-Grant college library. County Extension offices have specialists in agriculture, home economics and 4-H.



### Research a

traditional family recipe, adapting it by using less salt, sugar or fat.

**Find out** about food in the future: What do you think people will eat in the future? How will the food be produced? How will it be processed? How will it be packaged?

**Learn** about some of the state and federal agencies that affect agriculture and food production. What are their functions? What benefits do they provide to consumers?

**Research** a specific food product from field to table.

**Collect** and/or develop a cookbook of traditional recipes adapted to use less salt, sugar or fat.

**Learn** how other countries use U.S. food products. What part of the agricultural production in your area goes to export? Interview people in your area involved in marketing agricultural products overseas.

**Research** the status of agriculture in your state or region. What are the problems and potential? Communicate your knowledge to other 4-H'ers.

**Learn** about supermarkets and grocery stores. Develop a research project to find out how supermarkets in your area are changing to meet consumer demands.

**Research** the current export picture for an export commodity grown in your state. What are the factors influencing demand for this commodity?



# Food Safety And Additives

Did you ever hear the expression, "One bad apple can spoil the whole barrel"? In early America that wasn't just an old saying. Homemakers preserved apples in barrels so their families could eat fruit during the winter months. But they had to check the fruit often, because once one apple started to spoil . . . well, you can probably figure out the rest.

Storing fruit wasn't the only problem early settlers faced. Keeping a family provided with safe, nutritious foods was a year-round job.

Because there were so few ways to preserve food safely, the early settlers' diet was usually very limited. During the winter months, salt pork, beef or fish and perhaps a little milk were often the only animal protein available. And animals had to be slaughtered in cold weather or the meat would spoil.

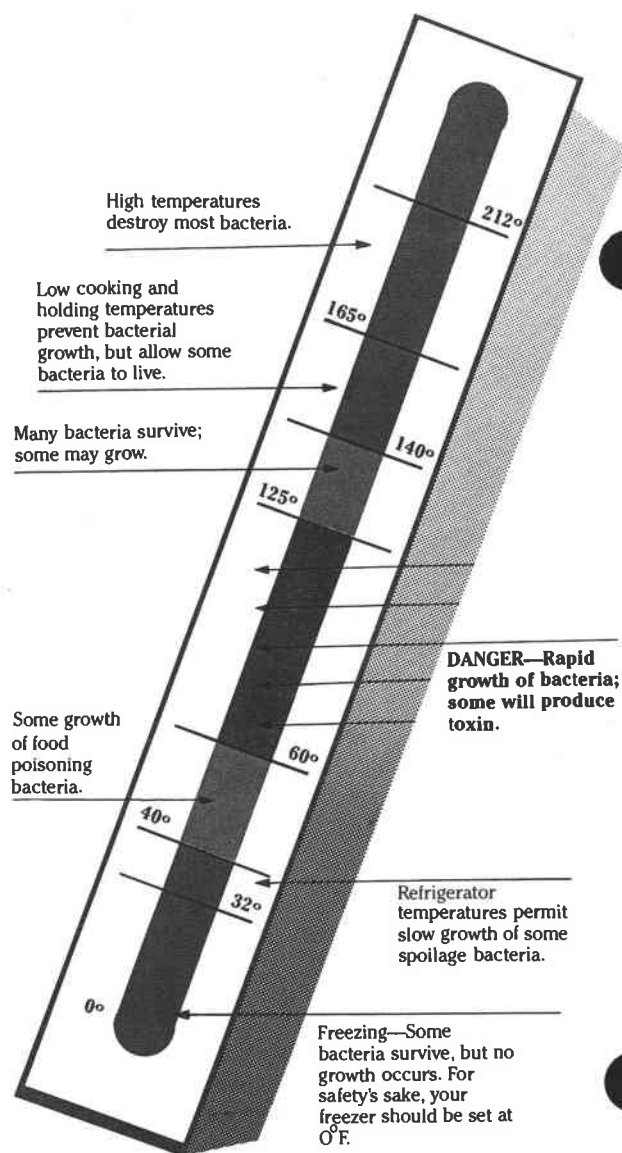
By the end of winter, vegetables were also in short supply. In fact, New Englanders called the time between when the vegetables ran out (or rotted) and the dandelions began to grow the "Six Weeks' Want."



Luckily for us, it's much easier to find safe, nutritious food today. Modern refrigeration and food processing techniques have made the task of keeping food safe much simpler.

The government plays an important role in regulating food safety and sanitation. For example, the law requires that federal inspectors check the safety and quality of meat and poultry from the time animals arrive at packing plants until products are ready for sale. The food industry also takes steps to ensure that food you find in your grocery stores is safe. Food processors follow strict standards for cleanliness and quality control. As a result of government and industry efforts, in this country we enjoy the safest, most wholesome and most abundant food supply in the world.

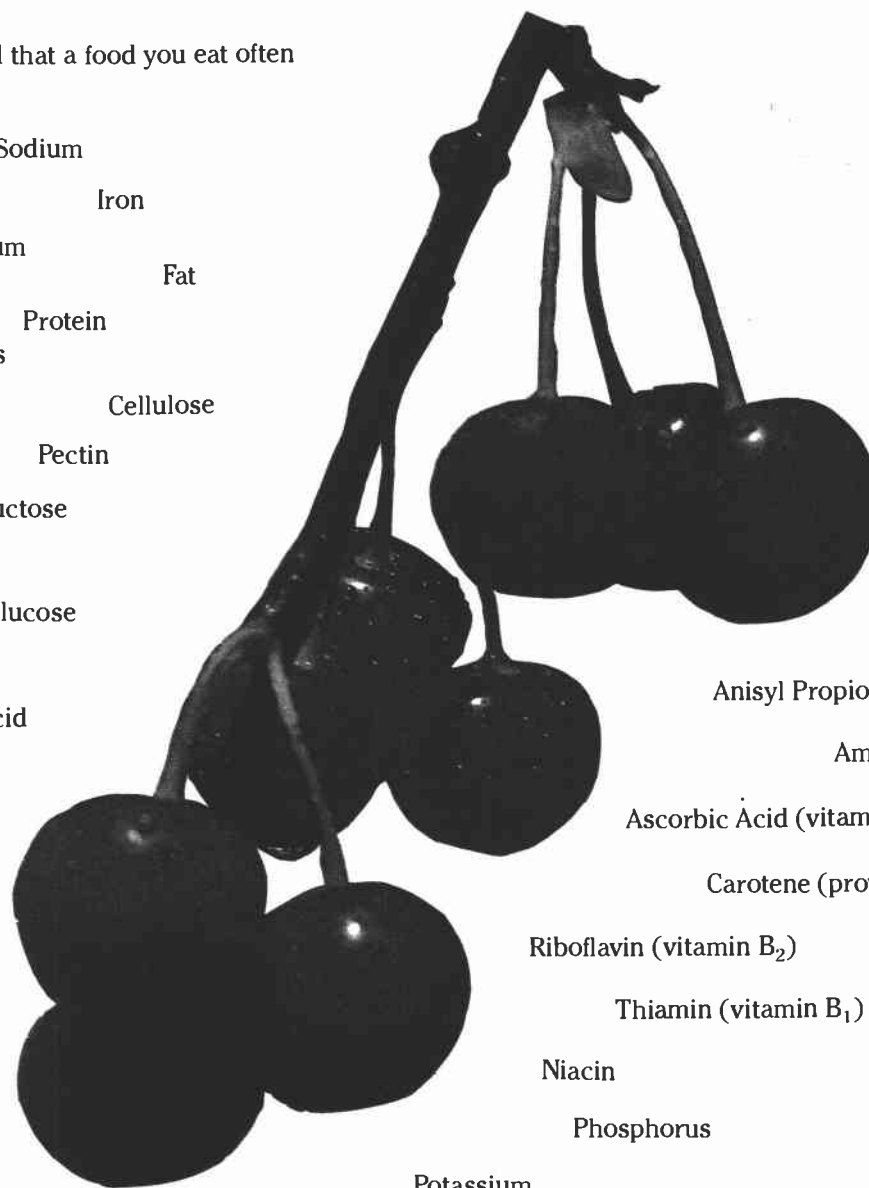
The responsibility for keeping food safe also rests with the consumer. The way food is handled and stored once it leaves the grocery store is of major importance. More than 2 million cases of food poisoning are reported each year due to improper handling and storage of food in the home.





**S**uppose you were told that a food you eat often contained the following:

Sodium  
Iron  
Calcium  
Fat  
Protein  
Starches  
Cellulose  
Pectin  
Fructose  
Sucrose  
Glucose  
Malic Acid  
Citric Acid  
Succinic Acid



Anisyl Propionate  
Amyl Acetate  
Ascorbic Acid (vitamin C)  
Carotene (provitamin A)  
Riboflavin (vitamin B<sub>2</sub>)  
Thiamin (vitamin B<sub>1</sub>)  
Niacin  
Phosphorus  
Potassium

**Y**our first impulse might be to avoid a food containing so many chemicals and to eat something more natural. But what could be more natural than fresh sweet cherries, which contain all the ingredients listed above?

Everything we eat is made up of chemicals. Milk straight from the cow is a combination of 95 chemicals. Your body is made up of chemicals, too. In fact, for the most part, your body can't tell the difference between a nutrient like vitamin C present in a food or made in a laboratory.

Food additives are chemicals, too. A food additive is any substance that becomes part of a food product when it's added either directly or indirectly. Some additives, such as citric acid, occur naturally in food. Some others are made in laboratories.

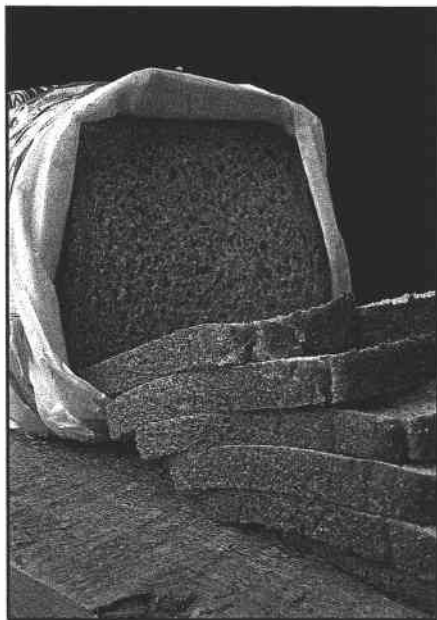
When a number of chemical names are included on an ingredient list, it can be confus-

ing. Labels must list all food ingredients, in their order of predominance, even those present in small amounts. As many as 90 percent of the items listed on a label may be substances that comprise less than one percent of the product.

### What Do Additives Do?

People have flavored, spiced, preserved and otherwise treated food with additives for thousands of years. The early American settlers, for example, used sugar (sucrose), salt (sodium chloride) and vinegar (acetic acid) as preservatives in various preparations.

Today, more food is prepared in processing facilities than in homes. Foods also travel long distances or stand on grocers' or home shelves for extended periods. Our current food supply, therefore, requires addition of special ingredients,



**preservatives**, to prevent spoilage and to preserve flavor and texture. For example, calcium propionate can retard the growth of bacteria and mold in bread. Ascorbic acid (vitamin C) can keep uncooked peaches from turning brown.

**What are some other reasons for putting additives into food?**

• **To maintain or improve nutritional value.** Vitamins and minerals that might otherwise be lacking in a person's diet or that have been lost in processing may be added to foods as **nutrient supplements**. Vitamins A and D are often added to milk, vitamin A to



margarine and iodine to table salt. Flour millers often replace many of the B vitamins that are lost during the milling process. This flour is usually called "enriched flour." Fortification and enrichment of foods have helped eliminate deficiency diseases, such as rickets, pellegra and goiter.

• **To make food more appealing.** It has been said that we "taste with our eyes," so it's not surprising that the most frequently used additives are those that make food look or taste better. These include **coloring agents, natural and synthetic flavors, flavor enhancers and**



**sweeteners.** **Emulsifiers** improve the smoothness and body of foods. **Stabilizers and thickeners** give foods desired smoothness of texture and uniformity of color.

Many consumers are interested and concerned about the safety of food additives. The Food and Drug Administration is responsible for reviewing food additives. Today all new food additives must be tested by manufacturers and the test data sent to the FDA, which uses the data to evaluate the safety of the substance within the context of its intended use.

## Q&A

### What Should I Know About Food Additives?

Here are some questions to ask about additives.

1. How can I find out about additives a specific food contains?
2. What benefits do the additives in this food provide?
3. Do I have a specific health concern that indicates I should avoid a certain additive?

Eating a variety of foods is a good way to keep the levels of any one additive at a minimum. For more information on additives, contact a home economist in your local Cooperative Extension Office or the consumer affairs officer at your nearest FDA office.



**Learn** the difference between inspecting food for safety and grading it for quality.

**Prepare** a news

story for your school paper on food safety.

**Demonstrate**, at a local shopping center or grocery store, a safe way to prepare, pack and transport food for a picnic.

**Learn** more about a common food additive.

What is its function? In what foods can it be found?

# Special Subjects In Nutrition And Fitness

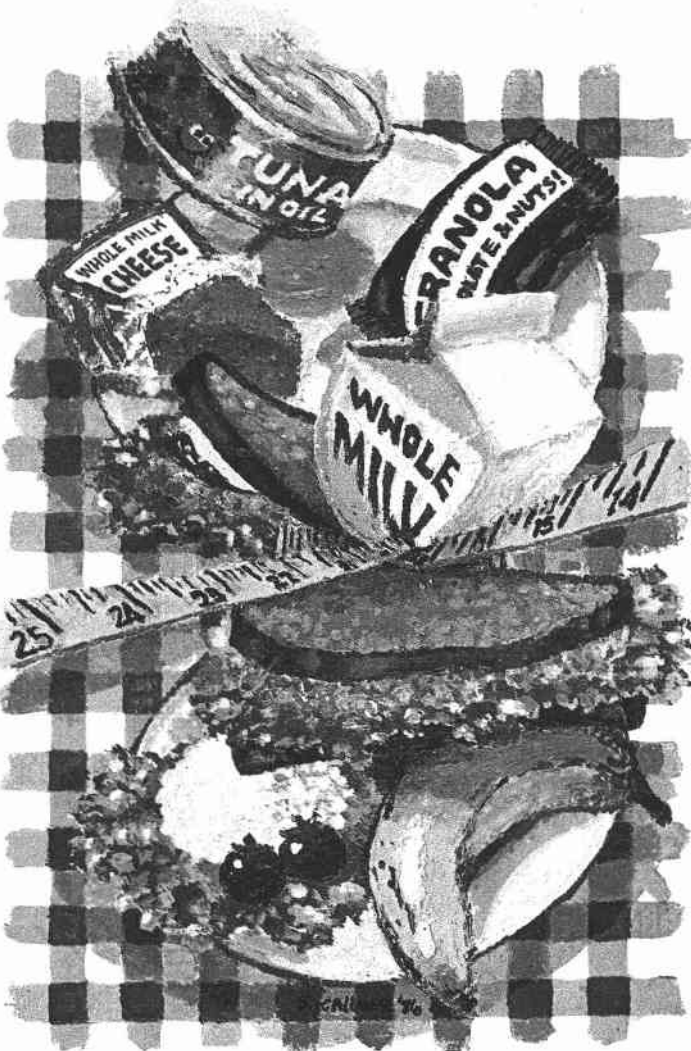
## As a Matter of Fat

Mary was "on a diet." So for lunch, she had some tuna salad with mayonnaise, no bread, a wedge of whole milk cheese and a granola bar. What Mary didn't know was that more than half the calories in her lunch came from fat!

The tuna was packed in oil—and 56 percent of its calories came from fat. Ninety-nine percent of calories in the mayonnaise came from fat. The cheese got 75 percent of its calories from fat. And 50 percent of the calories in the granola bar, which included peanuts and chocolate, came from fat.

Mary didn't need to plan a totally different lunch. She could have chosen tuna packed in water. She could have used low-fat salad dressing or tried a mixture of mustard and yogurt instead of the mayonnaise. There are several lower-fat cheeses she could have selected. A piece of fruit would have been a better choice for dessert. And, of course, there was no reason to skip the bread because it's relatively low in calories and provides important nutrients.

Today, the National Institutes of Health recommends that people reduce their daily intake of fat to about 30 percent of total calories. Studies show that many of us eat more than 35 percent of total calories in fat. It's not hard to eliminate the fat you can see—cutting fat off meat and not slathering butter on your toast. It's a lot harder to cut out the fat you can't see, but it can be effective. For example, if you drink three glasses of whole milk a day and switch to skim milk, you could spare 17 pounds' worth of calories in a year's time.



### Finding the Fat

How can you discover the amount of fat in the food you eat? Use your mathematical skill (or a calculator) and the food label. The nutrition label will tell you how many grams of protein, carbohydrate and fat are found in each serving of the product. Proteins and carbohydrates supply about 4 calories per gram. Fat, which is "calorie dense," supplies 9 calories per gram.

Suppose you want to figure out what percentage of the calories in mayonnaise come from fat. The label tells you that a serving (1 tablespoon) contains 100 calories and 11 grams of fat.

#### Multiply

The number of grams of fat 11  
the calories per gram  $\times 9$   
to get the

TOTAL NUMBER of fat calories per serving 99

#### Now divide

the number of fat calories 99  
by the total calories 100  
and multiply by 100  $\times 100$

The answer is the percentage of calories that come from fat 99 percent.  
Find the percentage of calories that come from fat in these products:

- 1) peanut butter—17 grams fat, 190 calories per serving
- 2) quick-cooking oatmeal—2 grams fat, 100 calories per serving
- 3) low-fat cottage cheese—1 gram fat, 90 calories per serving
- 4) canned chicken broth—2 grams fat, 35 calories per serving
- 5)  $\frac{1}{2}$  cup frozen broccoli, corn and red peppers—0 grams fat, 50 calories per serving

(For the correct answers, see page 25.)

# A Weighty Subject

**"I lost 30 pounds in two weeks—  
and wasn't hungry!"**

**"New miracle drug melts pounds  
while you sleep!"**

**"Miracle Diet of the Stars!"**

You've read the headlines and seen the ads. Most people want to be slim. They want to look and feel good. But Americans like every-thing—from cars to foods to diets—to be fast. And even though there are no shortcuts to weight loss, some people will try anything . . . for a week. But at least 95 percent of all dieters will gain back the weight they've lost.

How can you tell whether a new diet or diet product is nutritionally sound and will result in long-term weight loss? Ask yourself these questions:

1) Does the diet promise rapid weight loss? Experts know that you can safely lose only 1 or 2 pounds of fat per week. Any weight loss beyond that is probably just water loss and will be regained as soon as you stop dieting.

2) What are the diet promoter's qualifications? Movie and television stars probably look great, but they are not qualified to give advice on nutrition.

3) What claims are used to support the diet or diet product? Don't rely on personal testimonials as scientific proof of diet miracles.

4) Does the diet include a variety of nutritious foods? Some diets encourage you to omit all foods from one or more food groups. Usually they tell you to stay on the diet for only a short time. You should ask the obvious question: If this diet is so good for me, why is it dangerous to stay on it for any length of time?

It's especially important for teens to eat a balanced diet, even when losing weight. Your adolescent years are a time of rapid growth. You need the nutrients found in all the food groups.

Studies show that some Americans—especially women who are dieting—are not consuming enough calories to provide them with the nutrients they need. It's difficult to provide your body with all the nutrients it needs on a diet of less than about 1500 calo-

ries per day for teenage girls and 2000 for teenage boys.

On the other hand, doctors are seeing an increasing number of fat, malnourished patients.

These overweight malnourished are eating more than enough calories but not the right foods.

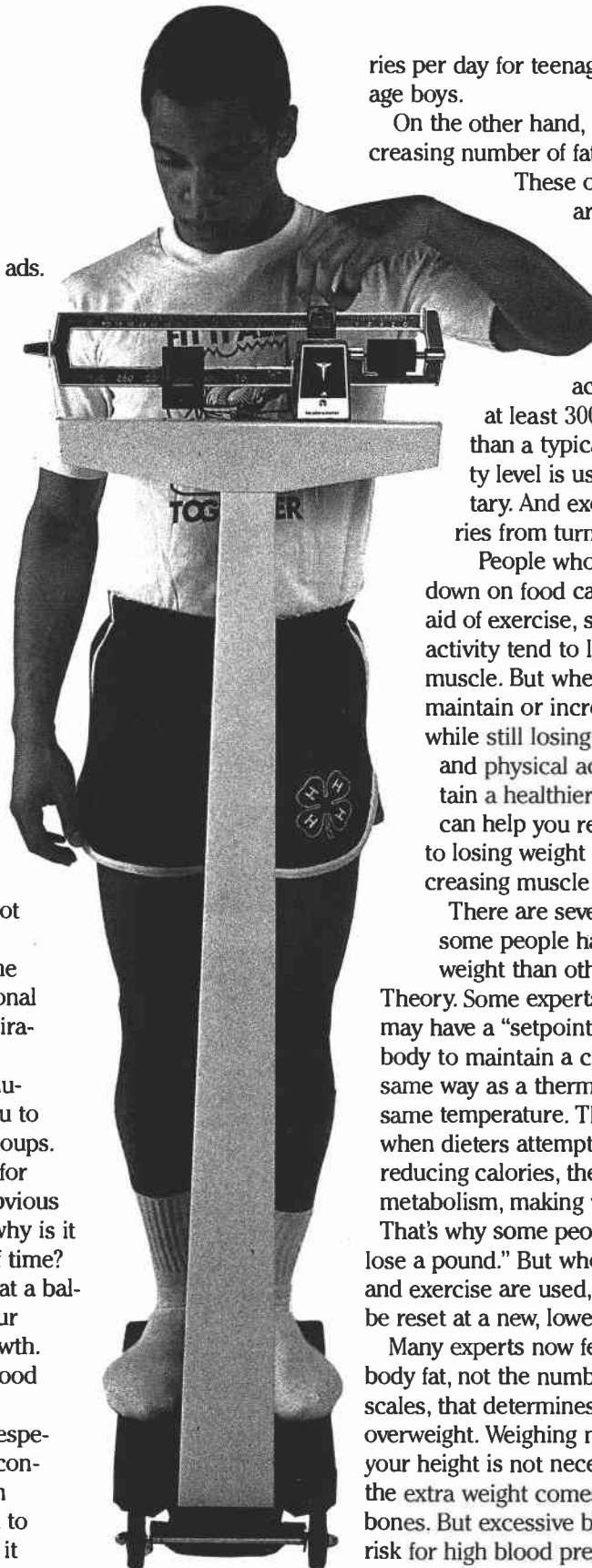
Exercise can help both these groups.

Even a moderately active person can consume at least 300 calories per day more than a typical American, whose activity level is usually described as sedentary. And exercise can keep extra calories from turning to fat.

People who lose weight by cutting down on food calories alone without the aid of exercise, sports or other physical activity tend to lose both body fat and muscle. But when they exercise, they maintain or increase their muscle tissue while still losing fat. So exercise, sports and physical activity can help you maintain a healthier body composition—they can help you reduce body fat in addition to losing weight while maintaining or increasing muscle tissue.

There are several theories about why some people have more difficulty losing weight than others. One is the "Setpoint" Theory. Some experts think that our bodies may have a "setpoint" that encourages the body to maintain a certain weight in much the same way as a thermostat keeps a room at the same temperature. These experts think that when dieters attempt to lose weight strictly by reducing calories, the body may slow down its metabolism, making weight loss more difficult. That's why some people "just can't seem to lose a pound." But when a *combination* of diet and exercise are used, the body's "setpoint" can be reset at a new, lower weight.

Many experts now feel it is your percentage of body fat, not the numbers that show up on your scales, that determines whether or not you are overweight. Weighing more than the average for your height is not necessarily a health hazard, if the extra weight comes from large muscles and bones. But excessive body fat is a definite health risk for high blood pressure, heart disease, diabetes and perhaps even some types of cancer.





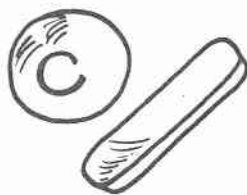
# Food Fads & Fakes

...y, everyone seems to be talking about nutrition. But some of what they're saying doesn't make sense. Here are some myths about food and nutrition.



**Grapefruit contains 'negative calories.'** Some diets promise that you can "burn away" calories by eating grapefruit. Of course it's not true. Half a grapefruit contains about 40 calories. While eating

grapefruit may satisfy you and reduce your desire for other higher calorie foods, it won't burn off the foods you've already eaten.



**If vitamins and minerals are important, taking more will improve my health.** This is one of the most common nutrition myths. The National Academy of Sciences found "no convincing evidence" that taking large doses

of vitamins or minerals produces any health benefits. These large doses are often called "megadoses."

Excessive amounts of water-soluble vitamins may be eliminated from the body in the urine. Even so, a person can suffer ill effects from consuming too much of some water-soluble vitamins, such as vitamins C and B<sub>6</sub>. Other vitamins, such as vitamins A, D, E and K are fat-soluble. Large amounts of these fat-soluble vitamins can accumulate in the body and can have toxic effects. Taking mega-

doses of some minerals can also be toxic. Consult your health practitioner before taking vitamin and mineral supplements.



**Fish is brain food.** Fish is low in calories and generally low in fat and high in protein. It's certainly smart to eat it. But eating fish won't make you smarter.



**Don't eat vegetables and fruits at the same meal.** A movie star offered this "advice" on losing weight in her fitness and beauty book. She couldn't be further from the truth. A good way to lose weight is to eat lots of fruits and vegetables, which tend to be low in calories and fat, instead of other food that may be more calorie dense.

## HERE'S WHERE

### to get reliable nutrition information

Obviously, there are many nutrition fakes offering a lot of unsound, inaccurate advice. Where can you get reliable nutrition information?

**The Cooperative Extension Service** employs a staff of nutritionists who can give advice and provide useful publications. County Extension Agents can also identify local nutrition experts in your area.

**Qualified nutritionists** have completed at least four years of study in nutrition, science and other courses at an accredited college or university.

**Registered dietitians** are often employed in hospitals, schools or other institutions. Some registered dietitians (all of whom have completed college, an internship and passed a qualifying exam) are setting up their own practice.

**Government agencies** may have nutrition experts employed by the state or local health department. These agencies also publish reliable information on nutrition.

**Food companies** provide nutrition information on the products they sell. Food labels include the company's address.

Increase the calcium-rich foods you eat. You need calcium throughout your life. Many women and teens don't consume enough of this mineral. Calcium keeps your bones strong and your joints flexible. Older women who have not consumed enough calcium throughout their lives often get **osteoporosis**—a disease that leads to brittle bones and humped backs. Also, some current studies suggest that an increased intake of calcium may be related to reducing blood pressure.

**TRY IT!**

**Find** a popular new diet. Evaluate it to see whether it is nutritionally adequate.

**Learn** more about how nutrients work together. Plan a meal that would increase utilization of some nutrients teens need.

**Develop** a directory of responsible sources for nutrition information in your community.

**Find out** about anorexia and bulimia. Research agencies in your community that help young people with these problems. Working with these agencies, develop a plan to share information about these disorders with fellow 4-H'ers and other young people in your community.

**Identify** food fads and myths circulating in your community.

### ANSWERS TO "FINDING THE FAT," pg. 23

- 1) 80.5 percent
- 2) 18 percent
- 3) 10 percent
- 4) 51 percent
- 5) 0 percent

# Food Around The World

Imagine that your club or school sponsored an international food festival. At the festival, you might sample foods from many of the world's cuisines. Here are some of the meals you might choose:

- From Scandinavia—yellow pea and ham soup, served with pancakes
- From the Middle East—grilled lamb served with whole grain pita bread
- From China—a stir-fry dish made from vegetables and meat, perhaps beef with broccoli served with rice
- From Vietnam—cha gio (spring rolls) made from a combination of meat, seafood and vegetables, wrapped in rice paper
- From Mexico—tortillas with a variety of toppings, including ground beef, cheese, beans, tomatoes and lettuce.

From each of these meals, you could select a serving from the meat, poultry, fish and beans group and one from the bread and cereal group. Yet each would be a unique taste of another country's foods.

People in different countries meet their nutritional requirements in different ways. Generally, staple foods in various countries are the foods that can be grown most easily in that region. In Asia, for example, the warm, moist climate makes rice production possible. In Mexico, corn and beans are better adapted to lower rainfall.



Today, while people around the world still enjoy the traditional foods, many also enjoy foods from other cultures. American-raised beef is a favorite food of the Japanese. We, in turn, are learning to enjoy oriental foods such as tofu (a bean curd found in everything from burgers to ice cream).

Today the United States is the world's largest exporter of farm commodities, exporting 60 percent of its wheat and rice, about 50 percent of its cotton, more than 40 percent of its soybeans and a third of its feed grains. The United States exported \$36 billion worth of farm products in 1983.

But the United States is also a major importer of world farm products. Most of the cocoa, coffee, tea and spices consumed in this country are imported. Also imported are sugar, cheese, meat, coconut and palm oil and some fruits and vegetables. The U.S. imports 85 percent of the exports from the Dominican Republic (primarily sugar, coffee and cocoa) and more than 70 percent of the exports (mainly coffee) from Rwanda, Africa.

Because America is a land of immigrants, our diet incorporates a large number of international foods. Choosing a "typically American" dish for an international dinner would be difficult. Hamburgers and hot dogs were originally eaten in Germany. Even that traditional American favorite, apple pie, came originally from England!

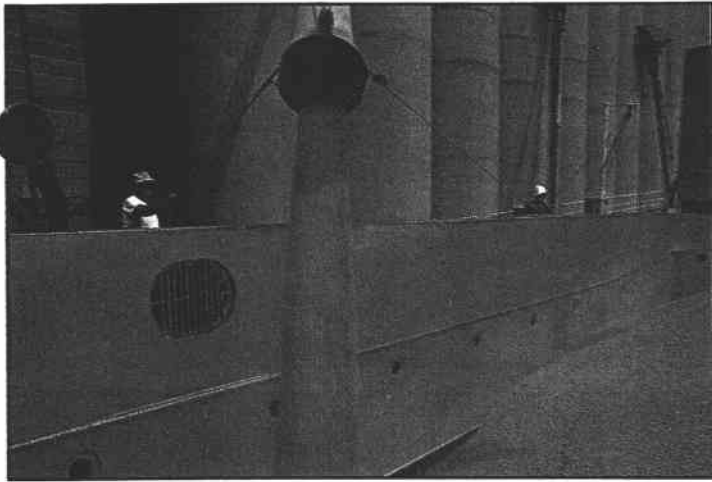
## World Hunger

Today, many teens have become concerned about the subject of world hunger. You may have contributed to a group that is bringing food to the world's hungry people. And you may wonder about the causes of world hunger.

There aren't any easy answers. Hunger in the world is a complex issue. It's helpful to think about the two different kinds of hunger—famine and malnutrition.

Famine is caused by a natural or man-made disaster, such as a drought, a flood, a war or crop disease. These disasters cause severe problems with the local food supply.

When famine occurs, the nations of the world usually cooperate to get food to the hungry people as quickly as possible. Programs such as CARE, the World Food Program



### U.S. Research Helps Feed Hungry People

Agricultural research can help farmers throughout the world continue to improve production to ease world food shortages. For example, grain is a staple of the diets of one-third of the world's population. Agricultural research in the United States, sponsored by USDA's Agricultural Research Service, is developing ways to:

- improve the quality of protein available in rice
- produce "super seeds" that may germinate and grow uniformly
- breed plants that are resistant to disease
- develop a wheat strain resistant to the cereal leaf beetle.

and a variety of church-sponsored relief programs distribute the food. The U.S. is the largest food donor in the world; many other countries also contribute substantial amounts to these relief efforts.

Malnutrition is caused by the lack of some important nutrients in the diet. It affects perhaps as many as a billion people around the world. In most cases, poverty is a major cause of malnutrition. The majority of the world's malnourished people live in 65 developing nations. In most of those countries the annual per capita income is \$400 or less. Extremely poor people often cannot afford to buy or grow enough food to feed themselves and their families.

There are many causes of hunger and malnutrition. In some countries farmers lack the technology, such as improved seed, machinery and fertilizer, to produce enough food. In other cases, a country may lack the **infrastructure**—irrigation, roads, storage—for food production. For example, in some countries in Africa, 60 percent of the grain harvested is wasted due to inadequate transportation and storage. Government policies can also play a role. If a government keeps food prices artificially low, farmers will have no incentive to produce.

Some developing countries have made dramatic progress in reducing the hunger and malnutrition of their citizens. In Mali, for example, the World Bank provided farmers with funds and training so they could produce cotton for export. With the proceeds from those sales, farmers have been able to invest in agricultural machinery and fertilizer. One result is that Mali's export sales have increased. Another benefit is that farmers have also used their fertilizer and machinery to increase grain production for domestic food use.

Hunger is not just a problem in developing countries. Some people in the U.S. suffer from hunger and malnutrition as well. In this country, as in other parts of the world, poverty is frequently a major cause of hunger. Lack of education about food and nutrition may also be a cause of malnutrition—people consume enough calories, but their diets do not include all the nutrients they need. Some U.S. government programs are designed to teach people, especially those with low incomes, how to make sure their food budgets include foods that will provide necessary nutrients.

## TRY IT!

### Document food waste

in your school lunchroom for two weeks. Report to the school administration and the student government, telling how much food is wasted and the kinds of food most likely to be wasted. Suggest ways to cut down on waste.

**Research** and prepare an ethnic meal from your own family background.

**Demonstrate** making some ethnic specialty in a shopping mall, a grocery store or during a festival in your home town.

**Learn** more about hunger and malnutrition in your own community. How are the needs of hungry people in your community being met? What can you or your club do to get involved?

**Use** your grocery store as a laboratory. Find out about some foods available in your local store that have been imported from another country. Select one imported spice and one other imported food. Research and prepare recipes using these new foods.

**Find out** more about world hunger. Develop a resource file of information from national, international and local groups. Then develop a plan for local 4-H'ers to get involved in helping to alleviate world hunger.

**Learn** more about Public Law 480, the "Food for Peace" program.

**Plan** an international food festival for your club, friends or a class at school.

# Indonesian Satay

Satay (sah-tay) is a traditional Indonesian meat dish. Use this basic recipe with chicken, pork, beef or lamb. Experiment with some of your favorite spices for a different flavor.

## Satay

¾–1 lb. chicken, beef, pork or lamb,  
cut in 1" cubes  
2 tablespoons soy sauce  
1 teaspoon finely minced garlic  
¼ teaspoon ground cumin

¼ teaspoon ground nutmeg  
½ teaspoon coriander  
1 teaspoon turmeric  
1 dash cayenne pepper  
1 teaspoon brown sugar

Combine all ingredients except meat. Add meat and marinate in the refrigerator for at least 1 hour while you are preparing the dipping sauce. Place cubes of meat on a bamboo or other skewer.\* Grill on a charcoal grill or under a broiler. Chicken takes about 3–4 minutes per side, other meats somewhat longer.

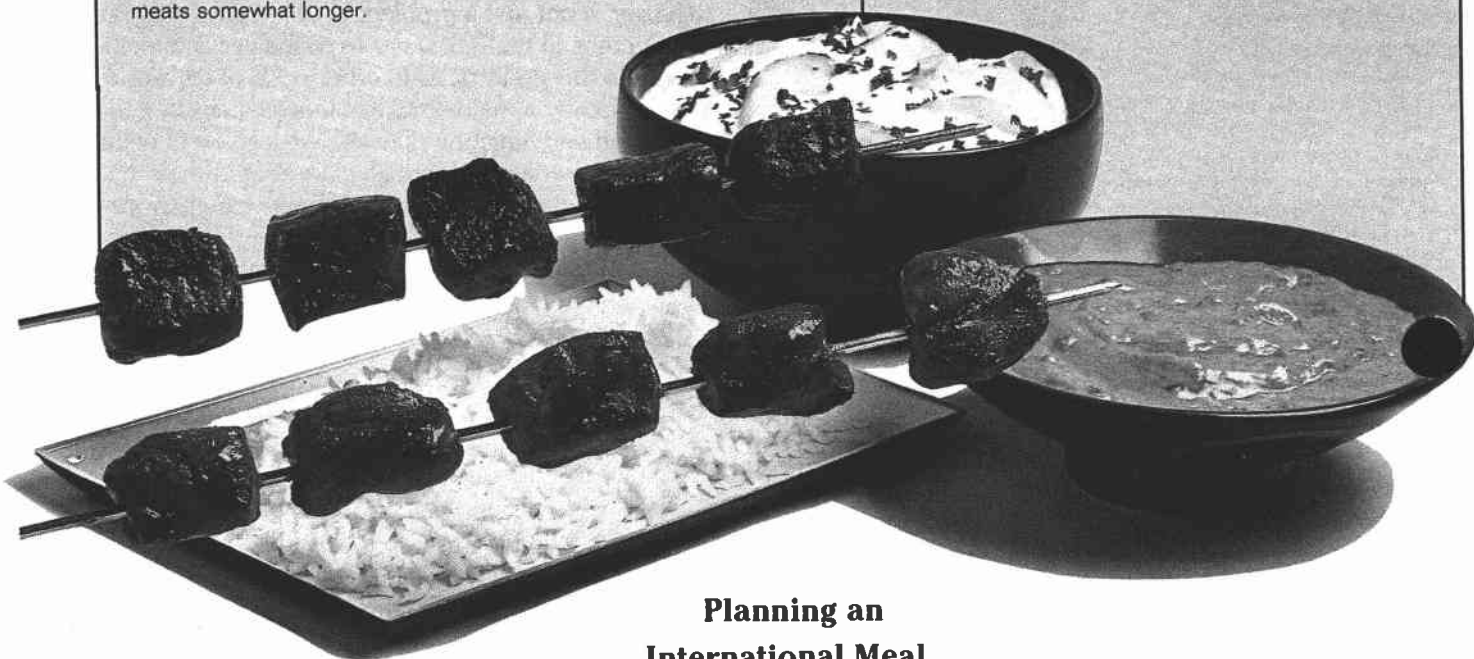
## Dipping Sauce

1 small garlic clove,  
minced  
1–½ teaspoons oil  
¼ cup peanut butter  
(either crunchy or  
smooth)

1 teaspoon sugar  
1 teaspoon lemon juice  
⅓ teaspoon nutmeg  
Dash of cayenne pepper  
½ cup boiling water

Saute garlic in oil over low heat about 30 seconds. Add peanut butter, sugar, lemon juice, nutmeg and cayenne pepper; blend. Add boiling water, stirring constantly with a whisk. Serve with Indonesian Satay. Makes about ½ cup.

*\*If you use a bamboo skewer, soak in water for 5–10 minutes so it doesn't burn. If you use a metal skewer, be sure to remove the meat from the hot metal before eating.*



## Planning an International Meal

Today, more and more Americans are experimenting with foods from other cultures. Many others are rediscovering traditional foods from their own ethnic tradition. Preparing international foods can introduce you to new spices, new cooking methods and even new foods. Here are some

ways you can learn to enjoy international foods.

- Read cookbooks. Your local library is an excellent place to start looking for international cookbooks. Many libraries also subscribe to food magazines that often include international recipes.

- Talk to people in your local area or community. If you are researching foods from your own ethnic tradition, talk with grandparents and other relatives. Ask them what foods they remember from their childhood. Can they prepare favorite foods while you

watch? Don't be afraid to ask people of other ethnic backgrounds to share their knowledge with you—food is really a universal language.

- Check newspapers or with your home economics teacher. There may be courses available in such subjects as wok cooking or pasta making.

## Menu Plan

Satay can be served on a bed of rice.

For a vegetable, why not try a cool dish of cucumbers in yogurt.

For dessert, a fruit salad made with pineapple would be delicious.



## The Spice of Life

The Satay recipe uses several spices you may not be familiar with. **Cumin** is one of the principal ingredients of curry. It is also used in chili, tomato sauce, sauerkraut and some cheeses. **Coriander** seeds are used in curry, gingerbread and apple pie. The plant's leaves, known as cilantro, are often found in Mexican, Caribbean or Indian cooking. **Turmeric** is a golden spice that comes from an Indian plant. It gives curry its classic yellow color and may be used in place of saffron.





# Careers

● You probably have stayed active in 4-H for a lot of reasons—you enjoy the projects, you love the competition, you look forward to meeting other young people who share your same interests. But did you ever stop to realize that your 4-H agriculture and food-nutrition projects could be the first step toward a career?

That's what happened to the people you see featured on these three pages. They have a few things in common. All are past state or national 4-H winners in one of the following programs: achievement, agriculture, bread, dairy foods, food-nutrition, food preservation, gardening-horticulture, health or leadership. All of them feel 4-H played a major role in shaping their careers.

As you'll see, these past 4-H'ers have followed different paths to get to their present careers. Some continued their education and earned advanced degrees, while others began working immediately after high school. Some work for huge corporations, others are self-employed. But all are successful in their chosen fields.

Don't worry—these outstanding achievers have no monopoly on all the good jobs that will be available in food/agriculture during the next decades. The U.S. Department of Labor estimates that 50,000 or more agricultural and agribusiness-related jobs will open up each year through the 1980's. There is a particular need for scientists with graduate degrees. The opportunities in the food industry are as good or better.

## Thinking About Careers

● There are some ways to learn more about careers in food, nutrition and agriculture.

### 1. Do some research.

Find out what careers are available in food, nutrition and agriculture. Your high school counselor or Extension staff can suggest some resources you might consult. Your State Land-Grant University can also provide information on the job placement of graduates in various fields.

Try to learn as much as you can about specific jobs that might interest you. What do these jobs actually involve? Some jobs require you to work closely with other people, others permit you to work mostly on your own. Graduate degrees are required for some jobs and are not required for others.

2. Assess yourself honestly. If you disliked chemistry and mathematics in high school, a career as a veterinarian or a medical researcher is probably an unrealistic goal. If you enjoy giving 4-H demonstrations and being in front of an audience, a career in sales or public relations might be ideal.

3. Try to get some experience in the field. If you're considering a research-oriented career, you might seek a summer job as a lab assistant. Volunteering is another great way to get experience. By volunteering to work with a hospital or nursing home dietitian, for example, you can see for yourself whether this type of job is for you.

Name 3 careers that interest you. How do you plan to learn more about them? Attach your plan to your project records.

Here's a chance to see what some 4-H alumni are doing today. Try their careers on for size—which one fits you?



**Charles Humphreys**

*Economist*

*Washington, D.C.*

*Education: Ph.D.*

"The problems of agricultural production in developing countries cannot be solved overnight. They require study, research and a carefully designed long-term approach as well as resources. That's one of the ways the World Bank uses its expertise," says Charles Humphreys, an economist working on issues of economic development in sub-Saharan Africa.

Charles Humphreys grew up on a farm in Missouri and was active in local and state 4-H clubs. As a state 4-H president and a national leadership winner, he spent a week at the National 4-H Center in Washington, D.C. "I still remember one speaker who challenged us always to do our best because at that moment it is our best."

Humphreys' career has included several years of study in Africa, research, teaching and writing. He helps decide which projects and policies the Bank should finance, based on which offer the greatest possibilities for increasing production and improving living conditions in developing countries.

If you're interested in a similar career, Humphreys recommends getting an advanced degree in economics. "You can get some jobs without a Ph.D., but if you want to analyze issues and participate in the intellectual debate, you need the degree." He also recommends getting international experience early on—for example, as a Peace Corps volunteer, as a graduate student, or with a private voluntary organization like CARE.

"The leadership experiences and judging competitions in 4-H really helped me. Livestock judging was especially valuable—I learned how to organize my thoughts, take a position and then defend it."



**Karen Raubenstine Saum**

*Bakery Manager*

*York Springs, Pennsylvania*

*Education: on-the-job training in bakery*

When Karen Saum started working in the bakery department of a grocery store, she had no idea she would one day end up managing the department. Today, she supervises the baking and packaging of all products sold from the department and manages the work of five employees.

"As I moved into each new job, I received on-the-job training in the new skills I needed to learn. Today, I'm responsible for training employees. My experience as a 4-H teen leader has enabled me to show people the skills they need on the job," she says.

Saum's job involves both actual baking and supervising. "I'm responsible for a lot of paperwork," she says. She schedules employees, keeps track of inventory and keeps records on what—and when—people buy. "For instance, in the summer we sell a lot at night because people have been out all day and are too busy to shop. In the winter it's just the opposite. Everyone seems to want to stay home at night." Saum suggests that 4-H'ers considering a career like hers get as much experience as possible working with all different kinds of people. "To be a good manager, you need to work *with* people," she says. You need to be prepared for long hours and mornings that start early. "Most days, that's 5 or 6 o'clock."

She finds the work challenging. "There's always something new and different in my job. If you love preparing food, this is a great career."



**Marijo Tamburrino**

*Physician: Assistant Professor of Psychiatry  
Toledo, Ohio*

*Education: M.D. + 4 years of residency*

"I teach medical students and residents, do research on anorexia nervosa and bulimia and have a private practice. It's a very interesting and fulfilling field of medicine," says Marijo Tamburrino, assistant professor of psychiatry at the Medical College of Ohio Hospital. Tamburrino's busy professional life is just one important part of her day. She also builds in plenty of time to spend with her daughter.

Leadership abilities developed in 4-H are important qualities for a physician, Tamburrino feels. These abilities were developed while serving as president of a local club, speaking in front of a group and even being elected cabin president at 4-H camp. "I learned to be comfortable being assertive—a skill women aren't often encouraged to develop. I learned to handle disagreements among people without taking it personally."

Tamburrino feels that the knowledge she gained in 4-H was also important in her ultimate career choice. "Frankly, I learned more about nutrition in 4-H than I did in medical school," she says, although she notes that medical school curricula are changing as medical research demonstrates the importance of nutrition to health.

If you are interested in a medical career, Tamburrino says

you need motivation, self-discipline and empathy. "You need to be able to genuinely care about your patients and really listen to them." You also have to be prepared to spend a lot of years in school—at least 12 years after high school.



**Theresa A. Benz**

*Restaurant Owner*

*Tigard, Oregon*

*Education: college studies in foods, nutrition and marketing*

"My sister Kathleen and I always loved to cook. Our 4-H experience—we started when we were six and continued as members for ten years—included a lot of cooking and baking. We'd always wanted to run our own catering business, but careful research showed us we were more likely to make money running a restaurant."

In 1981 Theresa Benz and her sister Kathleen Benz Mooers decided to translate their 4-H experience and their education (Kathleen earned a degree in home economics and Theresa studied foods, nutrition and marketing) into a successful restaurant. They opened the Willowbrook Restaurant in a shopping mall in suburban Portland.

"At first we worked 70 or 80 hours a week," Theresa said. "We did all the cooking and a lot of the shopping. I realized then how much 4-H had given me the skills to organize my time and work efficiently. Sometimes when I was a 4-H'er, I thought keeping records was a pain, but now I find I'm using those skills every day—in inventory, tax preparation and other records."

The restaurant, open seven days a week, is noted for its homemade breads and desserts. A catering operation provides nearly one-third of the gross income. Future plans include adding a Sunday brunch menu and increasing the restaurant's seating capacity. Theresa expects that the restaurant's earnings will exceed \$204,000 this year.

"From 4-H, we learned always to try to make the best better. That's certainly true in this business," Theresa adds. "You're only as good as your last sandwich. And you have to be willing to work hard and able to stand up under pressure. But if you love to cook and make people happy, it's very rewarding."



**Larry Hageman**

**Research Scientist/Administrator**  
 Claymont, Delaware  
 Education: Ph.D., Agriculture

Larry Hageman supervises a group of five Ph.D. scientists and technicians who are responsible for discovering and characterizing new herbicides for use in cereal, canola, sugar beet and rice production. "The work we do is about halfway between the synthesis chemist and the farmer. We try to discover answers to practical questions: Where is the agricultural product grown? How much of it is grown? What weed problems do farmers face in that area? From that, we develop herbicides that will lead to maximum crop production and maximum production of food and fiber," Hageman says.

Communications and leadership skills are especially important to a supervisor, and Hageman believes that his 4-H experience had "a tremendous impact" on developing those skills. "I learned how to outline objectives, make plans and reach goals. I also learned how to motivate people—very important if you're trying to get a group to work well together."

After receiving a Ph.D., Hageman began his work as a researcher/evaluator. Then he worked on a research farm "where we actually grew the plants and tested the products we were considering bringing to the market." Testing and safety are extremely important components of all herbicide development. "It takes two to three years before a new herbicide can pass all the required toxicological tests. We look for both short-term and long-term toxicity," he adds.

If you are interested in a research career in industry, Hageman says you need to develop communications skills. "It's not enough just to get the results in a lab. You have to disseminate your findings and be able to work with others."

can help develop these skills, Hageman feels. It has had an benefit as well. "Many of the friendships I made in 4-H are still strong today."



**Faye Hall**

**Food Service Manager**  
 Orlando, Florida  
 Education: B.S. degree

"My ultimate goal is to own and operate a successful catering business," says Faye Hall, a food service manager at Disney World in Florida. "I know I need some work experience and some additional education before I'm ready to go out on my own."

While at Tuskegee Institute, Hall decided to pursue a Food Service Management degree, which includes courses in both business and food preparation. Because it allowed her to pursue her major interests, Hall says, it "offered me the best of both worlds."

Hall had a good idea of what her current job would entail before she accepted it; she spent a semester interning at Disney World during college. "I worked at Tomorrowland Terrace, the

largest fast food restaurant in the world," she recalls, "and I guess that experience prepared me for just about anything."

Today, Hall's responsibilities include supervision of some food production and staff members. "And, of course, we all have to make sure that Mickey Mouse, Donald Duck and the other characters don't go hungry!"

Hall's 4-H experience was a major reason she decided to pursue a career in food service management. "Most of my 4-H projects were in food and nutrition. I worked at 4-H camps and usually found myself involved with food and nutrition there. In addition, I taught nutrition to underprivileged children. But I found that I still yearned to learn more about the subject."

A County Extension Agent was also an important influence. "She taught us to take pride in what we were doing . . . and in what we wanted to do."

Hall plans to return to graduate school for an M.B.A. in the near future—"while I'm still anxious to crack the books. I believe that in today's fast-paced society, you never run out of things to learn."



**Robert H. Seidenstricker**

**Farmer**  
 Hazen, Arkansas  
 Education: B.S.A., Agricultural Economics

Robert Seidenstricker is the fourth generation to have farmed his family's land in Hazen, Arkansas. The farming methods he uses seem to come more from the future than the past. "We have a 1700-acre farm on which we grow rice, soybeans, milo, winter wheat and lespedeza. We irrigate nearly all the crops we raise. We've found that using a laser for precision leveling helps us cut our water costs and irrigate more efficiently," Seidenstricker says.

In fact, he observes, the farmer of today has been one of the main beneficiaries of the electronics revolution. "Ten years ago, we wouldn't have been able to buy our laser at any price—it just wasn't developed. Today, it's an integral part of our operation."

The computer is another tool that Seidenstricker uses frequently to keep track of farm production records and for use in budgeting. "Just like any other business owner, a farmer needs to plan carefully. Long-term plans are essential for success. For example, we need to anticipate our cash flow needs over several years, not just several months," he explains.

Planning is a skill Seidenstricker learned from his 4-H experience. "The methods I learned in assembling a 4-H presentation or project are the same ones I used in college and I'm using now in planning a new year on the farm." Seidenstricker also believes it's important to learn how to set goals.

For 4-H'ers interested in a career as a farmer, Seidenstricker recommends getting a "well-rounded, basic education with as much work experience as you can." Besides training in agriculture, he suggests taking courses in business and economics. "If I had it to do over again, I'd take even more business and accounting than I did," he says.

# Planning And Evaluation Form

## Step 1: Make a Choice

After reading the manual, list 5 projects that might interest you.

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

To help narrow the list, ask these questions:

- a. Is information available?
- b. Are there resource people in my community who can and will help? (Resource people include teachers, Extension nutritionists, dietitians, 4-H leaders, Extension Agents, neighbors, parents and others who have special information on the topic.)
- c. Is this project going to take a realistic amount of my time, energy and money?
- d. Can I do this project by myself or would it be better to work with a group?

## Step 2: Plan Your Project

My goal for this project is: \_\_\_\_\_

To carry out this project:

1. What do I need to learn?
2. Where can I find the information?
3. What skills do I need to acquire?
4. Who can help me acquire those skills?
5. Will I need to consider changing my attitudes on any subject?

### PRELIMINARY PLAN

Activities I want to include in my project:

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

## Step 3: Carry Out Your Project

1. Review your preliminary plan with other 4-H'ers and adults. Make changes based on their suggestions.
2. Develop your final plan and set a timetable for accomplishing each activity.
3. Now that you have a final plan, sign this agreement with a parent or adult leader.

This outlines the project I plan to follow.

Beginning date: \_\_\_\_\_

Approximate completion date: \_\_\_\_\_

Member signature: \_\_\_\_\_

Volunteer leader or parent signature: \_\_\_\_\_

### FINAL PLAN—OUTLINE, WITH DATES

What I plan to do                      When                      When completed

- |       |       |       |
|-------|-------|-------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

## Step 4: Evaluate Your Project

1. Describe the records you will keep for this project. Your records should reflect what you've done and learned and enable you to communicate that knowledge to others. Instructions on how to use this form appear on pages 4 and 5. You may wish to make a copy of this form before filling it out, or use additional paper if more space is needed.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_