Lesson 1. Mostly Milk (dairy products) .......................................................... 4
The importance of milk and dairy products to good health is discussed. Frozen yogurt is featured as an example of a food that meets some of the daily nutritional needs of young adults.

Lesson 2. Make Mine Meat (ground beef, lamb) ........................................... 8
Dietary guidelines are introduced along with ways to include red meat in a healthy diet. Examples are given of low-cost meals that use red meat.

Lesson 3. In Pursuit of Fruit (fruits grown in the Pacific Northwest) .......... 12
This lesson discusses fruit as a good source of soluble fiber and contains information about the different sugars found in fruit. Creativity in menus is encouraged.

Lesson 4. The Uncommon Potato (potatoes) .............................................. 18
The innocent potato is nutritious and low in fat. This lesson shows how to cook potatoes in a healthful way and describes food customs associated with food preparation.

Lesson 5. Catch of the Day (seafood) ......................................................... 24
The Pacific Ocean and other bodies of water are an important source of food for people in the Pacific Northwest. Selection, storage, and preparation of seafood and other fish are featured in this lesson.

Lesson 6. The Benevolent Bean (dry edible beans) ................................. 29
Dry beans are a food staple because of their flavor, protein, and economy. This lesson describes how to cook, store, and serve beans for people on the run.

Lesson 7. Wheat Street (wheat) ................................................................. 34
The Pacific Northwest is one of the largest producers of soft white wheat. Most international cuisines use wheat to make products representative of their country. Asian cookery is highlighted in this lesson.

Lesson 8. Vegetables: The Picture of Health (vegetables grown in the Pacific Northwest) ................................................................. 40
Vegetables grown in the Pacific Northwest are of high quality and good sources of Vitamin A and soluble fiber. The concept of "value added" products is introduced in this lesson.

Lesson 9. Foods of the Future (optional activity) ....................................... 46
This unit describes consumer trends in the food industry and how the emphasis on nutrition and fitness will influence foods of the future. Product development, packaging, and food technology are discussed. See the Foods of the Pacific Northwest, Unit 3, Leader Guide (PNW 338) for more details.
This advanced Foods of the Pacific Northwest project is the work of the Tri-State Food/Nutrition Curriculum Committee. The committee developed the components, concepts, and objectives for the total curriculum. Three projects, one each for beginning, intermediate, and advanced levels and an enrichment guide are part of that curriculum.

A special thanks to the many leaders and Extension agents in the three states who reviewed the materials and provided helpful suggestions in the process of preparing the project manuals and leader's guides.

_Foods of the Pacific Northwest, Unit 3, Member Manual_ was written by Barbara Boltes, Extension specialist, 4-H and youth development; and Margaret Lewis, Extension nutrition specialist, Oregon State University. Acknowledgment and appreciation is expressed to the following committee members:

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Unit 3 of Foods of the Pacific Northwest is a self-determined 4-H project. There are eight lessons and one supplemental activity. Each lesson can stand alone or be followed in a sequence. If your time is limited or you want to extend the project over 2 years, you may wish to choose only a few lessons to complete. The descriptions below will help you decide which lessons interest you. Read through them, then look at the lessons themselves for more detail. A planning guide is included on page 47 to help you write your goals for this project.

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Key Points
You’ll discover:
• Milk and most milk products provide the calcium to help you look strong and healthy from the outside by giving you what it takes for growth and development of high density bone.
• Calcium is also important for muscle action, nerve impulses, and normal blood clotting.
• How to make frozen yogurt and judge its quality.

Ever take a cold carton of milk out of the refrigerator, pour yourself a big glass, then drink it, wondering if there could ever be a more perfect food? Milkshakes, frozen yogurt, dips for vegetable sticks, creamy soups, and cheese for enchiladas are all milk products. Our fast-food world still enjoys milk and milk products. You can find dairy products used in almost every culture around the world. The milk products produced in the Pacific Northwest are known across the nation for their high quality.

The milk cow in every barn or the milk box on the back porch waiting for a visit from the milkman may not even be memories your parents can recall. Today’s “milk run” is a stop at the nearest convenience store on the way home from a day’s activities.

The dairy industry reports that people are drinking less whole milk but consuming greater quantities of other milk products than ever before. About 50 percent of the milk produced in the Pacific Northwest is used as fluid milk, while the other 50 percent is used to make cheese, butter, ice cream, yogurt, or other dairy products.

Them Bones, Them Bones
You are what you eat. Does that mean you will be smart if you eat brains? or swift if you eat muscle? or brave if you eat heart? Not at all! It means that what you eat today affects your health both today and tomorrow. You either get the nutrients you need for good health or you don’t.

The classic nutrition studies have been on preventing deficiency diseases and promoting growth. Today the food supply is so good in this country that the nutrition problems have changed from preventing deficiency to preventing overconsumption.

But as people eat less fat, sugar, and salt for good health, they must also eat enough food to meet their nutrient needs. People concerned with maintaining an attractive weight may cut calories so much that they miss some important minerals. Because the body is very adaptable, we can survive such periods of “starvation” without feeling immediate effects. But a lack of nutrients will show up eventually.
The average life span has almost doubled in the past 70 years. We are now studying how eating habits of a lifetime contribute to health. We know that good eating habits during youth and teen years can provide a basis for good health at 60 or 70 or beyond.

Calcium is a good example. We have known for a long time that it is necessary to have calcium, along with protein and vitamin D to build strong bones and teeth. But now we know that calcium is also important to help muscles contract and relax and for nerves to transmit messages. And we also know that bones serve as a warehouse for storing calcium and will give it up if the body needs it to keep the muscles and nerves in good working order.

Most bone growth takes place before age 25. This means that you need to fill the “warehouse” with calcium now to assure the body of strong bones as well as active muscles and nerves for the rest of your life. But you can't zap your bones with an overload of calcium, you need to fill the warehouse slowly by providing adequate calcium and other nutrients from foods and by exercising regularly to encourage the deposit of calcium in the bones.

Milk products are the best source of calcium. Soups and pudding made with milk, yogurt, and cheese are rich in calcium. Canned fish that includes the bones contains calcium, and some green leafy vegetables like Swiss chard and kale contain large amounts of calcium. Smaller amounts of calcium are found in baked foods made with milk; dried peas, beans, nuts, and seeds; broccoli and other vegetables. If you can't use milk products because of an allergy or food intolerance, you need to find other food sources of calcium. Now is the time to fill those bones full of calcium.

Food Preparation

Ice cream is a dessert that is high in fat and sugar. A recent nationwide study of women's eating habits showed that ice cream and other "cream desserts" add a considerable amount of fat to the diet of many upper-income women. Try to develop a taste for a low-fat ice cream, frozen yogurt, or ice milk. Choose small servings to satisfy the sweet tooth while controlling the sugar and fat content of your diet.

RECIPE

Frozen Berry Yogurt

5 servings; ½ cup each
1 pint fresh berries  
2 cups plain yogurt  
2/3 cup sugar  
1 teaspoon vanilla

1. Wash and sort the berries. Mash them with a fork or puree in a blender.
2. Stir the sugar, vanilla, and yogurt together until smooth.
3. Stir in the berries.
4. Pour into a non-fat freezer and freeze according to the manufacturer’s directions.

Don’t have an ice cream freezer? Use a refrigerator or freeze. Place the mixture in cold freezer trays and freeze until the mixture is frozen at least 1 inch around the edge. Put the partly frozen mixture into a chilled bowl and beat until smooth. Add fruit or fruit puree. Return to the bowl and freeze until firm.

Substitute 2 cups sweetened frozen berries (partly thawed) for the fresh berries and sugar.

The basic recipe can be altered by using different fruits or fruit combinations:

Substitute 1/2 cup honey for the ½ cup sugar.

Quick Frozen Yogurt can be made by using 3 cups of plain yogurt. Just stir the yogurt together until smooth and freeze according to manufacturers directions.

Try making yogurt with flavor blends—orange–pineapple, banana nut.
You Decide

□ Did you like the taste of the homemade yogurt you made? What would you do differently next time? How did the product compare to the frozen yogurt you buy? Get others to evaluate the ice cream. Do they all agree? What are the differences?

□ Use this list to evaluate your frozen yogurt. Circle the answer that best fits your product.

**Dairy ingredients**

a. Are the dairy ingredients fresh?
b. Do they taste salty or sour?

d. **Flavoring**

a. Ideal—bouquet is just right
b. Lacks fine flavor and balance
c. Lacks flavor intensity
d. Too intense flavor
e. Unnatural flavor

**Sweetness**

a. Just right
b. Too sweet (this happens occasionally)
c. Lacks sweetness (rarely happens)

Management Matters

Tips for using the ice cream freezer:

• Wash and rinse the freezer container before filling it.
• The freezer container should be 2/3 to 3/4 full. The mixture will expand in freezing. If the container is less than 1/2 full, the mixture will not whip and freeze properly.
• The amount of sugar or sweeteners can vary according to taste. But too much sugar slows the freezing process.

Frozen desserts should be smooth, creamy, and free from large ice crystals. To prevent large crystals from forming:

• stir the mixture as it freezes, or
• add thickeners such as gelatin or eggs, or
• add cooked thickening mixtures that include cornstarch, flour, or eggs.

**Safety/Storage**

To improve the flavor, let the frozen yogurt “ripen” 1 to 2 hours. To ripen, remove the dashed and cover the hole. Pack freezer container with ice and rock salt and cover.

Home-made frozen desserts are best when eaten the same day. Ice crystals will grow during storage and lower the texture quality of the dessert.

Nutrition Information per serving

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**Percent of RDA (Recommended Dietary Allowance)**

| Protein | 12 |
| Vitamin A | 2 |
| Thiamin (B1) | 5 |
| Riboflavin (B2) | 18 |
| Vitamin C | 58 |
| Niacin (B3) | 2 |
| Calcium | 15 |
| Iron | 2 |
| Sodium | 3 |

**Percent of Calories**

| From protein | 11 |
| From carbohydrate | 81 |
| From fat | 8 |

Freeze the last bowl of homemade frozen yogurt for 3 days. Check the quality and flavor after storage. What would help to prevent the formation of ice crystals?
Living Resourcefully

Consumers want their money's worth from the products they buy, including frozen desserts. You can choose anything from frozen yogurt to gourmet ice cream. How do you decide which are quality products? What do you look for besides great taste?

Actually, the perfect frozen dessert is a matter of individual preference. If you were a dairy scientist looking for the perfect product, you'd look for "quality assurance" factors. These include the quality of the dairy ingredients and flavorings, the freezing and storage conditions, and the workmanship that goes into making the product.

The most powerful quality assurance tool you have is a good set of tastebuds. Your sense of taste along with smell and sight helps you to decide which frozen yogurt or ice cream is worth your money.

Remember, a high milk fat content and all natural flavorings do not necessarily mean the ice cream is higher quality. In a survey of ice cream quality, several brands of high-fat ice cream ended up in the "good" category instead of the "excellent" category. The three top-rated ice creams tested used artificial flavorings. In fact, the ice cream rated as the best contained only 10 percent milkfat and some artificial flavorings. It combined an excellent taste rating and a lower cost per serving.

Following Through

Learn more
Look for frozen desserts recipes in books and magazines. Check to see how much fat is in the recipe. High-fat recipes include whipping cream. Lower-fat recipes contain yogurt or buttermilk. Eggs or gelatin can give the product a smooth texture with less fat.

Compare the cost of yogurt with fruit added to the cost of plain yogurt with your own fruit added. Which is less expensive? Which do you like best?

Look at ice cream packaging and advertisements for ice cream. Do the manufacturers emphasize the quality of the ingredients, storage conditions, pride, or all three?

Join others
Conduct your own "quality assurance" test of vanilla ice cream or frozen yogurt for your friends. Use the quality measurements in this lesson. Which is the "best buy" based on taste and lower cost per serving? Is it worth it to pay more? Which low-fat ice cream products do you prefer?

Visit an ice cream manufacturing plant or a frozen yogurt shop if there's one in your area. Ask about how regular and special flavors are determined.

Teach others
Write a 30-second radio commercial about the value of milk products for teens.

Talk with your county Extension agent and write an article for the county newsletter about ice cream quality or one promoting another dairy product.

Get involved
Plan a frozen yogurt bar—an updated ice cream social—for a nearby nursing home. Consider the cost of the yogurt, preparation, and how you will store and serve it.

Interview some of the residents to learn about their memories and experiences in making homemade ice cream. In your record or journal, write down your feelings when you made frozen yogurt for the elderly residents. Record their reactions to the event.
Lesson 2. Make Mine Meat

Key Points
In this lesson you’ll learn:

• Red meat is the best source of absorbable iron.
• Meat, fish, and poultry increase the absorption of iron from vegetable foods.
• The red meat industry is working to produce lean red meat that is lower in fat and fits the dietary guidelines for Americans.
• How to make runzas, using moderate servings of lean meat.

In the United States, the largest part of our food dollar is spent on meat. Beef, pork, lamb, and venison are often called red meat to distinguish them from the flesh of poultry or fish. Beef is an important protein source and many people are involved in the beef industry in the Pacific Northwest. This region also produces about 8 percent of the lamb raised in the United States.

Pumping Iron
Red meats are a good source of protein and the minerals iron and zinc. Fish, poultry, dried peas and beans, peanuts, milk, soybeans, and eggs are also excellent sources of protein. However, red meats, including beef, lamb, and pork, provide more iron than fish and poultry. The iron is more absorbable than iron in eggs, vegetables, and grain products.

Iron is a part of hemoglobin, an important protein in blood. Hemoglobin carries oxygen to body cells. So energy is available for growth and activities. Nutrition surveys suggest that the iron intake of young women and men is often low. The best way to get plenty of iron is to eat red meat, dried beans and peas, vegetables, and whole-grain breads and cereals.

The amount of iron your body absorbs from specific foods is determined by which foods you eat with them. Vitamin C improves the absorption of iron from many foods. For instance, you could absorb 3 percent of the iron from your breakfast cereal alone. If you drink 4 ounces of orange juice with the cereal, you could absorb 5 percent of the iron in the meal. If you drink 8 ounces of orange juice, you could absorb 8 percent of the iron in the meal.

Meat, fish, and poultry improve the absorption of iron of other food and provide iron that is absorbed at 23 percent. Red meats contain more iron than fish or poultry.

Don’t Delete the Meat
Some people have begun to eliminate red meat from their diet because they have concerns about high blood cholesterol, a risk factor in heart disease. But wait! There are ways to include red meat in a healthy diet. Be a nutrition-conscious consumer by

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changing your diet just enough to keep blood cholesterol normal without omitting red meat, an iron-rich food.

Eat less fat! This is easier said than done.
- Remember that no more than one third of your calories should come from fat.
- Keep your weight within the normal range.
- Remove visible fat from meat, fish, and poultry.
- Choose low-fat cooking methods such as poaching or broiling.
- Cut back on high-fat sauces and condiments, including salad dressings, tartar sauce, sour cream, mayonnaise, and gravy.
- Limit your intake of high-fat foods, including pies, ice cream, cheese, processed meats, bacon, and fried foods.
- Choose lean meat. Then bake or broil it and eat a moderate serving (3 ounces of meat, fish or poultry).

Food Preparation
Meat pies are a self-contained meal of meat, potatoes, and vegetables. Many cultures have some form of a meat and vegetable mixture in a yeast dough or pastry crust. Some examples are runzas, bierocks, and pasties.

Runzas are an easy meal-in-one that isn’t just for lunchtime. They’re great for breakfast on the road, on the bus, before play rehearsal, between classes, or after work with a carton of milk. They make great hand-warmer for tailgate football parties, and since they’re self contained, you can forget the knives and forks.

The hearty, satisfying taste of runzas comes from the meat and cabbage inside the tender yeast bread. The traditional runza is a German-Russian food that includes beef, lamb, or pork mixed with cabbage and onions. German-Russian descendants in the Pacific Northwest recall having runzas as a economical family meal or to feed a crowd during harvest time.

In 1959, a German-Russian woman in the Midwest began selling “kraut runzas” from her home. Her son developed the

RECIPe
Healthy Beef Runzas
12 servings; 1 runza per serving

Bread wrapper
½ cup warm water (105-115°F)
1 tablespoon yeast (1 packet dry yeast)
½ cup honey
1 cup skim milk
1 teaspoon salt
1 egg
3 tablespoons softened butter or margarine
1 cup cracked wheat
4-5 cups enriched white flour

Filling
1 pound lean ground beef
½ cup onion, chopped
2 cups cabbage, finely chopped
1½ teaspoons salt
1 teaspoon pepper
2 teaspoons cumin
½ teaspoon garlic powder
2 tablespoons chopped parsley or 1 tablespoon dry parsley flakes

1. Dissolve yeast in water.
2. Warm milk to body temperature. Add honey, salt, butter or margarine, and yeast. Mix together until well blended.

3. Stir in cracked wheat, 1 cup of flour, and the yeast mixture.
4. Add flour gradually and mix well after each addition. Add just enough flour to make a soft dough.
5. Cover the dough and let rest.
6. In a large frying pan, brown beef and onion over medium heat.
7. Stir in the cabbage, salt, pepper, cumin, garlic powder, and parsley. Remove from heat.
8. Turn the dough onto a floured surface and roll into ¾-inch thick rectangle.
9. Cut into 5- or 6-inch squares. Put ½ cup filling in the square and fold the dough to cover the filling. Pinch the edges.
10. Place on greased cookie sheet and cover. Put in a warm place and let rise until double in size, about 20 minutes.
11. Bake at 350° until golden, about 20 minutes.
12. Serve hot and refrigerate any leftovers.
13. To reheat, place in 400° oven for 20 minutes or microwave at full power for 3 to 5 minutes.

Serving suggestion
Runzas
Fresh fruit
Milk

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recipe so runzas could be prepared and sold commercially. Since that time the runza has become so popular in the Midwest that a chain of 42 restaurants called "The Runza Drive-Ins of America" has been formed.

Management Matters
A food processor will chop the meat, cabbage, and onions for the runzas quickly and efficiently. Prepare all the meat and vegetables first, then run them through the food processor at the same time. A food processor will also mix the yeast bread dough quickly.

When preparing the beef, skip the salt and use basil, bay leaf, green pepper, marjoram, nutmeg, onion, or thyme to add flavor and limit the amount of sodium.

Some people find it good management to prepare meals for the week during the weekend. A double recipe of runzas can be made in advance. Bake and refrigerate some for the busy week ahead and freeze the rest. They are great to eat on the run for breakfast, lunch, or dinner.

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<tr>
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<td>Iron</td>
<td>2</td>
</tr>
<tr>
<td>Sodium</td>
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You Decide

- Were the runzas tasty?
- Did they look good?
- Did you serve them freshly baked or reheated?
- What would you do differently next time?
- Was the kitchen neat and orderly before and after you prepared the runzas?
- What would you suggest to improve the whole procedure when you prepare and serve runzas again?
- Now that you know how to make traditional runzas, try some of these fillings:
  - Chicken, rice, and mushrooms
  - Turkey, rice, peas, and onions
  - Lamb, potatoes, and carrots
  - Beef, mushrooms, and onions
  - Pork sausage, lentils or beans, and carrots

- What fillings would your family most enjoy from the above?

You can use frozen bread dough to make the runzas. Thaw it at room temperature about 2 hours, covering loaves with a damp cloth or oiling surface. Cut each loaf into six slices. Flatten each slice, put in filling, seal, and place, pinched side down, on a greased baking sheet. Cover and let rise until double, about 45 minutes. Brush with melted margarine. Bake at 350° about 20 minutes.
Safety/Storage
To avoid food poisoning, clean the cutting board after each use. Clean by using a mixture of 1 teaspoon chlorine bleach and 1 quart water.

Wash sharp knives individually in soapy water. It is hazardous to reach into the soapy water to wash several. Don't drop them in the dishwasher either—someone emptying the dishwasher might get cut.

If you are going to take runzas with you to eat later, remember they contain foods that spoil easily. Don't keep them at room temperature more than 2 hours. Reheat them thoroughly in the microwave or oven before eating them.

Hamburger receives more handling than many other meats. Hamburger meat spoils rapidly because grinding greatly increases the surface area, which may then become contaminated with food-spoilage bacteria. Uncooked hamburger should be frozen for storage if it is not going to be used within 1 or 2 days. Steaks and roasts may be kept in the refrigerator for 3 to 5 days.

If you are going to freeze cuts of meat for more than 2 weeks, wrap them in a tight, moisture-proof wrap. You should either put a new wrap on packaged meats or put an extra wrap around the supermarket package before freezing it.

Never thaw frozen meat on the counter. The outside of the meat will reach room temperature and bacteria can grow before the center is thawed. Thaw meat in the refrigerator. Some microwave ovens have a defrost feature which will thaw meat quickly.

Living Resourcefully
"Branded" beef has a new meaning in modern meat marketing. Traditionally, beef has been marketed as a generic commodity without a "brand" label. Meat packers would sell the meat to supermarkets in large "primal" or "sub-primal" cuts such as halves, quarters, loin, and rump. The individual stores would cut the meat into retail cuts, such as chops, steaks, roasts, ground meat, stew meat, and short ribs.

Today many packers are placing their "brand" label on the meat to indicate that it fulfills the quality standards set by the packing company. These standards are often more strict than the USDA grading system.

To meet these standards the packers are buying cattle, hogs, and lambs that have less external fat and more muscling (the lean part of the meat). As a result, producers are changing the way they raise cattle and other livestock to meet the demands of consumers.

Following Through
Learn more
Are there "branded" meats in your local supermarkets? How do they compare with generic meats in price and appearance? Cook one of each kind of meat and compare flavor, fat drippings, and juiciness.

Study cookbooks, magazines, and menus to discover how different ethnic groups use ground meat. For example, Greek cooking often uses ground lamb, while Asian uses ground pork. Prepare and sample some of these ethnic recipes.

Join others
Interview a restaurant owner about portion size of meat and preparation methods for meat on the menu. How much meat is returned to the kitchen? Do many people ask for "doggie" bags?

Plan a picnic or tailgate party menu around a theme, with runzas as the main food item.

Teach others
Give a presentation to an agricultural commodity group or service organization demonstrating runzas as a main dish. Include the history and how the meat group they represent can be used in the runzas.

Get involved
Try making runzas to sell at the 4-H food booth at the county fair. They are economical to make and easy to eat. Runzas would make a satisfying lunch or even breakfast for busy 4-H families at the fair!
Lesson 3. In Pursuit of Fruit

Key Points
In this lesson you'll learn:
• Fruits are great tasting, colorful, and packed with vitamins.
• Fruits are a good source of soluble fiber and provide potassium in the diet.
• Fresh fruits make delicious cold soups.

Fruits are an important part of our daily diet. They add color, flavor, texture, and sweetness. They also provide many nutrients as well as fiber. Fruits have almost no fat or protein, but they contain sugar, which is a carbohydrate. Carbohydrates supply the body with energy.

Consumers are more discriminating than ever before. Consumers can demand a more perfect product—and get it. This is because of recent technology in producing fruits, availability of cold storage facilities, and use of pesticides. The Pacific Northwest fruit producer tries to meet the demand for quality while keeping production costs reasonable.

Beginning with strawberries in May and ending with apples in October, fruit is plentiful in the Pacific Northwest because of the ideal growing conditions. Cold storage facilities and good transportation extend the fresh fruit season. Fresh fruits are available in the Pacific Northwest much of the year, as you can see in chart on the next page.

Fruits and nuts are often combined to create delicious salads, breads, or desserts. In the Willamette Valley of Oregon, 98 percent of the United States' crop of hazelnuts are grown. The other 2 percent are from a few orchards in Washington. "Filbert" is the correct name for the tree and nut. The term "hazelnut" is commonly used in marketing and promotion.

Fiber—What's It To You?
By including more fiber in your diet, you may decrease some risk factors for diseases that take a long time to develop, such as heart disease, obesity, and some kinds of cancer. Unfortunately, the use of processed foods in the United States is on the rise. Processing usually includes peeling, trimming, and refining, which removes much of the fiber in our foods.

There are at least two types of dietary fiber, soluble fiber and insoluble fiber. The best dietary source of insoluble fiber is bran. We have heard a lot about bran and its benefits in helping to empty the intestinal tract, but soluble fiber is just as important and is often overlooked.

The best sources of soluble fiber are fruits and vegetables. So how does soluble fiber work? Soluble fiber includes pectin and gums that absorb water. Water in the intestines helps with the digestion of foods and the absorption of nutrients.

• How can you increase the soluble fiber in your diet? You can eat more fruits and vegetables. Apples are an excellent source of pectin, as are some berries. Perhaps that is part of the reason behind the old saying, "an apple a day keeps the doctor away."

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Fruitful Evidence About Sugars
Are you confused with the recommendations to eat more carbohydrate and less sugar?

Isn't sugar a carbohydrate? Why is it okay to eat sugar in a fruit and not to eat refined sugar?

Availability of Fresh Fruit in the Pacific Northwest

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</tr>
</tbody>
</table>

*Includes blackberries, boysenberries, loganberries and raspberries

Plentiful Moderate Light Little or none

THIS PUBLICATION IS OUT OF DATE. For most current information: http://extension.oregonstate.edu/catalog
Carbohydrates are both sugars and starches. In fact, the body breaks down starch into simple sugars so it can be absorbed and used for energy. The concern about simple sugar is that the refined product has only calories and no vitamins, minerals, or other necessary food components.

The U.S. Department of Agriculture's Dietary Guidelines for Americans suggests that people should avoid “too much” sugar. “Too much” is defined as more than 10 percent of your calories. That means that if you need 2,000 calories a day to maintain good health, only 200 of them should be “spent” on sugar.

1 teaspoon of sugar: 15 calories
1 teaspoon of honey: 22 calories
1 slice of fruit (an orange section): 7 calories plus fiber, vitamin C, and potassium
12 ounces of punch or soda pop: 145 calories

Although fruit contains the same kinds of sugars as pop, candy, and other high-sugar foods, it is a better choice because it is a good source of vitamins, minerals, and fiber.

Food Preparation

Cold soup?! Chilled Raspberry Cooler tastes like a fruit smoothie or fruit shake in a bowl. Chilled soups are fun to serve in the warm months when fresh fruits are plentiful. They can be made from many of the fruits grown in the Pacific Northwest. Basic preparation requires a fruit puree, a juice or liquid as the “base,” and sometimes yogurt or sour cream folded into the liquid before serving.

Try this unusual soup as a beautiful prelude to a summer brunch or luncheon. Because the fruits are cooked only briefly, the soup will have a vibrant color and intense fresh-fruit flavor. The following recipe calls for fresh raspberries, but you can use frozen or dried berries. Experiment with other fruits or combinations of fruits that sound appealing to you.

### Nutrition Information per Serving

<table>
<thead>
<tr>
<th>Food: Chilled Raspberry Cooler</th>
<th>Serving: ⅓ cup</th>
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</thead>
<tbody>
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<td>Calories</td>
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<tr>
<td>Carbohydrate</td>
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<tr>
<td>Protein</td>
<td>1 g</td>
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<td>Fat</td>
<td>5 g</td>
</tr>
<tr>
<td>Percent of RDA (Recommended Dietary Allowance)</td>
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</tr>
<tr>
<td>Protein</td>
<td>3</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>6</td>
</tr>
<tr>
<td>Thiamin (B1)</td>
<td>2</td>
</tr>
<tr>
<td>Riboflavin (B2)</td>
<td>6</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>36</td>
</tr>
<tr>
<td>Niacin (B3)</td>
<td>3</td>
</tr>
<tr>
<td>Calcium</td>
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</tr>
<tr>
<td>Iron</td>
<td>2</td>
</tr>
<tr>
<td>Sodium</td>
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<tr>
<td>Percent of Calories</td>
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<tr>
<td>From protein</td>
<td>3</td>
</tr>
<tr>
<td>From carbohydrate</td>
<td>70</td>
</tr>
<tr>
<td>From fat</td>
<td>27</td>
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</tbody>
</table>

**RECIPE**

Chilled Raspberry Cooler

5 servings; ⅓ cup each

2 cups fresh raspberries
⅓ to ½ cup sugar
⅓ cup sour cream
2 cups cold water
⅓ cup crème fraîche (optional)
Fresh mint leaves (optional)

1. Set aside a few whole berries for garnish.
2. Puree remaining berries through a strainer or pulse in a blender or food processor.
3. Mix berry puree and sugar to taste.
4. Add sour cream, water, and berry juice.
5. Heat slowly in heavy saucepan, stirring constantly. Do not boil.
6. Strain and chill. Serve with mint leaves and whole berries as a garnish.

**Serving suggestion**

Chilled raspberry cooler
Chicken and fiddle salad
Cold asparagus spears
Assorted fruit breads
Chocolate mousse

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THIS PUBLICATION IS OUT OF DATE. For most current information: http://extension.oregonstate.edu/catalog
Serve Chilled Raspberry Cooler in bowls chilled briefly in the freezer. Garnish with a few raspberries or a sprig of mint. Complement your chilled soup with a muffin made with Pacific Northwest products, such as hazelnuts or cranberries.

You Decide

- Would you make raspberry soup again?
- Did it taste good?
- How did your family or friends respond to the idea of cold soup?
- Did you assume all your responsibilities?
- Was the cleanup done efficiently?

If you enjoyed making the raspberry soup, here are two more delicious fruit soup recipes for you to try: Cherry-Berry Soup and Fresh Fruit Gazpacho.

<table>
<thead>
<tr>
<th>Nutrition Information</th>
<th>per serving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food: Cherry-Berry Soup</td>
<td>Serving: (\frac{1}{4}) cup</td>
</tr>
<tr>
<td>Calories</td>
<td>122</td>
</tr>
<tr>
<td>Carbohydrate</td>
<td>29 g</td>
</tr>
<tr>
<td>Protein</td>
<td>2 g</td>
</tr>
<tr>
<td>Fat</td>
<td>0 g</td>
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<tr>
<td>Percent of RDA (Recommended Dietary Allowance)</td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td>4 %</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>11 %</td>
</tr>
<tr>
<td>Thiamin (B1)</td>
<td>5 %</td>
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<tr>
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<tr>
<td>Vitamin C</td>
<td>50 %</td>
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<tr>
<td>Calcium</td>
<td>4 %</td>
</tr>
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<td>Iron</td>
<td>10 %</td>
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<td>Sodium</td>
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<tr>
<td>From protein</td>
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<tr>
<td>From carbohydrate</td>
<td>91 %</td>
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<tr>
<td>From fat</td>
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</table>

Cherry-Berry Soup

8 servings; \(\frac{1}{4}\) cup each

2 16-ounce cans waterpacked, pitted sour red cherries
\(\frac{1}{4}\) cup sugar
4 teaspoons cornstarch
\(\frac{1}{2}\) teaspoon salt
\(\frac{1}{2}\) teaspoon cinnamon
4 tablespoons grated orange rind
1 cup orange juice
1 cup cranberry juice
\(\frac{1}{2}\) cup plain low-fat yogurt

1. Combine the cherries, sugar, cornstarch, salt, cinnamon, orange rind, and orange juice in a blender or food processor. Blend until smooth.
2. Pour the mixture into a saucepan; add the cranberry juice. Slowly bring to a boil, stirring constantly.
3. Cook until slightly thickened.
4. Ladle the soup into bowls and garnish with a spoonful of yogurt.
5. Serve hot or cold.

Try Cherry-Berry Soup as a festive appetizer for the winter holidays. It can be served hot or cold, garnished with a spoonful of low-fat yogurt. Like many fruit soups, Cherry-Berry Soup requires a puree. The fruit puree is smooth but some of the fiber is still present.

Gazpacho is the Spanish term for cold soup. Gazpacho is traditionally made with tomatoes, peppers, and other vegetables that are abundant in the summer garden. This fruit gazpacho uses some of our favorite fresh fruits that are plentiful in the Pacific Northwest in the summer.
Nutrition Information

<table>
<thead>
<tr>
<th>Food:</th>
<th>Serving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh-Fruit Gazpacho</td>
<td>1/4 cup each</td>
</tr>
</tbody>
</table>

| Calories | 75          |
| Carbohydrate | 19 g         |
| Protein  | 1 g         |
| Fat      | 0 g         |

Percent of RDA (Recommended Dietary Allowance)

| Protein | 2           |
| Vitamin A | 12         |
| Thiamin (B1) | 7          |
| Riboflavin (B2) | 7         |
| Vitamin C | 52         |
| Niacin (B3) | 3          |
| Calcium  | 1           |
| Iron     | 2           |
| Sodium   | 0           |

Percent of Calories

| From protein | 4           |
| From carbohydrate | 92        |
| From fat     | 4           |

Management Matters

Meal presentation is important, because food that is attractively presented is more likely to be eaten. Fruit is an ideal food to present as an accompaniment. For example, garnishes made from fruit are attractive and fun to make.

The soups suggested in this lesson can be presented with different meal services. As you read about the variety of meal services, you will recognize styles that suit your taste and lifestyle. Whether you are using an informal meal service at home or attending a dinner that uses a formal service, here is a description of the most common meal services.

Informal plate service. Food is served on individual plates in the kitchen and set on the table before eating.

Family service. Serving dishes are placed on table and passed so everyone can serve themselves.

Modified English service. Food is brought to the table in serving dishes. One person serves the food onto the plates. As each plate is served, it is passed to the person it was prepared for.

Formal service. With this service, someone must wait on the table. Food may be served on individual plates and placed before the guests, or guests may serve themselves while the attendant holds the serving dish.

Compromise service. A combination of English and formal service. The main course of the meal is served at the table. After each plate is passed to the guests, the remainder of the meal is served in individual portions from the kitchen.

Buffet service. Food and table accompaniments are attractively arranged on a table or buffet. Guests serve themselves.
Safety/Storage

Raw fruits are the food safety expert's delight! They can be kept at room temperature without danger of bacterial growth that can cause illness. Fruits are acid enough to slow bacterial growth in food mixtures. They continue to ripen at room temperature. When they reach their peak ripeness, refrigerate them to slow the ripening process, and use them before they become badly bruised or moldy.

Living Resourcefully

Most of the original food value of fruits and vegetables is retained in their juices. When juices are diluted with water, their food value is lowered. Adding sugar increases the calories. Pure fruit juices are labeled “fruit juice.” Fruit juices with water added are labeled “fruit drink.”

Following Through

Learn more

Salsa, which is Spanish for sauce, isn't just for Mexican food fans. These days salsa can describe anything from relish mixtures to fresh, coarsely chopped ingredients of fruits, herbs, vegetables, and juices. The point is to be creative! Put spicy salsa with beef or chicken. Serve sweet salsa with chicken, pork, or lamb. When the markets or gardens are bursting with produce, create your own salsa recipe. Just to get you thinking, try peaches and red peppers, cucumbers and pineapple, or a combination of apples and green tomatoes.

Try making ice cubes of fruit juice. When you use them in your drink it will last longer and taste great, too!

Join others

At the next potluck, take a beautiful tray of fresh fruits. Try bananas, peaches, pears, apples, and berries. Keep them looking fresh by dipping cut surfaces in an acid juice such as lemon or orange juice.

Plan a menu that uses one of the fruit soups suggested in the lesson. Serve the meal with one of the meal services described.

Teach others

Contact your local Extension office and offer to write a brief article for the county newsletter about chilled soups that use Pacific Northwest fruits. Plan to run the article when the fruits in your area are plentiful.

Children are naturally curious and love to cook. Capitalize on this interest by showing a youngster how to make a nutritious snack. Many of the easiest snacks include fruit, but be careful of the knives when helping a small child.

Get involved

Freshly squeezed apple cider just might be a best seller at the next county 4-H event. Locate a cider press and sell fresh apple cider made from excess summer apples or windfalls during harvest. Be sure not to use bruised or moldy apples.

Work with a nutrition program run by your county office of the Extension Service, or through local churches to develop a “share the harvest” project. Find home gardeners or direct market producers who would be willing to share their excess harvest. Arrange to have the produce received by people in the community who have special needs.
Lesson 4. The Uncommon Potato

Key Points
Believe it or not, potatoes are a low-fat food!
In this lesson you’ll learn:
• It’s the “fixings and toppings” that add most of the calories.
• How cooking and eating customs contribute to our American cuisine.
• The potato is very important to the Pacific Northwest economy.
• Potato commissions were established in each Pacific Northwest state almost 40 years ago to support the potato industry.

Thomas Jefferson, our third president, was the first American to eat French fries. Since then, billions of potatoes have found themselves out of the field and into the fryer. About 50 percent of the potatoes used for frozen French fries in the United States come from the Pacific Northwest. But remember, French fries are a high-fat food. Enjoy them occasionally, but don’t overdo!

The potato can be a high value-added agricultural product. Value is added to the raw commodity by processing or physically changing the product or by adding other features. For example, potatoes grown in the Pacific Northwest take on greater value when they are cut up, fast frozen, and sold as French fries.

For hundreds of years people have emigrated to this country. The United States is known as the “melting pot” of people from many countries. Political unrest has often caused people to leave their homeland and move to a new land. Recent wars in Vietnam, Laos, and Central America have resulted in large numbers of people from these countries emigrating to the United States. In the early 1900’s, a mass of Irish emigrated to the United States because the failure of the potato crop in Ireland caused famine.

Each group brings its own cooking and eating customs. This moving and mingling of people adds richness to our heritage and our cuisine. In the larger population centers of the Pacific Northwest, it is possible to sample cuisines from all over the world. In one city block you might find Puerto Rican, Vietnamese, and African restaurants. With the right recipes and ingredients, many of these foods can be recreated in your kitchen. Each country has specialties that identify its cooking customs. Special breads, main dishes, vegetables, or desserts form the basis for a unique cuisine. Many of these specialties are made with potatoes. When you consider the variations for serving the potato, alone or with other foods, the potato is a truly uncommon vegetable.
Nutrition
Although potatoes are a good source of carbohydrate, they have a bad reputation as a fattening food. How they are prepared, what you put on them, and how many are eaten all contribute to the corruption of the innocent potato.
• Baked or boiled potatoes derive most (92 percent) of their calories from carbohydrates and no calories from fat.
• Mashed potatoes with milk and butter receive two-thirds (64 percent) of their calories from carbohydrate and one-third (36 percent) from fat.
• Hash browns and french fries are about one-half (52 percent) carbohydrate and about one-half (45 percent) fat.
• Potato chips are about one-third (36 percent) carbohydrate and two-thirds (63 percent) fat.

Calories can sneak into your diet. Think twice about choosing the amount and kind of toppings you use. Beware of sour cream, salad dressings, rich sauces, gravy, margarine or butter, too. Remember you control the calories! Just how many calories are added when fixing or serving potatoes? This chart shows how many calories are in 1 tablespoon of some popular potato add-ons:

<table>
<thead>
<tr>
<th>Calories per Food</th>
<th>Tablespoon</th>
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</thead>
<tbody>
<tr>
<td>Butter or margarine</td>
<td>100</td>
</tr>
<tr>
<td>Bacon bits, real</td>
<td>35</td>
</tr>
<tr>
<td>Bacon-flavored bits</td>
<td>30</td>
</tr>
<tr>
<td>Gravy</td>
<td>25</td>
</tr>
<tr>
<td>Sour cream</td>
<td>25</td>
</tr>
</tbody>
</table>

Packaged foods and restaurant food are often prepared with palm or coconut oils because they are usually the least expensive oils. But they have the most saturated fat of the vegetable oils. Many health professionals recommend using oils high in polyunsaturated fatty acids or mono-unsaturated fatty acids whenever possible. Saturated fats may increase the amount of cholesterol in the blood, and high blood cholesterol is associated with heart disease.

Food Preparation
Potatoes are used in many different kinds of foods. Lefse is a Scandinavian flat bread made from potatoes and baked on a griddle. Traditional lefse is rolled paper-thin with a special grooved rolling pin and turned with a long, flat "lefse stick" while baking. Often featured on the menu along with the lefse is lutefisk, or lye-cured cod, served with melted-butter sauce.

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Scandinavian Potato Bread (Lefse)

Ingredients:
- 12 medium potatoes (about 4 pounds)
- 1 cup sugar
- 1/4 cup butter
- 1 cup milk
- 1 1/3 cups milk
- 1 tablespoon salt
- 1 teaspoon pepper
- 3 cups sifted flour

Directions:
1. Wash, peel, and boil potatoes until tender when pierced with a fork, or about 20 minutes. Drain.
2. Mash potatoes thoroughly.
3. Add sugar, milk, salt, sugar, and pepper. Whip until light and fluffy.
4. Add flour and beat until smooth. Beat in remaining flour to make a soft dough.
5. Shape into 2-inch balls and roll them into circles using a lefse rolling pin or a regular rolling pin.
6. Place lefse on a hot ungreased griddle and cook until lightly browned. Turn. Remove and cool completely.
7. Spread cold lefse with butter and serve.

Lefse is buttered and rolled up like a crepe, then sliced on the diagonal for serving. Some people eat the lefse plain as part of a meal. Others sprinkle lefse with granulated sugar and cinnamon over the butter, roll it up and serve it with coffee.
### Nutrition Information

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<td>Fat</td>
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#### Percent of RDA

**(Recommended Dietary Allowance)**

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<th>Amount</th>
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<tr>
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<td>11</td>
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<tr>
<td>Vitamin C</td>
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</tr>
<tr>
<td>Niacin (B3)</td>
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<tr>
<td>Calcium</td>
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<tr>
<td>Iron</td>
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<tr>
<td>Sodium</td>
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#### Percent of Calories

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<tr>
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<td>72</td>
</tr>
<tr>
<td>Fat</td>
<td>19</td>
</tr>
</tbody>
</table>

### Safety/Storage

Wrap lefse in plastic wrap and store in the refrigerator. To keep lefse longer than 3 to 4 days, wrap tightly and store in the freezer.

### Management Matters

Good management requires practice and skill. One of these skills is "dovetailing," which means keeping two tasks going at the same time. When preparing an entire meal, dovetailing may include doing three or more tasks at the same time. Once you have done it a few times, you will realize how complex the art of meal management can be.

As you prepare lefse, you will find it takes time and requires dovetailing. To cut down on the time, you can prepare the potatoes ahead. For example, use leftover boiled or baked potatoes. To save time, follow proper use of equipment and appliances. Most important are your good work habits:

- understand cooking terms and directions,
- follow instructions,
- clean up as you go along and when you are finished, and
- have all the necessary equipment for measuring, mixing, baking, and cooking.

A delicious German potato dish is potato pancakes. Find a recipe and fix potato pancakes for your family after a game or for your family at a special Sunday morning breakfast. Traditionally, potato pancakes are served with applesauce and sour cream.

### You Decide

- How did the lefse taste?
- Had anyone in your family tasted this traditional Scandinavian dish before?
- Would you make it for your family again?
- Did the lefse take consuming to fix?
- Would you cook the potatoes, prepare the mixture, and refrigerate the dough until you were ready to cook the lefse?
- What ideas do you have to reduce the preparation time?
- What were some of the dovetailing tasks you used while preparing the lefse?
- Church dinners in a Scandinavian community often attract large crowds when the menu features lutefisk and lefse. The traditional foods represent a way to keep in touch with the past and celebrate their heritage.
Food Preparation

Twice-Baked Potatoes is an appetizing, low-fat recipe for preparing potatoes. If you use the oven to bake the potatoes, save energy by preparing the meat or other parts of the meal in the oven as well.

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Safety/Storage

Be careful when handling hot potatoes. Use a hot pad holder to handle the potato. If you get the hot potato on your skin, rinse the area with cold water immediately. Be sure the area is cold before you continue. Hot food sticks to the skin and causes deep burns unless the area is cooled thoroughly.

**RECIPE**

**Twice-Baked Potatoes, Cottage Style**

8 servings; ½ potato per serving

- 4 medium potatoes
- 1 cup low-fat cottage cheese
- ½ cup skim milk or buttermilk
- 1 tablespoon minced onion
- ½ teaspoon salt
- dash paprika
- 1 cup chopped parsley
- 1 cup chopped celery
- 1 small onion, finely chopped
- 1 garlic clove, minced
- 1 tablespoon butter
- 1 tablespoon all-purpose flour

1. Preheat the oven to 375°F. Place the potatoes in a baking dish. Bake for 1 hour or until tender. Cut the potatoes in half lengthwise. Scoop out the potato, leaving skin intact for stuffing.

2. Mix together the cottage cheese, milk, onion, and parsley in a separate bowl. Beat until fluffy.

3. Place the mixture back into the skins. Sprinkle with paprika and parsley flakes.

4. Bake for 10 minutes or until just golden.

5. Refrigerate for at least 1 hour or until firm.

6. Microwave for 3 to 5 minutes or until slightly golden.

**Serve with:**

- Green beans
- Buttered potatoes
- A small salad
- A small serving of a baked or grilled protein
- A small serving of a starchy vegetable (such as rice or pasta)

**Service Suggestions:**

- Oven-fried chicken
- Twice-baked potatoes
- Green beans
- Chocolate chip cookies and milk

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**THIS PUBLICATION IS OUT OF DATE.**

For most current information:

http://extension.oregonstate.edu/catalog
Living Resourcefully
Because of the popularity of potatoes, consumer demand for potatoes and potato products is strong. When there is a strong economy, people eat out more often or buy more “ready-to-eat” meals to fix at home. Potatoes are often a part of these meals.

Check the menu of your favorite fast food restaurant. How many different ways are potatoes served?

Stop at a grocery store and take an inventory of all the potato products you can find.

Talk with a friend who works in a fast food restaurant and find out how many pounds of french fries are cooked each day.

The Potato Commissions in Washington, Idaho, and Oregon are among the oldest commodity commissions in the country. A commodity commission is an organization of producers and processors who contribute money to promote their commodity.

The Potato Commission uses the money received from potato producers to fund research and promote the potato industry. One of the goals is to increase the use of potatoes by consumers. Many commodity commissions in the Pacific Northwest support the 4-H program by offering recognition to youth who use their products in 4-H contests and activities.

Following Through
Learn more
There are more than 40 commodity commissions organized in the Pacific Northwest. Some of these commissions employ a home economist to prepare information on behalf of the industry. This person will develop new recipes, write general and food page publicity, and represent the commission to the public.

Contact a commodity commission that supports one of the foods produced in your area. Talk with the home economist or consumer marketing specialist about the skills and training needed to promote a food product.

Potatoes in the Pacific Northwest are grown for fresh market, for processing, and for seed. Find out if there are potatoes grown in your area. Are they sold as fresh potatoes, as seed potatoes, or are they processed into french fries and other potato products?
Conventional cooking methods are different from those used with a microwave oven. Experiment with boiling potatoes in the microwave. Wash, peel, and cube two medium-size potatoes. Divide the potatoes into two microwave-safe dishes. In one dish, cover potatoes with water. In the other dish, don’t use water. Cover both with plastic wrap. Microwave separately for 5 minutes each, then test for doneness. Which potato is cooked? Explain why you think the uncooked potato did not cook.

Visit a bookstore and find the cooking section. Identify the books that feature foreign cuisine and regional cuisine. Are there any books that feature foods of the Pacific Northwest? Are there any cookbooks that feature only potatoes? Write to the author of the food or recipe book and ask about writing as a career or for more information about a food topic in which you are interested.

Join others
Grocery stores and restaurants in Washington, Oregon, and Idaho are featuring more Pacific Northwest foods. Food lovers debate whether or not there is a Pacific Northwest cuisine. Some say a new cuisine is emerging because of the fine foods available and the recipes that have been developed recently. Others say it’s not a Pacific Northwest cuisine, but a wise and creative use of available resources. In either case, the fish, meats, dairy products, fruits, vegetables, and grains grown and harvested in the Pacific Northwest are some of the best in the world. What can you do to promote and encourage others to use our fantastic foods of the Pacific Northwest?

Cookbooks are purchased more frequently than any type of book. Many people who enjoy food and food customs collect cookbooks. Invite someone who collects cookbooks to come with you and see their collection.

Get involved
Visit a Scandinavian family in your community. Do they eat lefse? If possible, ask if you could learn how to make lefse from someone that knows how.

Many food traditions have been preserved, modernized, or modified with each generation. Look at some old recipe books and see how the recipes and ingredients have changed over time. Adjust some of the recipes to follow today’s dietary guidelines. Talk with someone who prepares authentic dishes from their heritage and ask them how they have modernized or modified their recipes because they live in this country.
Lesson 5. Catch of the Day

Key Points
In this lesson, you'll discover:

• Fishing is important to the economy of the Pacific Northwest.
• Omega-3 is not a new science fiction movie but a type of fatty acid found in seafood.
• Eating two or three seafood meals per week may have some healthy benefits for you.
• How to prepare cioppino, an Italian fish stew often served in fine restaurants.

The ocean, rivers, and lakes are an important source of food throughout history in the Pacific Northwest. Fish products are now being suggested as part of a diet promoting health, and more restaurants in the Pacific Northwest are offering seafood or fish entrees to their customers because of consumer demand. The seafood featured is often referred to as the “catch of the day.”

The Eskimo Mystery
The scientific study of the factors that influence the frequency and distribution of diseases in humans is called epidemiology. Epidemiologists have compared the causes of death in different countries to the diets in those countries. Generally, they found that groups of people who have diets high in fat also have a high incidence of heart disease. The Eskimos are a notable exception.

Even though the traditional Eskimo diet is high in fat, Eskimos have a low incidence of heart disease. Since high-fat diets seem to be related to heart disease, researchers looked at the kind of fatty acids in the Eskimo diet. They found that some of the fatty acids in seafood, an important part of the Eskimo diet, are different from those in other foods. These fatty acids are called Omega-3 fatty acids.

Researchers began experimental studies to see if Omega-3 fatty acids could reduce the risk of heart disease. The results suggest that Omega-3 fatty acids do have a beneficial effect. Further benefits can be obtained by eating seafood several times a week.

But when new nutrition information is discovered, some promoters immediately see a chance to turn a profit. They exploit our desire for an easy way to assure good health. It is common to see a product like Omega-3 fatty acid promoted as a cure-all or preventative for disease. Consumers should beware of pills, capsules, or supplements that contain just one nutrient or food component. It's better to rely on food sources of nutrients rather than pills. Food provides a balance of nutrients and other necessary dietary components, and will not cause problems from overdose. The keys to good nutrition still include moderation and variety.

Omega-3 fatty acids are found in ocean fish, especially those that live in cold water. Fish is also recommended as a menu selection because it is low in fat. Many people in the United States eat 40 to 45 percent of their calories in the form of fat, while the recommendation is 30 percent of calories from fat. Any way you look at it, seafood and freshwater fish as a regular part of your diet makes good sense.

You can defeat the benefits of low-fat fish by the way it is prepared and served. Broil, bake, or poach fish using only herbs and lemon juice for flavor. Deep-fat frying or smothering with rich sauces increases the fat content of your diet.

So if you aren't eating much fish, you should consider the “catch of the day.”

For most current information: http://extension.oregonstate.edu/catalog
Food Preparation
Cioppino is an Italian fish stew and bouillabaisse (bool-yah-baze) is the celebrated French version. Because these soups are filled with foods that are plentiful and inexpensive in coastal areas they are a common sight at the table of a commercial fishing family. Cioppino uses a combination of fish "just off the hook" prepared in a tomato base. The key is the spices! These include garlic, fennel, thyme, basil, saffron, bay leaves, and parsley.

Fresh, frozen, and canned fish, or a combination of all three, can be used in cioppino. Cooking fish is just a matter of heating until flaky. Whatever kind of fish you choose, don't overcook it! It will be rubbery and tough.

### Nutrition Information

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**Percent of Calories**
- From protein: 52%
- From carbohydrate: 21%
- From fat: 28%

---

**RECIPE**

**Cioppino**

8 servings; 1 cup each

- 1/2 large green pepper, cut into pieces
- 2 tablespoons chopped onion
- 1 clove minced garlic
- 1 tablespoon cooking oil
- 2 16-ounce cans tomatoes
- 2 cups water
- 3 tablespoons chopped parsley
- 1 teaspoon dry flaked parsley
- 1/2 teaspoon salt
- 1/2 teaspoon crushed oregano
- 1/4 teaspoon crushed basil
- 1 pound fresh or frozen fish fillets cut into 1-inch pieces
- 1/2 pound fresh or frozen shrimp
- 1/2 pound clams or 16-ounce can clams, undrained

1. Heat oil in a large saucepan and saute green pepper, onion, and garlic. Add tomatoes, tomato sauce, water, and herbs. Bring to a boil. Reduce heat and simmer for 30 minutes.
2. Add fish, shrimp, and clams to tomato mixture and heat back to boiling. Reduce heat and simmer 5 to 7 minutes, until the soups is just flaky.
3. Refrigerate leftover cioppino and use within 2 or 3 days.

**You Decide**

- Did the cioppino taste good?
- Would you make it for your family again?
- How would you change the recipe to suit your tastes better?
- Now that you have learned the basics of a fish stew, create your own recipe. Be sure to write down what you added and the amounts so if you get rave reviews, you can make it again successfully!
Management Matters
The soup base for cioppino can be made in advance and refrigerated. Five minutes before serving dinner, add the fish so it won’t be overcooked.

You can make soup bases or stocks and store them for future use. Don’t throw out leftover vegetables and meat bones—use them for a delicious soup base next month. The art of food management is learning to use your resources for healthful and creative meals.

How about planning an attractive table setting to feature your “catch of the day”? A meal in which seafood or freshwater fish is served deserves an attractive table. You can have a great feeling of satisfaction and accomplishment when you serve a well-prepared meal on an attractively set table. The principles of table setting, which includes table coverings and place settings, are based on comfort and convenience.

Table coverings provide the background upon which you arrange the plates and flatware (silverware). Table coverings, which include placemats or a tablecloth, should be clean and wrinkle free. Placemats can be used for family meals, informal guest meals, and entertaining. They are placed in the center of the space allowed for each person about 1 inch from the table edge. Round placemats are arranged so that one edge of the circle is even with the table edge.

If you are using a tablecloth, it should be centered on the table and the hem straight and parallel with the floor.

The place setting includes the plates, flatware, glassware, and napkin for one person. When planning a table setting for a meal, coordinate it to fit the occasion. If you have a centerpiece, match the colors to those in the room, the dishes, and the food being served. The centerpiece should be low enough so people can see each other across the table.

Storage/Safety
Use fish promptly for the best flavor and the least chance for bacterial growth and spoilage. After the meal, cover and refrigerate leftover fish immediately.

Fresh fish can be frozen, canned, or smoked. You can get information on preserving seafood and other fish from your county office of the Extension Service.

If you are going fishing, clamming, or crabbing in the ocean, be sure the area is free from pollution. At certain times of the year, shellfish are unsafe to eat because of the “red tide,” a type of algae that grows in warm water.

Seafood Pasta Salad makes a great lunch or summer supper dish. Use fresh or canned fish or an imitation crab (surimi) product.

RECIPE

Seafood Pasta Salad
12 servings, 1 cup each
16 ounces seashell-shaped pasta
1 cup plain low-fat yogurt
⅛ cup mayonnaise
2 tablespoons lemon juice
¼ cup chopped green onions
1 clove garlic, minced
1 tablespoon chopped parsley
1 10-ounce package frozen peas, partly thawed
1 6½-ounce can water-packed tuna or 1 cup cooked flaked fish (chilled)

1. Bring 1 quart salted water to boil. Add pasta and reduce the heat. Cook 7 to 8 minutes until just tender. Drain and rinse in cold water until cool.
2. Blend yogurt, mayonnaise, lemon juice, onion, garlic, and parsley.
3. Gently toss drained pasta, peas, and fish with the dressing. Refrigerate leftover salad immediately.
Nutrition Information

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Living Resourcefully

Many fish are seasonal and may be available in your area only at certain times of the year. Sports sections of local newspapers often report which fresh fish are “running” in nearby lakes and rivers. Read the labels on canned fish for information about food value, number of servings, uses and preparation methods. Remember canned fish that contains the bones is a good source of calcium, if you eat the bones.

Many restaurants and grocery stores may offer an imitation seafood product. This product is called surimi and has tremendous potential for use around the world. It is made from white fish which has been processed to resemble different kinds of seafood in taste and texture. Talk with the grocer or a commercial fisherman about surimi. What are the laws about advertising this product as seafood?

Following Through

Learn more

You have learned how to prepare an Italian dish using seafood. Now try other international dishes using fish, such as Spanish paella, a combination of seafood and rice seasoned with saffron, or Japanese spring rolls.

Smoked fish can be a delicacy in the Pacific Northwest because of the variety of fish available. Contact your county office of the Extension Service about smoking fish and try it at home.

Find out what kind of aquaculture is conducted in your state. What species are raised? How are they processed and sold? Some universities in the Pacific Northwest offer degrees in the study of aquaculture. If this topic interests you, find out what kinds of schools offer this program and what kinds of jobs would be available.

Visit a fish hatchery or a fish processing plant. Talk with the employees and managers about what they do each day. Ask about the skills and training necessary to work in the fish rearing or processing industries.

Join others

Cioppino or bouillabaisse is often served in restaurants located in coastal areas of Washington and Oregon. Invite some friends to join you and visit a restaurant that serves either of these dishes. Compare it to the recipe you made at home. What were the differences?

Teach others

People that do not live near the ocean or a body of water often claim they don’t know how to fix fish properly. Teach fish cookery to someone you know.

Get involved

Some cultures outside the United States use more seafood and fish in meals than we do. Talk with an international visitor about ways he or she prepares fish. Ask how it is purchased, stored, and prepared.

Interview a family whose life work is commercial fishing. What are the differences between this business and a family farming operation? What are the similarities? What are some of the jobs a teenager can do in a commercial fishing operation?
Lesson 6. The Benevolent Bean

Key Points
• If you thought beans were only for baking, then you don’t know beans!
• The Pacific Northwest produces beans for garden seed and dry beans to eat.
• Dry beans, peas, and lentils provide protein and amino acids and, when combined with certain other foods, supply high-quality protein.
• Beans are low in fat, high in fiber, and easy to fix, as you’ll discover when you make “Soup”erior Bean Soup.

Dry beans have always been a favorite for their good flavor, protein, and economy. In the Pacific Northwest, soil, water, and sunlight blend almost perfectly to produce uniform, disease-free seed.

The seed is sold to growers in the midwest and the east coast of the United States. Seed is also exported to Canada, Western Europe, Italy, the United Kingdom, and Australia.

Bean Biography
Since the earliest days of history, dry beans have been important to human survival. We discovered early that preservation of beans was simply a matter of letting them dry. As a result beans became a year-round source of nutrients. If you had been an early settler, you would have eaten lots of beans because they were easy to grow, storage was simple, and they satisfied hunger.

Comparison of Beans With Other Meat Alternates

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*Although the iron content of the beans is high, it is less available than the iron in meat, fish, and poultry. See Make Mine Meat, page 8.

http://extension.oregonstate.edu/catalog
Beyond Beans

“Benevolence” is defined as a generous gift. Beans are indeed a generous gift because they provide protein, iron, thiamine, carbohydrate, and fiber in large amounts. They also include other minerals in smaller amounts, are low in fat and salt, and contain no cholesterol. And if that’s not enough, they are low in cost, easy to store, and versatile!

Because beans are included as a choice in the meat group we expect to get protein and iron from them. If you compare 1 cup of cooked dried beans to 3 ounces of meat, fish, poultry, or two eggs, you see that they have a place in a balanced diet.

Because foods supply different amounts of nutrients, it is important to use a variety of foods within each food group. If you ate only halibut from the meat group, it would be difficult to get enough iron. If you ate only beans, you would have to eat a lot to get all the protein you need. If you ate only eggs, your cholesterol intake would be very high. But if you eat different foods from the meat group, the average intake of the needed nutrients is likely to meet your dietary needs.

Protein is important to your growth and to help replace worn-out body cells. You need it to make the enzymes and hormones that your body requires for good health. It is also important in the immune system, which helps your body fight infection and disease. In this country, a lack of protein is not a major problem.

But who might have a protein deficiency problem? Someone who lives on a very restricted diet, less than 800 calories a day, or on a diet that excludes an entire food group, might develop a protein deficiency. When someone exercises so hard that all the calories eaten are used for energy, protein is also used for energy rather than for growth. For example, young ballet dancers or gymnasts may not grow normally because their energy output exceeds their energy intake. Beans offer a lower protein intake combined with high fiber and low fat: a good choice for good nutrition.

Dry beans are a source of protein, which is a combination of smaller compounds called amino acids. Not all protein is created equal. The protein in beans is different from the protein in eggs or in cheese. Each protein is a different combination of amino acids.

Although there are many different amino acids, eight of them are “essential” amino acids. They must be supplied through the diet since our bodies cannot produce them. Our bodies make some amino acids from the food we eat. These are called “non-essential” amino acids.
So what's this got to do with beans? The protein in beans is low in one of the essential amino acids. However, rice and other grains contain the essential amino acid missing from beans.

Rice is low in a different amino acid, but beans have this amino acid in abundance. So when you eat a taco dinner with beans and rice, you have two proteins with different limiting amino acids. Together you have a high-quality protein. Since both beans and rice are low-cost and low-fat foods, you win two ways—by being nutrition and cost conscious.

The amino acids of protein build body cells, enzymes, and hormones for good health. To obtain the amino acids you need, eat a combination of vegetables or a combination of vegetables and meat.

**Recipe: “Soup” erior Bean Soup**

**10 servings; 1 cup per serving**

- 2 cups bean mix
- 3 quarts water
- Ham bone or 2 ham hocks
- 2 tablespoons salt
- 1/2 cup chopped celery
- 2 bay leaves
- 1 teaspoon thyme
- 1 tablespoon dried parsley
- 1/2-cup can tomatoes
- 2 medium onions
- 2 cloves garlic (peeled)
- 2 medium carrots
- 1/2 cup minced chicken or minced all-bean sauce
- 1 pound Polish sausage (optional)

1. Wash beans. Cover with water and bring to a boil. Boil 2 to 3 minutes. Remove from heat, let the beans soak in the hot liquid for 1 hour. Return the beans and liquid to a boil and cook gently until beans are tender.

2. Put ham bone, salt, bay leaves, thyme, and parsley in boiling water. Bring to a boil. Reduce heat and simmer for about 1 hour. Remove the ham bone or ham hocks and cool. Skin any fat off the stock. Discard the fat.

3. Add beans to stock. Bring to a boil. Reduce the heat and simmer until the beans are tender, about 1 hour. Remove the ham from the bones. Discard the bone, fat, and skin.

4. Add tomatoes, onions, garlic, chicken (optional), ham, and sausage (optional). Bring to a boil. Reduce the heat and simmer for 1 1/2 hours to blend the flavors.

5. Bean mix on next page

_Serving suggestion:
“Soup” erior bean soup
Whole wheat bread
Crispy vegetable sticks
Fruit cup topped with raspberry sherbet_
You Decide

☐ Did the “Soup”erior Bean Soup taste good?
☐ Did the soup look good?
☐ Were the beans tender and cooked properly?
☐ Were some beans overdone while others were not quite cooked? How can you avoid this next time?

☐ Did you have trouble finding all the beans the bean soup recipe called for? Now that you have tried this combination of beans, you can choose your own combination of beans and lentils.

☐ What would you do differently to improve the preparation, serving, and cleanup?

Regular method

Wash and drain beans. Cover the beans with water and soak them in a large kettle 6 to 8 hours or overnight. Cover the kettle and cook the beans gently until tender in the water in which they were soaked.

Sometimes beans are overlooked because dry beans take several hours to soak and cook. If you want to cook beans, but will be at school all day, soak the beans the night before, then cook them in a slow cooker all day. With some slow cookers, you may need to boil the presoaked beans several minutes to soften them before you put them in the slow cooker.

You might think that cooking beans in the microwave would speed up the soaking process. However, beans need to soak in the water to absorb the liquid. Microwaving the beans only heats the water; the beans don’t soften because they don’t absorb the water.

The mixture of beans listed here makes a bean soup that is “superior” for a hearty meal for the family and a favorite at the community soup supper. For a holiday bazaar, sell attractive gift packages of the bean soup mix. Serve samples of the soup and your sales will soar!

Bean mix

A bean mix can include lentils, split peas, and pearl barley for interest and flavor. It should be mostly beans. To make your bean mix choose from the following:

- lentils
- red beans
- northern beans
- split peas
- black beans
- kidney beans
- pearl barley
- navy beans
- pinto beans
- black-eyed peas
- pearl barley
- navy beans
- pinto beans
- black-eyed peas

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For most current information: http://extension.oregonstate.edu/catalog
Management Matters

You can use a pressure cooker to cook beans, but be sure to follow the guidelines for pressure-cooking beans.

Consider using canned beans if you are in a hurry. Do you notice a difference in quality between canned beans and cooked dry beans?

Soak and cook dry beans and store them in 1- or 2-cup portions in the freezer. The cooked beans will then be ready to add to your favorite recipe.

Avoid wasting food by using leftover bean soup to make delicious baked beans. If necessary, remove some liquid. Add a bit of molasses, ketchup, and brown sugar to the leftover beans and bake in the oven or microwave for an appetizing, easy supper dish.

If you are cooking for just yourself or a small family, a large pot of beans may be too much of a good thing. Try freezing the bean soup in small or individual portions for hearty lunches and suppers.

When you are in a hurry and want to eat legumes, try lentils. They don't need to be presoaked and can be cooked and ready to eat in 30 minutes.

Safety/Storage

Store dry beans in a tightly covered container in a cool dry place. Properly stored, dry beans last indefinitely.

If you buy dry beans or other food in bulk you will need to store them in air-tight, moisture-tight containers. Find attractive, clean containers to complement the decor in the kitchen. If necessary, label the containers so you'll find the beans easily.

Cooked beans are a perishable food, so don't leave them at room temperature for more than 2 hours. Cover and refrigerate leftovers immediately.

Living Resourcefully

What kinds of canned or dry mix soups do you eat? Look at the labels to see how they rank nutritionally. Some manufacturers are changing their products nutritionally by adding less sodium. What foods could be served with or added to each soup to improve its nutritional value?

Compare your homemade bean soup to a commercially canned bean soup. How do they compare in cost, taste, and appearance? Which soup do you prefer?

Some grocery stores are beginning to offer computers as a shopping aid. If you can't find what you are looking for or want nutritional information about a product you can consult "Computer Information Centers." Most of these computers offer an aisle directory, nutrition information, and a changing list of recipes. Some even offer in-store coupons and specials.
Some cultures are primarily vegetarian. In these cultures, people use mixtures of legumes (beans, peas, and lentils) and grains as sources of protein. Investigate food patterns of several groups who do not use meat. Which of their dishes contain both grains and legumes?

Plan a nutritious meal that includes beans but not meat, fish, or poultry.

Most people think of bean soup as a hearty autumn or winter food. Soak and cook a small amount of the bean mix. Do not add other soup ingredients. Salt and season as desired. Then experiment with preparing a marinated bean salad for summer meals. Green pepper, onion, celery, and a light vinegar and oil dressing make a perfect salad for summer picnics or sandwich suppers.

Look for other bean soup recipes and compare ingredients. Try other recipes to see which your family likes best.

Join others
Find out what church and community groups in your area are doing about world hunger. How could you help?

Teach others
In fall or winter talk with the home economics agent of your county Extension office and ask to write a feature on bean soups. In the feature, mention the high-quality protein, low-cost advantages of beans. Include four or five bean recipes you have tested.

Get involved
Prepare bean soup mix in attractive gift packages. Sew calico fabric bags and tie with brightly colored yarn. Attach the bean recipe and a serving suggestion to the package. The bean packages make attractive gifts or a unique sale item for farmer's markets or bazaars.

Promote the bean industry of the Pacific Northwest. Sponsor a bean cook-off! Work with a local producer and advertise the event with the local media. Be sure to mention that your 4-H club is sponsoring the event. Ask local community leaders or restaurant owners to serve as judges. Give prizes for the most original recipe and the best flavor. Sell packages of the bean soup mix to cover any prizes or expenses. A local bean grower or bean company might be willing to co-sponsor the event.
Lesson 7. Wheat Street

Key Points
In this lesson you’ll learn:
• The production of soft white wheat in the Pacific Northwest has a tremendous economic impact on our economy.
• Turnovers, meat pies, enchiladas, and ravioli represent different ways cultures combine a wheat product with other food groups. In this lesson you’ll learn to make Chinese potstickers.
• There are some facts and myths about carbohydrate loading and training for athletic events.

When something tastes good, you like to eat it. When something is nutritious, you feel good eating it. Wheat combines good taste with good nutrition. From casseroles to crackers, pastries to pasta, wheat is delicious, versatile, and easy to prepare.

A couple of decades after Lewis and Clark explored the Pacific Northwest, pioneer farmers started growing soft white wheat, a type of wheat that’s good for making pastry and noodles. The Pacific Northwest was an ideal growing environment. During the last 160 years, the production of soft white wheat has greatly increased, making the Northwest the nation’s soft white wheat capital.

The Pacific Northwest soft white wheats have excellent flavor, soft texture, and exceptional milling properties. These are all desirable qualities when making foods from the wheat.

Washington; Oregon; and Lewiston, Idaho have outstanding port facilities to market Pacific Northwest wheat to Asian consumers. These terminal elevators hold supplies of soft white wheat and other wheat types so buyers can be efficient and flexible in their grain purchases. Wheat shipped from the Pacific Northwest ports has a very low incidence of insect infestation because of its lower moisture content and the sanitation procedures used.

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Soft white wheat grows better in the Pacific Northwest than anywhere else. This production of soft white wheat has a tremendous economic impact on the economy of the Pacific Northwest.

Research on wheat production has been conducted by plant scientists at Washington State University, Oregon State University, and the University of Idaho for more than 90 years. One of the founders of genetics in this country was Dr. W.J. Spillman, whose wheat research at Washington State University resulted in the development of four commercial wheat varieties. Other Northwest wheat researchers have made great contributions to the development of high-yielding wheats.

In many countries, the high-yielding wheat varieties have made it possible for these nations to be able to produce enough food for their people. Plant scientists continue research to develop disease-resistant strains of wheat.

**Stay Tuned for the Carbohy-Lights...**

If you've ever heard adults talk about food—and who hasn't—you've probably heard them say things like:

"I'm counting calories."

"I'm trying to cut down on carbohydrates and increase my intake of fiber."

"I'm in training so I'm going heavy on the carbohydrates."

What does all this really mean? How does food do its job for us?

The major sources of energy, calories, come from carbohydrates and fats. Sugar, starch, and cellulose are carbohydrates. Simple carbohydrates or sugars and complex carbohydrates or starches have about the same calorie content. Before you jump into a diet of candy bars and pop, remember that foods high in sugar generally contain little or no vitamins and minerals.

Because many of the foods we eat have been refined or processed, almost everyone should increase the amount of complex carbohydrates and fiber he or she eats. Complex carbohydrates are digested more slowly and provide the body cells with a steady supply of easily used energy. Cellulose is not digested by humans and yet is part of the fiber you need for good health. The fiber in whole grains is primarily an insoluble one which helps foods through the digestive system.

Wheat products are good sources of complex carbohydrates. Whole wheat products also provide fiber. By eating more foods with wheat and other grains in them, you can increase the amount of carbohydrate in your diet.

Because carbohydrates are a source of easily used energy, some athletes use "carbohydrate loading" to increase the supply of carbohydrate (glycogen) in their muscles.
Caution: Carbohydrate Loading Zone

Carbohydrate loading is carrying the high carbohydrate diet to the extreme. It includes exercising the muscles to exhaustion and then eating a high-carbohydrate, low-protein, low-fat diet. Carbohydrate loading is supposed to increase the glycogen in the muscles and is a technique used by endurance athletes such as cross-country skiers or marathon runners. Since most of you are not on the Olympic ski team or don’t run marathons every weekend, carbohydrate loading is not for you. In fact, carbohydrate loading is probably only effective a few times during an athlete’s career and should only be done under the supervision of a professional trainer when there is medical supervision.

Remember that carbohydrate loading is effective only in endurance events, those that are continuous and long term. It will not increase your performance in most athletic activities including wrestling, volleyball, sprinting, high jumping, swimming, football, and tennis.

The alternative for the athlete is to eat a high complex-carbohydrate, low-fat diet with adequate but not excessive amounts of protein. Many athletes concentrate on a high carbohydrate pre-event meal before the game or race. This meal should include fruit, fruit juice, vegetables, breads, and pasta but limit high-fat toppings or sauces. An example of high-carbohydrate, low-fat breakfast is:
- Orange juice
- Oatmeal with bananas and skim milk
- Whole wheat toast with jelly, no butter or margarine
- Skim milk

An example of a high-carbohydrate, low-fat lunch is spaghetti with a tomato-vegetable sauce, fruit salad with lemon-yogurt dressing, oatmeal cookies, and skim milk.

Food Preparation

What’s your favorite food? If you’re like most young adults you might say pizza, cinnamon rolls, or tacos. In northern China, the soft white wheat produced in the Pacific Northwest is used to make a favorite food—Potstickers.

Potstickers, savory filled dumplings, look as though they might stick to the pan, but can easily be scooped out with a spatula. They are not fried but are simmered in a broth until done. Serve them as an appetizer over a soup or salad as a meal.

You Decide

- What part of preparing the potstickers was the most interesting to you?
- What was the most tedious or the most uninteresting? Does this give you any ideas about what you enjoy most about food preparation?
- How did the potstickers taste? Did your family think they were a special treat? Would you make them again?
- Compared to other main dishes with a “wrapper” like meat pies or ravioli, would you say potstickers were easier or more difficult than some of the other foods you’ve prepared?
RECIPE

Northern Chinese Potstickers

4 servings: 12 per serving

Dough
3 cups all purpose flour, unsifted
½ teaspoon salt
1 cup boiling water

Shrimp filling
½ pound cocktail shrimp, cooked fresh or canned
½ pound finely ground or chopped pork
¼ cup finely shredded cabbage
¼ cup minced green onions
¼ cup chopped fresh mushrooms
1 clove garlic, minced
½ teaspoon salt
2 tablespoons oyster sauce or soy sauce
¼ cup vegetable oil
1 ½ cups chicken broth

Sauce
½ cup vinegar
½ cup chicken broth
1 teaspoon soy sauce
¼ teaspoon chili powder
¼ teaspoon ground ginger

Make the dough:
1. Mix flour and ½ teaspoon salt together in a bowl. Stir in water with a fork or chopsticks until dough is evenly moistened and begins to hang together.
2. Turn onto an unfloured board and knead until it is very smooth and satiny (about 5 minutes).

Prepare the filling:
3. Cover and let rest at room temperature for 30 minutes.
4. Prepare the filling: Chop the shrimp and mix with pork, cabbage, green onions, salt and soy sauce.

Make the potstickers:
5. Divide the dough into 2. Cover one half to prevent drying.
6. Roll the other half of the dough into a 14-inch circle. Cut with a 3¼ inch round cutter.
7. Put about 1½ teaspoons filling in the center of each round wrapper.
8. Moisten the edge of the wrapper. Fold the dough into a half-moon shape. Pinch the edge closed. Form three tucks along each edge facing you.
9. With the seam side up, set pot sticker down firmly to flatten one side. Cover while shaping remaining potstickers. Don't allow them to touch each other or they will stick together.
10. Cook potstickers 2 to 3 at a time. For each batch, heat 1 tablespoon oil in wide frying pan over medium heat. Cook until bottoms are golden brown (about 10 minutes).
11. Add 1 ½ cup broth and cover. Reduce heat to low and steam potstickers for 10 minutes. Uncover and cook until liquids are absorbed.
12. Keep potstickers warm in 250° oven until the rest are cooked.

Make the sauce:
13. Combine vinegar, chicken broth, soy sauce, chili powder, and ginger. Mix well.
14. Serve as a lot party dip, or appetizer or as part of a meal.

Potstickers (12 per serving)
1 ¼ cups steamed rice and stir-fried vegetables

Heat browning dish according to manufacturers instructions (3 to 5 minutes).
1. Add 1 teaspoon oil and 8 to 10 potstickers. Cook 3 minutes.
2. Add ¼ cup broth and cover. Cook 8 to 10 minutes on medium setting.
3. Wipe browning dish with a paper towel and repeat until all the potstickers are cooked.

Alternative
Fresh or frozen wonton skins can be used instead of homemade dough.
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Storage/Safety

White flour will keep almost indefinitely when it is kept cool and dry, and is not contaminated with insects or rodents. Unrefined products like whole wheat flour contain the fat-rich germ of the kernel, which will become rancid after a few weeks. The storage temperature determines the length of storage time.

Flour and other grain products may become infested with weevils. Be sure to check these products every other month or so. Call your county office of the Extension Service to learn how to get rid of weevils if you notice them in your flour.

Glass jars with metal lids are good storage containers. Plastic bags and some plastic containers will not keep the weevils or rodents out.

Management Matters

Rolling out the potsticker dough will require a large work surface. Take a look at the work center in your kitchen. Does it help make food preparation and meal serving more or less efficient?

You can use a variety of equipment to make potstickers. A wok is big enough to push some of the potstickers to one side while others finish cooking. An electric skillet works well because the temperature can be controlled. You may also want to use a food processor, a cleaver, or a French knife in preparing the food.

Potstickers can also be fried or boiled or steamed. The Chinese usually steam their food in bamboo baskets placed over a pot of boiling water. You can create a steamer by combining cooking equipment. If you are steaming, remember to always lift the lid away from you to avoid being burned.

Chinese cooking requires that you be especially efficient in the kitchen because much of the preparation occurs near the end. Take a look at your kitchen work center. Does the refrigerator open into or away from the work center? Can you get into the cupboards easily? Is the equipment you use the most easy to get to? Try making the work center in your kitchen more efficient for food preparation and storage.
The time-consuming task in Chinese cooking is mainly in preparation: slicing vegetables, cutting meat in small pieces, and forming bite-size pot stickers.

Because much of the time is spent in precooking you can plan to chop, mince, or dice well ahead of the cooking time. Be sure to refrigerate these pre-prepared foods so they remain safe to eat and nutritious. When the guests arrive, you are ready to cook fresh, appetizing food.

Living Resourcefully
Many people enjoy cooking Chinese food and many more enjoy eating it! It makes sense to follow Chinese food habits. Chinese food is healthful because it uses little fat and small amounts of lean meat, and the vegetables are cooked crisp to keep the nutrients. The main staple of the Chinese diet is rice, which is high in carbohydrate and low in fat. Most Chinese food is economical to prepare and their cooking methods require little fuel. The food is cut into bite-size pieces so it cooks more quickly.

Compare the cost of preparing a traditional Pacific Northwest meal or German meal compared to a Chinese meal. Consider food costs, nutrition, and energy use.

Many markets or outlets sell "day-old" bread products. Investigate the types of products sold and compare their prices with those of fresh products. How can "day-old" products be used to stretch the food budget?

Following Through
Learn more
Try fixing potstickers with a filling you have created. Use the food preparation skills and what you have learned about wheat products in your creation.

Find a recipe and try making pierogi. Pierogi is a favorite Polish dish although variations can be found in Russian, German, and Czechoslovakian cooking. Pierogi are small dumplings filled with mashed potatoes, cheese, cabbage, meat, or mushrooms. The dumplings are boiled or fried and served with sour cream.

Think about your favorite meal and the carbohydrates and fat in it. If there is a high amount of fat in relation to carbohydrates, plan a revised menu to reduce the fat.

Try other main dishes that have "an inside and an outside" like enchiladas, ravioli, pot pies, or turnovers.

Join others
Plan a day's menu for a young person who will be playing in an evening basketball tournament. A pre-game meal should include familiar foods that are relatively low in fat. It should have complex carbohydrates rather than sugar. It can include a moderate amount of protein but should not be high in protein. Remember to drink plenty of water before, during, and after the game.

Have a Japanese or Chinese friend show you how to cut vegetables oriental-style.

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Lesson 8. Vegetables: The Picture of Health

Key Points
In this lesson you'll discover:
• Vegetables as a good source of vitamin A and soluble fiber.
• "Value-added" has a special meaning for vegetable producers in the Pacific Northwest.
• Consumers are buying more vegetables than ever before.
• Healthful and creative ways to prepare and serve vegetables.

Have you ever noticed how many young children like fresh broccoli? Today children have more fresh vegetables to choose from than their parents did and maybe even more than were available to their older brothers and sisters. More children are familiar with and like to eat a large variety of vegetables.

Vegetables have taken on a new image. Many varieties of vegetables come in miniature sizes, allowing for creativity in meals. Examples include mini ears of corn, finger-length squashes, miniature carrots, and cherry tomatoes.

Many specialty vegetables are found at food stands, grocery stores, and U-pick operations. In the Northwest, many U-pick farms and truck farms are in western Washington and Oregon. Vegetable producers are plentiful in the inland river valleys such as the "Treaure Valley" of the Snake river in Idaho and the Yakima Valley of Washington.

The vegetable industry has benefited greatly from "value added" technology. Onions, sweet corn, snap beans, green peas, squash, pumpkins, broccoli, and cauliflower all can be changed through processing to add value for the consumer. Each step of processing or physically changing a product adds value to the consumer. Carrots are appealing when sold fresh, but dicing and adding them to frozen vegetable mixtures or soups with spices makes them a value-added product.

Look at supermarkets for value-added fresh produce. You may find coleslaw mixture ready for the dressing, prepared salads, a variety of melons cut and packaged together, or even melon balls. The deli section of the supermarket often has many value-added products.

Nutrition
We need vitamin A for the normal development of the skin and mucous membranes of the mouth, nose, lungs, and digestive system. A diet that includes adequate vitamins A and C helps the body protect itself against colds and other infections.

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Green and dark yellow vegetables are good sources of Vitamin A in the form of carotene. There is evidence that eating foods rich in carotene may reduce the risk of cancer. Carotene is sometimes called "pro-vitamin A" because your body changes it into vitamin A before it is used. If you don't get enough Vitamin A, abnormal cells may replace normal cells. These abnormal cells may lead to the development of cancer cells.

In developing countries where people have inadequate diets, the most common cause of blindness is a lack of vitamin A.

If vitamin A can prevent cancer, why bother eating vegetables, why not just take a pill? Nutrition is not that simple. Every day we learn new information about how vitamins and minerals interact to keep our bodies healthy. You need to be a good consumer of nutrition information to evaluate advertising information and make wise decisions.

Sometimes businesses exploit a discovery to catch the interest and dollars of health-conscious consumers. Learn to ask questions when nutrition information is "new" or a product is claimed to prevent or cure some conditions.

When you get nutrients from food, they are in the company of other nutrients and calories, fiber, fat, or protein. It is difficult to overdose on vitamins or minerals if you rely on food to provide them. And besides the major nutrients, you also get trace amounts of other necessary nutrients.

Vegetables also provide fiber, protein, and carbohydrates, and most are low in fat. Some vegetables, including broccoli and kale, are good sources of iron and zinc. Vegetables are often a mainstay in weight management programs because they provide needed nutrients and are low in calories. They provide texture, color, and flavor and because of the fiber, they give you that "full" feeling.

Fresh-out-of-the-garden vegetables are the most nutritious. Plan to buy vegetables at the peak of the local season for the best buy in nutrition as well as quality. The guide on the next page will help you know when fresh vegetables are available.

Vegetables that are frozen or canned at their peak are nutritious. In fact, they may have more nutrients than those that were picked many days ago and have been shipped and held in cold storage for several days before they appear in the fresh produce section of your store.

When you cook vegetables, think about how to retain each vegetable's color, flavor, texture, and vitamins. Some B vitamins easily dissolve in cooking water. If you pour your cooking water down the drain, these vitamins will go down the drain, too! Some vitamins can also be destroyed by overcooking.

Here are some suggestions to lessen the loss of vitamins when cooking vegetables:

- Wash vegetables quickly to remove the dirt but do not soak in water. Peel vegetables only if necessary since the peel protects the nutrients from escaping into the vegetable.
- Leave vegetables whole or cut them into large pieces so there will be less surface area for the nutrients to be touched by the water.
- Cook in a small amount of water.
- Cover cooking pan with a tight-fitting lid to help vegetables cook quickly.
- Cook for only a short time. Overcooking destroys nutrients.
- Consider steaming vegetables instead of boiling them.
- Cooking vegetables in the microwave conserves the nutrients. They cook quickly and require little, if any, added water.
- Serve immediately for the best flavor and texture.
# Availability of Fresh Vegetables in the Pacific Northwest

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</table>

- **Plentiful**
- **Moderate**
- **Light**
- **Little or none**

This publication is out of date. For most current information: [http://extension.oregonstate.edu/catalog](http://extension.oregonstate.edu/catalog)
Don't Violate the Vegetables!

Vegetables are easy to fix and add color and nutrients to a meal. They can stand alone or be combined with other foods to create a spectacular main dish. Often a beautifully prepared meal can be spoiled because the fresh vegetables are overcooked and mushy. Don't cook vegetables too long! They should be cooked until fork-tender and slightly crisp. Try steaming or stir-frying vegetables instead of boiling them for a long time. Timing is crucial in vegetable cookery.

As you prepare the savory vegetable recipe, ask yourself what part they will play in the menu. Meal management and preparation begins with a menu. Start by dividing the food in your menu into four parts:

1. Foods that will take an hour or longer to cook.
2. Foods that can be fixed in advance, like the day before, then refrigerated.
3. Foods that take less than an hour to cook.
4. Foods that can be fixed at the last minute.

What category are the savory vegetables in? Allow time for preparing the food, plus the cooking time. It will be easier for you to judge the preparation time when you list the steps involved in the recipes. If you think it will take 10 minutes to assemble a vegetable dish, begin to prepare the vegetables 10 minutes ahead of time before the dish needs to cook.

**Savory Vegetables**

6 servings: ½ cup per serving

- 1 cup broccoli pieces
- 1 cup cauliflower pieces
- 1 cup carrots, sliced

**Sauce**
- 1 tablespoon butter or margarine
- 1 tablespoon flour (cornstarch)
- 1 cup chicken broth
- ½ teaspoon lemon juice
- Salt

1. Steam vegetables until tender-crisp.
2. Melt butter or margarine in a small saucepan. Add flour and stir in flour. Add chicken broth and bring to a boil, stirring constantly.
3. Remove from heat and add salt and lemon juice. Invert the bowl on a plate. You will have a colorful mound of vegetables.
4. Drizzle the sauce over the vegetables and serve immediately.

Steam vegetables with a rack that keeps them out of the water. Put 1/2 to 1 inch of water in the pan and add the steamer rack and vegetables. Bring to a boil, cover, and cook until tender-crisp.

**Nutrition Information**

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THIS PUBLICATION IS OUT OF DATE. For most current information: http://extension.oregonstate.edu/catalog
You Decide

□ Did the savory vegetables still have a slightly crisp texture?
□ Did they still have a bright color when served?
□ Did you fix the vegetables so the least amount of vitamins were lost during cooking?
□ Did the savory vegetables taste good?
□ What did you serve with the vegetables? Did you plan your meal management and preparation time from your menu?

Safety/Storage

Unopened canned vegetables, whether home-canned or commercially canned, will keep for many months if stored in a cool, dry place. Use one season's supply before the next year's crop comes to market.

For most current information:
http://extension.oregonstate.edu/catalog
Nutrition Information per serving

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Following Through

Learn more
Take a tour of a grocery store. Choose one vegetable and make a list of vegetable combinations you find in the frozen food section. Prepare a vegetable combination dish from fresh vegetables. Compare the cost of what you prepared and what it would cost if you bought the combination already prepared.

Interview a youth who has started his or her own horticulture business. What kind of money, land, and equipment did he or she need? If the youth is making a profit, what is he or she doing with the money? How would he or she advise another youth who wanted to do the same on a part-time basis?

Join others
Tour the produce department of a supermarket and interview the produce manager. How often do they get fresh vegetables? What is the “shelf life” of different types of vegetables, such as root vegetables, compared to lettuce or tomatoes?

Talk with your county agent of the Extension Service and ask about Master Gardeners and Master Food Preservers and the services they provide. These volunteers are well trained and have a good understanding of the vegetable crops grown in the area and how they can be preserved properly.

Talk with someone who works in a cannery in the Pacific Northwest. What kinds of hours, skills, and requirements do they need?

Get involved
Find out about gleaning in your area. Picking up vegetables after the harvest and sharing the produce with families in need is a great community service project. Find some friends and glean for giving! If mechanical harvesting is done in your area but not gleaning, consider starting a gleaning project for your community.

Living Resourcefully
Has the availability of fresh vegetables changed your eating habits? What form of vegetables do you prefer—raw, canned, or frozen?

Choose your favorite vegetable and find all the forms in which it is available. If some of the forms are “value-added,” could you duplicate their preparation at home?
Lesson 9. Foods of the Future  
(optional activity)

There is no question that we are living in times of great change, and the world of food reflects that change. Our eating habits and what we expect from our food dollar are different. The number of single-person or older-person households has increased. Technology has changed the world of food: there are products developed just for microwave ovens. Other foods are marketed to appeal to our interest in fresh, nutritious foods and, of course, to our desire for convenience.

These times of change in food and food production are important issues for the Pacific Northwest. Why? Because change affects the production, research, and development of food products grown and produced in this region.

In this optional activity you will discover:
- Some current consumer trends and how they relate to food and food buying.
- How health and fitness trends relate directly to the foods we eat.
- How we prefer to have our food packaged.
- That the food industry is interested in you as a consumer.
- That you may fit in perfectly in a career of food science and technology.

Check with your leader about this supplemental lesson. It is outlined in the Foods of the Pacific Northwest, Unit 3 Leader Guide, PNW 338.
Planning Guide

Step 1: Set a goal.
What topics interest me, that I might want to learn about this year?

What activities do I want to participate in?

What topic/ activity have I never tried before that I want to try this year?

Step 2: Make a preliminary plan.
What will I need to carry out the goals I listed above?

Where can I get information that will help me reach my goal(s)?

Are there resource people in my community who can and will help? Consider home economists, dietitians, 4-H leaders, Extension agents, neighbors, and parents.

How can I share what I have learned?

Preliminary Plan
Activities I want to participate in
Topics I want to learn about
Ways I will share

Step 3: Carry out your plan.
What I plan to do
When I plan to do it
Date it is completed

Step 4: Evaluate.
Did I reach my goal? How did I do? How did I feel about my work?

If I could change something, what would I do differently next time?

What did I learn about the topics that interested me?

What did I learn in the activities I participated in?

How did I share what I learned? How did others respond?