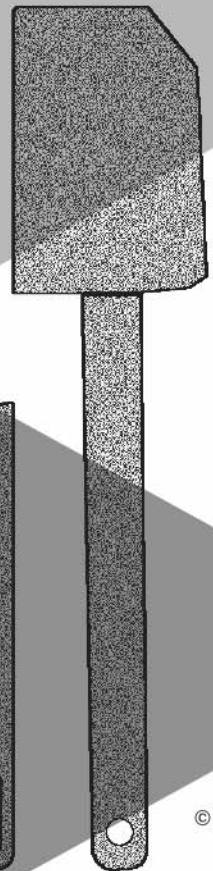
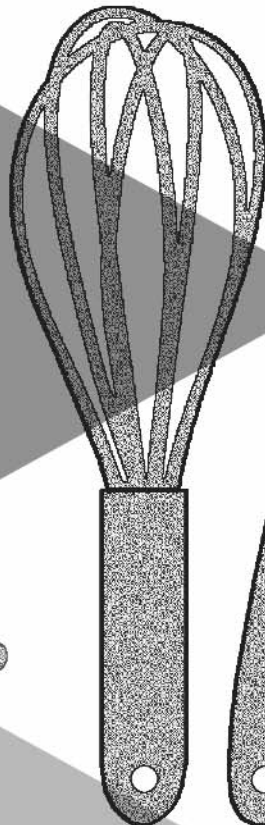
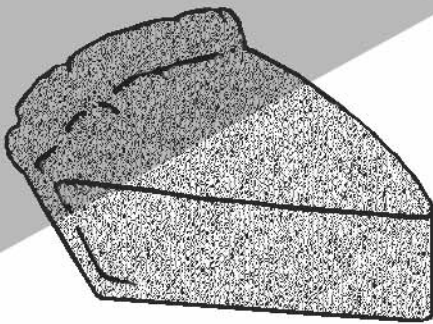
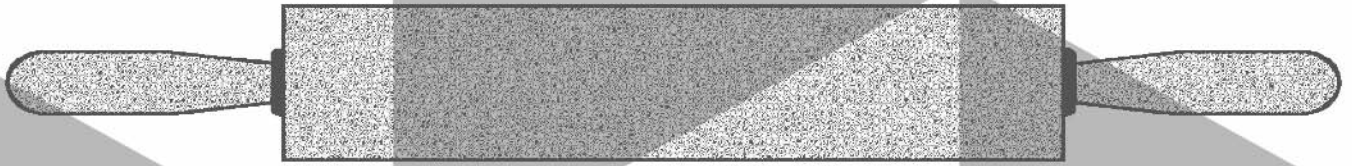


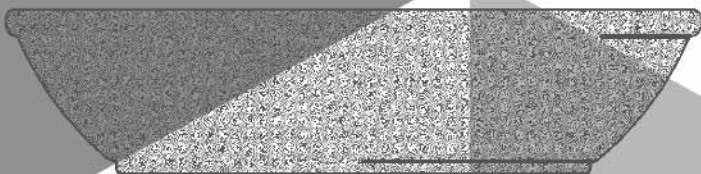
4-H Cooking 401

ME0123



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EXTENSION

College of Agricultural, Consumer and Environmental Sciences



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ACKNOWLEDGEMENTS

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All the recipes in this book were tested by University of Illinois Extension Nutrition and Wellness Educators.

- The recipes were analyzed using Food Processor SQL 10.5.
- 2% milk was used unless another kind of milk was specified in the recipe.
- When a range was given for ingredient amount or number of servings, the largest number was used in the analysis.
- When options were listed for ingredients in a recipe, the first ingredient listed was analyzed.

Codes for Nutrition Facts:

g = gram

mg = milligram



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A NOTE TO PROJECT HELPERS



The *4-H Cooking 401* project builds on the skills young people learned in the *4-H Cooking 101, 201, and 301* projects. Members should complete those projects before beginning *4-H Cooking 401*. This project is the final one in the *4-H Cooking* series and provides an in-depth exploration of preparing ethnic foods; cooking with herbs and spices; planning celebration meals; preparing meats by roasting, braising, and stewing; cooking dried beans; and making pastry, foam cakes, and desserts made with milk.

The *4-H Cooking 401* project helps members develop advanced food preparation skills. Because of the more difficult cooking techniques, they may rely more on you for guidance and advice. You have a very important role as the Project Helper. You can guide, assist, and mentor the young person in the advanced cooking techniques. You can also encourage the confidence that develops as he/she completes these more difficult tasks.

The project book is organized into sections by MyPyramid Food Groups. At the beginning of each section, background information is provided to help the young person learn more about the science behind food preparation. That is especially important in understanding how to produce quality products and to troubleshoot what went wrong when mistakes happen. Recipes are included for each food group. The recipes help the young person learn and apply the background information included in each section.


Learning by doing is the best way to learn food preparation skills. Young people will learn important life skills that they will use as they continue to grow and become independent, responsible adults. Instead of always telling the youth the right answer or the correct way to do something, review the background information with him/her and allow the member to decide how to proceed. With support from you as a caring adult, he/she will not only remember these lessons, but also the impact that you had on his/her life.

As you work with the young person on this foods project, remember to focus on the positive. If the youth doesn't do things quite the way you would, compliment on what is done well rather than criticizing. If something doesn't turn out quite right, use it as a learning opportunity to find out what the youth might do differently next time. Your positive feedback and encouragement as the Project Helper is important to the youth.

Thank you for all you will do to guide your 4-H member through this final project in the *4-H Cooking* series. We encourage youth to spend two to three years in this project especially since it covers a wide variety of advanced cooking techniques. You may also want to include another adult who specializes in a food preparation area and can share his/her knowledge with the member.



PROJECT PLANNING

Welcome to *4-H Cooking 401*. This project is the final one in the *4-H Cooking* project series. If you have completed the previous three projects, you should be ready for the advanced food preparation techniques you will explore in this project. You will also have the opportunity to try foods from different cultures. Those recipes are noted with this icon  on the top right of the page. The project is divided into sections based on MyPyramid Food Groups. The skills and knowledge you learn and practice in one section may be applied in other sections. This will help you to expand your food preparation skills and techniques.

We suggest that you work for two or three years to complete the project. That will give you an opportunity to spend more time learning about some of the topics, such as roasting, braising, or stewing meats; cooking with dried beans and peas; making custard or fruit pies and homemade pastry; making meringues and foam cakes; and churning homemade ice cream. Each year you could focus on one or two food preparation areas. You have over 50 different recipes to choose from and several learning activities to complete as part of the project.

It is important to have a Project Helper to guide you through the things you will learn in this project. Your helper can be a parent, grandparent, club leader, or another adult or older youth who has a lot of experience in food preparation and safety. Show the person your project book and ask if he/she would be willing to help you with the project. Ask your helper to complete the following information:

My Project Helper _____

Phone number _____ Email address _____

For each year of the *4-H Cooking 401* project, you should:

- Prepare 2 to 3 dishes from **each** of the recipe sections: Fruit Group and Vegetable Group, Grains Group, Meat and Bean Group, Milk Group, and Desserts (10 to 15 dishes total)
- Demonstrate your knowledge on cooking or baking techniques. Give 3 to 5 “How To” demonstrations to your Project Helper, leader, or club. Suggested topic areas include flatbreads, pastry, candy, celebration meal planning, or roasting, braising, or stewing meats.
- Complete 1 or 2 food science experiments.
- Complete at least one community service project such as, planning and hosting a holiday celebration meal for needy families in your community, or preparing an ethnic meal for foreign exchange students from a local high school or university.



WHAT DO YOU KNOW?

Welcome to *4-H Cooking 401*! This project is the final one in the *4-H Cooking* series and in it you will build on many of the skills that you learned in *4-H Cooking 101, 201, and 301*. You should complete those projects before beginning this one. It may take two or three years for you to complete all of the activities in this project.

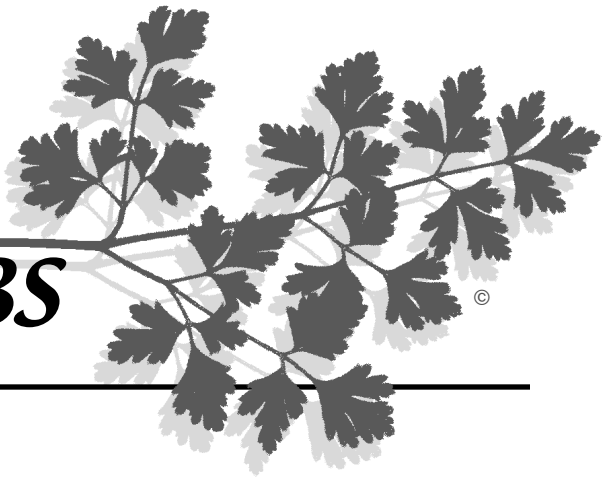
Following is a list of the skills you will learn in *4-H Cooking 401*. Before you start working on the project, read through the list of skills and rate yourself on how much you know now. Then at the end of each project year, rate what you know after completing the activities. Use the following rating scale:

Begin each statement with the phrase, "I know..." then circle 1 = not at all; 2 = a little; 3 = a lot

I know...	Before	After
The difference between herbs and spices	1 2 3	1 2 3
How to use herbs and spices in preparing ethnic foods	1 2 3	1 2 3
How to organize a celebration meal	1 2 3	1 2 3
How to make flatbreads and other ethnic yeast breads	1 2 3	1 2 3
How to use whole grains in preparing ethnic foods	1 2 3	1 2 3
How to use and prepare fruits from around the world	1 2 3	1 2 3
How to prepare advanced potato dishes	1 2 3	1 2 3
How to stir fry vegetables and other foods	1 2 3	1 2 3
How to prepare meats using dry- or moist-heat methods	1 2 3	1 2 3
How to prepare a tough cut of meat so it is tender and juicy	1 2 3	1 2 3
How to prepare and use dried beans and peas	1 2 3	1 2 3
How to make ice cream with an ice cream churn	1 2 3	1 2 3
How to thicken custard and pudding with starch thickeners	1 2 3	1 2 3
How to temper eggs	1 2 3	1 2 3
Difference between crystalline and non-crystalline candy	1 2 3	1 2 3
The six temperature stages of making candy	1 2 3	1 2 3
How to check a candy thermometer for accuracy	1 2 3	1 2 3
How to make a tender, flaky pastry	1 2 3	1 2 3
How to make a meringue	1 2 3	1 2 3
How to practice food safety when handling eggs	1 2 3	1 2 3
How to prevent "weeping" in a pie	1 2 3	1 2 3
How to make a fluted edge for a pie crust	1 2 3	1 2 3
How to correctly beat egg whites for maximum volume	1 2 3	1 2 3
The difference between a custard and a cream pie	1 2 3	1 2 3
How to evaluate pies for quality	1 2 3	1 2 3
The difference between angel food, sponge, and chiffon cakes	1 2 3	1 2 3
How to evaluate foam cakes for quality	1 2 3	1 2 3
What serves as leavening for foam cakes	1 2 3	1 2 3



COOKING WITH SPICES AND HERBS



Spices and Herbs

Many of the recipes in *4-H Cooking 401* are cultural favorites from around the world. Exploring foods from different cultures introduces you to foods and flavors you may never have tried before. As you expand your food preparation skills, you may find that your food likes and dislikes are changing too.

As you try the ethnic recipes in this manual, you may not be familiar with some of the foods, herbs, or spices used in the recipes. Preparing ethnic foods is a delicious way of learning about new foods and flavors. Most of the herbs and spices listed in this section should be easy to find at a major grocery store. Begin by identifying the spices and herbs in your own kitchen. Compare those to the variety of offerings in the spice aisle at the grocery store. Watch for sales on herbs and spices to save money as you add needed items to the selection in your kitchen. As you experiment with the different herbs and spices in the recipes, make notes about the ones you tried and any comments you have about the flavors.

An added health benefit to cooking with herbs and spices is these ingredients add flavor to foods so less salt (sodium) is needed to season them. Reducing the amount of salt in the diet may be helpful to people at risk for or that have high blood pressure. Also, herbs and spices do not add fat or calories to food — an added benefit in maintaining a healthy weight.

What's the Difference?

What is the difference between spices and herbs?

Spices are typically the roots, bark, stems, leaves, buds, seeds, or fruits of **aromatic plants** — plants that give a sweet-smelling fragrance and flavor to food. These plants are usually grown in tropical climates. Cinnamon, cloves, nutmeg, and paprika are a few examples of spices.

Herbs are the leaves of plants which grow only in the temperate zone, or leaves from herb plants. These herbs are often grown locally in pots or gardens. Some examples are rosemary, sage, basil, and tarragon.



Storing Spices and Herbs

To get the most out of your spices, they should be stored properly. Place them in a cabinet away from sunlight, heat, and moisture. Avoid storing them near the heat of a range or the humidity of a dishwasher. Do not store spices and herbs in the freezer because each time the container comes out of the freezer, condensation may form and introduce moisture into the container.

Over time spices and herbs do lose their potency and flavor. For that reason it is best to buy small quantities. To test for flavor, gently shake the container with the cap in place. Remove the cap and smell the container to see if the rich smell of the spice or herb is still present. If not, the spice or herb should be discarded.

Helpful Hints for Using Spices and Herbs

- Use small amounts until you determine if you like the flavor.
- Start with 1/4 teaspoon per pound of meat or pint of liquid. Add more if desired.
- Experiment with fresh and dried herbs.
- Dried herbs are stronger than fresh; powdered are stronger than crumbled.
- Substitute 1 teaspoon dried herbs for 1 tablespoon fresh.
- Generally, do not mix two strong herbs together — instead use one strong and one milder one to complement each other.
- Use scissors to cut leaves of fresh herbs very fine before adding to food; crush dried leaf herbs; use a mortar and pestle for grinding herbs into powders.
- Herb and salt blends are usually herbs added to salt. Save money and reduce the amount of salt used by purchasing herbs separately.
- For short cooking times, less than 15 minutes, add seasonings at the beginning.
- For longer cooking times, add the seasonings during the last 20 to 30 minutes to preserve their flavor.

Herb Flavors

Strong or dominant flavor — Use 1 teaspoon per 6 servings; examples include hot peppers, mustard, black pepper, rosemary, and sage; use 1 or 2 bay leaves.





Medium flavor — Use 1 to 2 teaspoons per 6 servings; examples include basil, celery seed, dill, fennel, French tarragon, garlic, marjoram, mint, oregano, savory, and thyme.

Mild or delicate flavor — Use larger quantities of these herbs since they combine well with others; examples include chives and parsley.







EXPERIMENT WITH SPICES AND HERBS




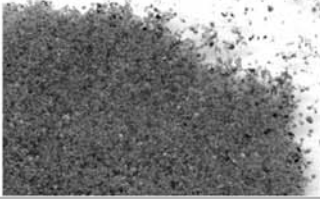

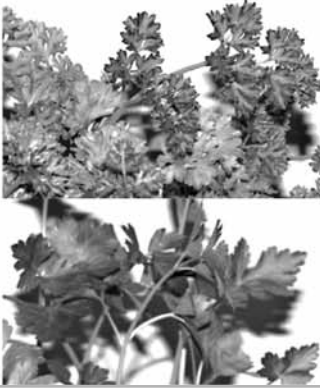


Experiment with these common spices and herbs. Record the name of the recipe that contains the herb you tried and comments about the flavor of the spices and herbs used in the recipe. If possible, you may want to test the dish before and after adding these ingredients to determine the difference in flavors.

Spice or Herb	Description	Uses	Recipe Name and Comments
 <p>BASIL</p>	Herb with long stems and large, soft leaves that range in color from lime green to deep purple; adds a warm, peppery flavor to foods	Tomato and egg dishes, soups, stews, and salads	
 <p>BAY LEAF</p>	An oval, pointed, and smooth-leaved herb with a woody flavor; dried leaves have a matte olive-green color	Tomato sauces, Italian dishes, stews, and soups	
 <p>CHILI POWDER</p>	Spice made from ground chilies; has a rich aroma and a spicy hot taste	Chili, beans, and rice dishes	
 <p>CHIVES</p>	Herb with a mild, onion-like flavor and a hint of garlic; has bright green, long, thin, hollow leaves	Potato dishes, soups, dips, and sauces	

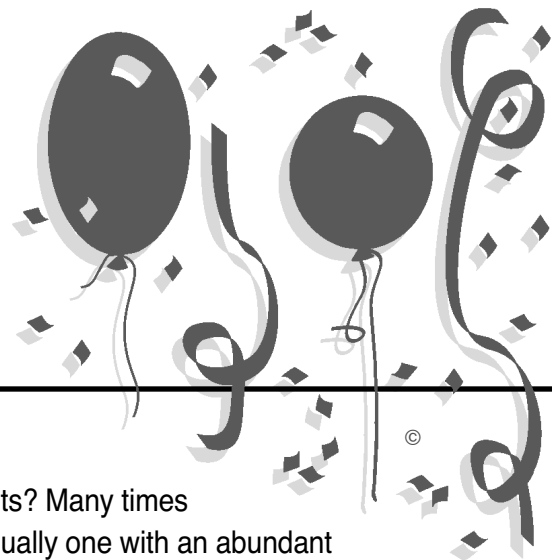


Spice or Herb	Description	Uses	Recipe Name and Comments
 <p>CILANTRO</p>	<p>One of the most powerful and distinctive tasting herbs; aromatic and zesty with flavors of sage and citrus</p>	<p>Latin American, Indian, and Chinese dishes, salsa, stir fries, legume or rice salads, or hot cooked rice; use fresh if possible</p>	
 <p>CINNAMON</p>	<p>Spice adds a sweet taste without added sugar</p>	<p>French toast, fruit and fruit salads, sweet potatoes, pumpkin and squash, puddings and apple desserts, ham or pork chops</p>	
 <p>CLOVES</p>	<p>Spice about 1/2 inch long and 1/4 inch in diameter; with their tapered stem, they resemble tiny nails; warm, sweet, and aromatic taste</p>	<p>Whole cloves on ham or pork roasts; ground cloves to season pear or apple desserts, beets, beans, tomatoes; squash and sweet potatoes</p>	
 <p>CUMIN</p>	<p>Spice available both in its whole seed form and ground into a powder; has a nutty, peppery flavor</p>	<p>Mexican, Middle Eastern, and Indian dishes; beef, lamb, dry bean dishes, marinades, chili and tomato sauces; curry powder ingredient</p>	
 <p>ITALIAN SEASONING</p>	<p>A mixture of dried basil, marjoram, and oregano</p>	<p>Italian dishes such as spaghetti</p>	
 <p>MARJORAM</p>	<p>A cousin of oregano, but this herb has a milder, more earthy flavor</p>	<p>Egg and cheese dishes, meats, fish, poultry, and vegetables</p>	

Continued on next page

Spice or Herb	Description	Uses	Recipe Name and Comments
 <p>MINT</p>	<p>Spearmint and peppermint are the most common mint varieties of herb used in cooking; they give a sweet, refreshing taste to foods</p>	<p>Fruit salads, fruit soups, melon, berries, cold fruit beverages, cooked carrots or peas, chilled yogurt soup, lamb, and tabbouleh</p>	
 <p>NUTMEG</p>	<p>Spice with sweet but slightly bitter flavor; use sparingly — a little goes a long way.</p>	<p>Cooked fruits, pies and desserts, baked items, spinach, sweet potatoes, eggnog, and French toast</p>	
 <p>OREGANO</p>	<p>Herb often used in tomato sauces and pizza; hearty and assertive flavor with a peppery bite</p>	<p>Italian dishes, chili, omelets, beef stew, meat loaf, pork, and vegetables such as broccoli or tomatoes</p>	
 <p>PARSLEY</p>	<p>Curly parsley has a mild taste, tightly bunched, bright green leaves, and crisp texture. Italian variety of this herb is more fragrant, bold in taste, and less bitter; has saw-toothed edged leaves</p>	<p>Chicken, lamb and beef, soups and tomato sauces, salads, vegetables, and grilled fish</p>	
 <p>ROSEMARY</p>	<p>Herb looks like a small sprig from an evergreen tree; has a pine-like smell and flavor</p>	<p>Breads, meats, fish, soups and stews, and vegetables</p>	
 <p>THYME</p>	<p>Herb with small green-gray leaves with a white underside; has a lemony, peppery taste</p>	<p>Fish, poultry, or meats, in soups or stews, and vegetable salads</p>	

CELEBRATION MEALS



How does your family celebrate holidays and special events? Many times these occasions bring people together to share a meal, usually one with an abundant supply of family favorites or traditional foods. Think about your family's favorite foods or foods that are usually served on holidays.

- What foods are typically included in your family's celebration meals?
- Do you know how to prepare those foods? Do you have a recipe to prepare them? Who could you ask to get the recipe?
- Traditionally who brings the different foods to the celebration?
- Would you like to learn how to prepare some of your favorite foods? Who could teach you how to prepare them? What questions do you need to ask while learning to prepare the food?
- Are you ready to organize a family celebration meal?

The success of a family celebration meal depends as much on the planning and organization as it does on the actual food preparation. Growing up, it may have seemed to you that all the details of the event just happened, like magic. But in most families, there is someone behind the scenes planning, organizing, and giving attention to the details. Is there one person in your family that usually does that? Ask that person if he/she would be willing to guide you in planning, organizing, and preparing a celebration meal. You should start with a small meal and practice before planning a holiday meal or other large event. One suggestion is planning a birthday celebration for someone in your family. You could invite your grandparents, aunts, uncles, or family friends.

Most families share in the food preparation for celebration meals. That prevents one person or family from having to buy and prepare all the food. Sharing the food preparation workload is good, but lack of organization and planning can result in disappointment. For example, four people bring desserts, but you don't have any vegetables or potato dishes to serve with the main dish. Or several people make green bean casserole because it's easy. A successful celebration meal begins with detailed planning.

You learned about party planning in *4-H Cooking 301* (see pages 13 to 16). Many of the things you learned about party planning will be helpful in planning celebration meals. You may want to review that section before planning your celebration meal. The main difference in planning a celebration meal is that you will be working with others to plan and prepare the meal. This will sharpen your organizational skills — something you will find helpful in other areas of your life.

Planning a Celebration Meal

Since others will share in preparing and enjoying the celebration meal, you should also include them in the planning. Ask them if they are willing to help as you take the lead in planning the meal. Begin by discussing these important questions with them.

1. What celebration meal are you planning?
2. When and where will the event be held?
3. What is the theme for the celebration?
4. What is your budget for the celebration?
5. What foods are on the menu? What foods would others like to bring?
6. What will you and your immediate family be furnishing for the event? For example, the meat, paper products, beverages, etc.
7. Are any activities needed during the celebration? Timeline for activities?
8. Will you send invitations by mail, phone, email, text, or through a website? When will you send invitations? Should guests RSVP? By when?

Make a List and Check It Twice

As you learned in *4-H Cooking 301*, making lists and following them is a critical step in successful meal planning. Follow these steps for preparing your plans and lists.



1. After planning the menu, prepare a list of everything you need for each recipe you are preparing.
2. Check off any items you already have.
3. Prepare a shopping list.
4. Prepare a list of all the things you need to do: preparing food, baking, cleaning, shopping, decorating, setting the table, and getting yourself ready.
5. Read over the recipes to determine preparation and cooking times.
6. Decide what recipes to make in advance and store for the day of the celebration. Decide how far ahead of time you can make these foods.
7. Decide which ingredients can be prepared in advance.
8. Decide what food preparation steps need to be done just before serving the food.
9. Make a timetable to prepare for the celebration. Copy the timetable on the following pages and fill in the information. Count back from the time the celebration starts and determine when to begin preparing each recipe, allowing time for each step of preparation. Remember, multi-tasking saves preparation time.
10. Add to the timetable times for decorating, setting the table, and getting yourself ready.
11. Follow the timetable and check off tasks as completed.



Celebration Meal Planning Checklist

Use this guide to simplify your celebration meal planning.
Make a copy of the checklist and complete each section.

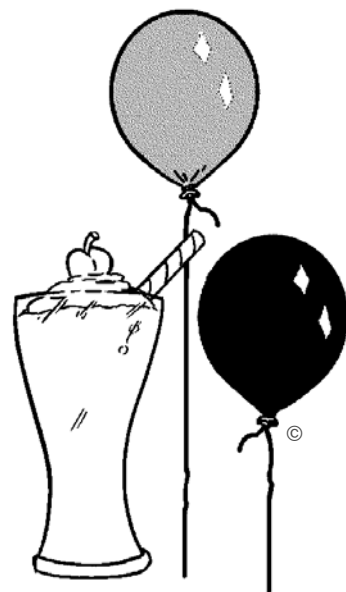
Date: _____ Time: _____ Place: _____ Theme: _____

Guests: _____

Menu:	Food	Who will bring	Confirmed
	_____	_____	<input type="checkbox"/>
	_____	_____	<input type="checkbox"/>
	_____	_____	<input type="checkbox"/>
	_____	_____	<input type="checkbox"/>
	_____	_____	<input type="checkbox"/>

Checklist

	Need	Have		Need	Have
Invitations			Tableware		
✓ Addresses or email address	<input type="checkbox"/>	<input type="checkbox"/>	✓ Table covers	<input type="checkbox"/>	<input type="checkbox"/>
✓ Stamps	<input type="checkbox"/>	<input type="checkbox"/>	✓ Plates	<input type="checkbox"/>	<input type="checkbox"/>
Decorations			✓ Napkins	<input type="checkbox"/>	<input type="checkbox"/>
✓ Candles	<input type="checkbox"/>	<input type="checkbox"/>	✓ Cutlery	<input type="checkbox"/>	<input type="checkbox"/>
✓ Balloons	<input type="checkbox"/>	<input type="checkbox"/>	✓ Cups and glasses	<input type="checkbox"/>	<input type="checkbox"/>
✓ Flowers	<input type="checkbox"/>	<input type="checkbox"/>	✓ Centerpiece	<input type="checkbox"/>	<input type="checkbox"/>
✓ _____	<input type="checkbox"/>	<input type="checkbox"/>	✓ Serving bowls	<input type="checkbox"/>	<input type="checkbox"/>
Cake			✓ Containers for leftovers	<input type="checkbox"/>	<input type="checkbox"/>
✓ Deposit/Full Payment	<input type="checkbox"/>	<input type="checkbox"/>	Don't Forget!		
✓ Delivery/Pick-up time	<input type="checkbox"/>	<input type="checkbox"/>	✓ Camera/Camcorder	<input type="checkbox"/>	<input type="checkbox"/>
✓ Make it myself	<input type="checkbox"/>	<input type="checkbox"/>	✓ Paper towels/wet naps	<input type="checkbox"/>	<input type="checkbox"/>
✓ Candles	<input type="checkbox"/>	<input type="checkbox"/>	✓ Trash bags	<input type="checkbox"/>	<input type="checkbox"/>
Helpers for Set-up/Clean-up			✓ _____	<input type="checkbox"/>	<input type="checkbox"/>
✓ _____	<input type="checkbox"/>	<input type="checkbox"/>	✓ _____	<input type="checkbox"/>	<input type="checkbox"/>
✓ _____	<input type="checkbox"/>	<input type="checkbox"/>	✓ _____	<input type="checkbox"/>	<input type="checkbox"/>
✓ _____	<input type="checkbox"/>	<input type="checkbox"/>	✓ _____	<input type="checkbox"/>	<input type="checkbox"/>
✓ _____	<input type="checkbox"/>	<input type="checkbox"/>	✓ _____	<input type="checkbox"/>	<input type="checkbox"/>



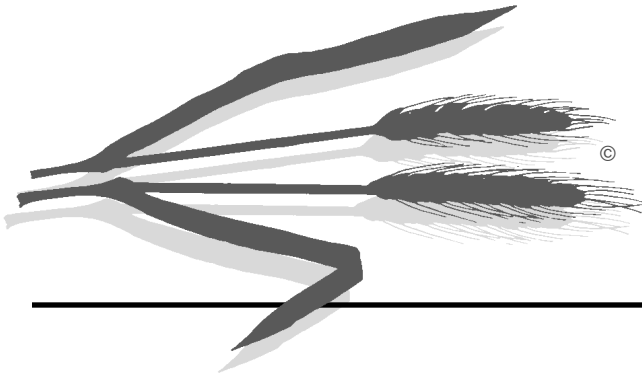


Celebration Meal Planning Timeline

Make a copy of this timeline and complete each section. As you add each item from your to-do list, use arrows to show the time needed to complete each task. An example is provided.

Menu

Day Before the Celebration					
Time	Preparation #1	Done	Time	Preparation #2	Done
9:00 am	Boil eggs	<input type="checkbox"/>	9:00 am	Prepare salad dressings	<input type="checkbox"/>
9:30 am	Cool eggs	<input type="checkbox"/>	9:30 am	↓ ↓	<input type="checkbox"/>
10:00 am	Make deviled eggs	<input type="checkbox"/>			<input type="checkbox"/>
10:30 am	↓ ↓				<input type="checkbox"/>
11:00 am	Make pie crust and pies	<input type="checkbox"/>			<input type="checkbox"/>
11:30 am	↓ ↓	<input type="checkbox"/>			<input type="checkbox"/>
12:00 pm	↓ ↓	<input type="checkbox"/>			<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>
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GRAIN GROUP

Flatbreads

Bread making has been a part of civilizations for thousands of years. Primitive bakers began making simple **flatbread** with the ingredients that were available — flour, water, and salt. Even now, flatbreads continue to be an important part of cultures worldwide. Many flatbreads are still made without leavening — yeast, baking powder, or baking soda — although some are made with yeast. Both types have a general flat shape, but leavened flatbreads are generally a bit taller and have a softer texture than unleavened flatbreads. Flatbreads are wrapped around foods, stuffed like sandwiches, used like eating utensils to scoop up foods, or eaten plain.

Dough for flatbreads can be mixed with oils, herbs, spices, and vegetables, such as dill, rosemary, thyme, cumin, coriander, onions, or garlic. In the case of pizza and focaccia, the flatbread may be topped with an assortment of ingredients.



Following are some of the flatbreads that are a staple of cultures around the world.

Chapati, roti — A tortilla look-a-like, although darker in color, common in India and South Asia; made from whole wheat flour and cooked on a type of griddle

Focaccia — One of the most popular flat breads, common in Italy; often baked with herbs, cheese, or other ingredients added to the dough; predecessor to the modern pizza, the bread is usually eaten with a topping or dipping oil

Lavash — A soft, pliable flatbread used for wrap sandwiches and roll-ups; when dried, it becomes a crispy cracker bread; favorite bread in Armenia and Iran

Matzo — Ritual Jewish unleavened flatbread eaten at Passover to remind the Jews of their ancestor's flight from captivity in Egypt

Tortilla, gordita — Mexican and Central America staple made with corn or wheat flour, water, vegetable shortening, and salt; used as a plate, envelope, or wrap containing fillings

Pita — This eastern Mediterranean and Middle Eastern favorite has a pocket ideal for stuffing with sandwich fixings and salad combinations

Pancake — Yes, this North American, Great Britain, and Ireland favorite is a flatbread

Flatbrod, lefse — Ingredients vary in these unleavened breads, which originated in Norway and Scandinavia; they can be served sweet like a cake or as a savory with salted fish and meat



Pita Bread

Yield: 10 pitas

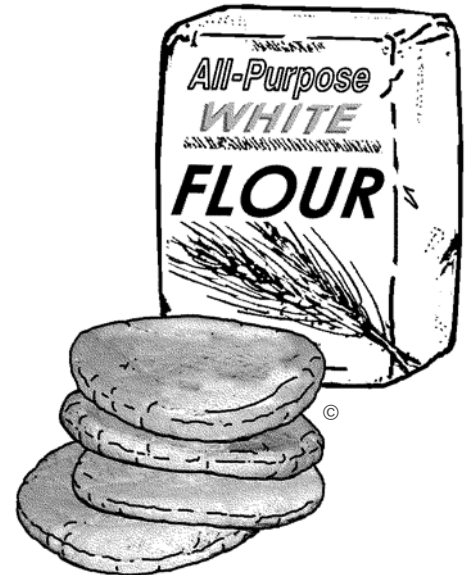


Ingredients

- 1 package yeast
- 1/2 cup water, heated to 100 to 110 degrees F
- 1 teaspoon sugar
- 3 cups all-purpose flour
- 1 1/4 teaspoons salt
- 1 cup water, heated to 100 to 110 degrees F

Order of Work

1. Dissolve yeast in 1/2 cup warm water. Add sugar and stir until dissolved. Let sit for 10 minutes until yeast starts growing.
2. Combine flour and salt in a large bowl.
3. Make a small depression in the middle of flour and pour yeast water into depression.
4. Slowly add 1 cup of warm water, and stir until combined.
5. Place dough on lightly floured surface and knead for 5 minutes or until the dough is smooth and elastic and not sticky.
6. Lightly coat large mixing bowl with nonstick cooking spray. Place dough in bowl. Lightly coat top of dough with nonstick cooking spray. Cover with clean, damp dishtowel. Let rise in warm place until doubled in size, about 40 minutes.
7. Punch down dough and divide into 10 pieces. Roll each piece into a ball. Place balls on lightly floured surface, cover, and let rest for 10 minutes.
8. Place oven rack in lowest position in oven. Place baking sheet in oven. Preheat oven and baking sheet to 450 degrees F. You may use a baking or pizza stone in place of the baking sheet.
9. Use a rolling pin to roll each ball of dough into 5- to 6-inch circles, about 1/4-inch thick.
10. Place circles of dough on the preheated baking sheet allowing 2 inches between circles. Bake circles for 4 to 5 minutes until the bread puffs up. Turn with a spatula and bake for 2 additional minutes.
11. Remove each pita from oven. Repeat until all rounds are baked.
12. Use spatula to gently push down each baked pita. Immediately place in storage bags while the pitas are still warm and soft.
13. Pita bread can be stored for several days at room temperature, for a week in the refrigerator, and up to a month in the freezer.



Nutrition Facts per Pita: 140 calories, less than 1 g fat, 293 mg sodium, 29 g carbohydrate, 1 g fiber, 4 g protein, 7 mg calcium



Chapatti or Roti — Indian Flatbread

Yield: 12 servings

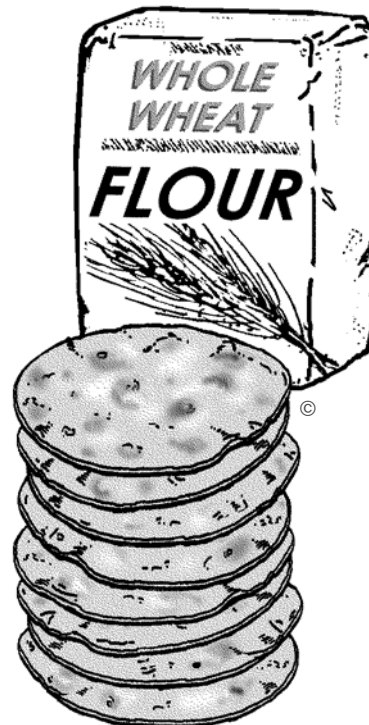


Ingredients

- 2 cups whole wheat flour
- 1/4 teaspoon salt
- 1 cup water
- 2 tablespoons oil

Order of Work

1. Place flour and salt in a mixing bowl.
2. Pour 1/2 cup of water and oil over flour; stir loosely to make crumbly dough.
3. Pour remaining 1/2 cup of water over the dough and stir until it forms a ball of dough. Roll the ball of dough around the sides of the bowl to pick up any loose crumbs. Continue mixing the ball of dough until the sides of the bowl are clean.
4. Place dough on a surface lightly coated with flour. Knead until the dough is well mixed, about 2 minutes. The dough should form soft and stretchy dough. Be careful not to add too much flour since the dough needs maximum moisture to puff up from the steam created while cooking.
5. Divide the dough into 12 equal portions, about the size of a golf ball. Roll dough between your palms, applying a gentle pressure, until the balls are smooth and without cracks.
6. Use a rolling pin to roll each piece into a 6- or 7-inch circle, about 1/4-inch thick. Add a small amount of flour on rolling pin or surface if needed to prevent sticking.
7. Heat a frying pan or griddle over medium heat. Place the rolled chapatti on the dry skillet to cook.
8. When bumps appear on dough's surface, use a spatula to flip to other side. Chapatti will puff slightly. The flatbread should have browned spots and may puff slightly in places along the surface.
9. Remove from pan and serve immediately or store in a container with tight-fitting lid. Bread can be stored for several days at room temperature, for a week in the refrigerator, and up to a month in the freezer.



Nutrition Facts per Serving: 88 calories, 3 g fat, 50 mg sodium, 15 g carbohydrate, 2 g fiber, 3 g protein, 7 mg calcium

Rosemary Focaccia Bread

Yield: 18 servings

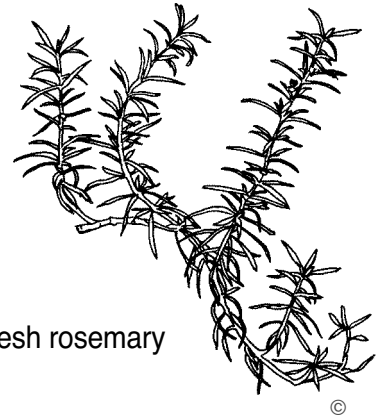


Ingredients

- 1 (1/4 oz.) package dry yeast (2 1/4 teaspoons)
- 1 2/3 cups water, heated to 105 to 110 degrees F
- 5 cups bread flour
- 2 1/2 teaspoons salt
- 1 teaspoon dried rosemary or 1 tablespoon fresh rosemary
- 1/4 cup olive oil, plus extra for coating baking pan

For the Topping

- 3 tablespoons olive oil
- 1 teaspoon dried rosemary or 1 tablespoon finely chopped fresh rosemary
- 1 teaspoon coarse salt



Order of Work

1. Stir together yeast and warm water in large mixing bowl; let stand until creamy, about 5 minutes.
2. Add flour, salt, rosemary and oil to yeast mixture. Beat until well blended and smooth.
3. Turn dough out onto a lightly floured surface. Knead dough 10 minutes, adding 1 to 2 tablespoons flour as needed.
4. Place dough in a large mixing bowl lightly coated with nonstick cooking spray. Spray top of dough. Cover bowl with clean, damp dishtowel. Let rise until doubled, about one hour.
5. Punch dough down and let it rest for 10 minutes.
6. Generously coat a 15" x 10" x 1" baking pan with olive oil. Press dough into prepared pan. Cover and let dough rise until doubled, about 30 minutes.
7. Preheat oven to 425 degrees F.
8. Stir together oil and rosemary for topping. Make shallow indentations all over dough with fingertips, then brush with rosemary oil. Sprinkle with coarse salt. Bake until golden, about 20 to 25 minutes. Gently loosen focaccia and slide onto cooling rack. Serve with dipping oil.

Nutrition Facts per Serving: 186 calories, 6 g fat, 432 mg sodium, 28 g carbohydrate, 1 g fiber, 5 g protein, 9 mg calcium

Dipping Oil

- 1/2 cup extra virgin olive oil
- 2 tablespoons fresh Parmesan cheese, grated
- 1/2 teaspoon pepper
- 1/2 teaspoon coarse salt
- 1/2 teaspoon Italian seasoning
- 2 cloves garlic, pressed

Mix all ingredients together and refrigerate until ready to use. The flavor is best if you make this several hours before using. For safe food handling, use within 2 to 3 days.



Ethnic Yeast Bread Recipes

German Dark Rye Bread

Yield: 2 loaves, 20 slices per loaf



Rye breads are a typical food of the cooler regions of Europe, since rye thrives better than wheat in cooler climates. Most rye breads use a mix of rye and wheat flours because rye flour has a lower gluten content. Caraway seed, which have a similar flavor to cumin, is often used in rye bread. Save some slices of this bread to make a Grilled Reuben Sandwich. Legend says that's an American invention, but it is great made with German Dark Rye Bread.

Ingredients

- 3 cups bread flour
- 2 packages active dry yeast
- 1/4 cup cocoa powder
- 1 tablespoon caraway seed
- 2 cups water
- 1/3 cup molasses
- 2 tablespoons butter or margarine
- 1 tablespoon sugar
- 1 tablespoon salt
- 3 to 3 1/2 cups rye flour
- 2 tablespoons olive oil



Order of Work

1. In large mixing bowl, combine the bread flour, yeast, cocoa powder, and caraway seed until well blended.
2. In saucepan, combine water, molasses, butter or margarine, sugar, and salt; heat until temperature reaches 120 to 130 degrees F on a food thermometer; stir occasionally to melt butter.
3. Add heated liquids to dry mixture in bowl. Beat at low speed with electric mixer for 1 to 2 minutes, scraping sides of bowl constantly. Then beat for 3 minutes at high speed.
4. By hand, stir in enough rye flour to make soft dough. Turn onto a lightly floured surface; knead until smooth, about 5 minutes. Cover; let rest 20 minutes. Punch down and divide dough in half.
5. Lightly coat a baking sheet or two 8-inch pie plates with nonstick cooking spray.
6. Shape each half of dough into a round loaf; place on baking sheet or in pie plates.
7. Brush surface of loaves with olive oil. Slash tops of loaves with sharp knife. Let rise until doubled, about 45 to 60 minutes.
8. Preheat oven to 400 degrees F. Reduce heat to 375 degrees F and bake loaves 25 to 30 minutes or until breads sound hollow when lightly tapped. Remove from pans and place on wire racks to cool.

Nutrition Facts per Slice: 91 calories, 2 g fat, 181 mg sodium, 17 g carbohydrate, 3 g fiber, 3 g protein, 14 mg calcium

French Bread

Yield: 3 loaves, 12 slices per loaf

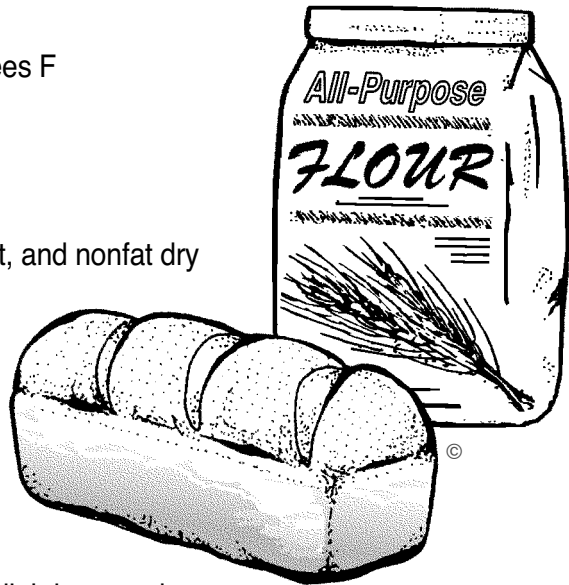


Ingredients

- 5 1/2 to 7 cups all-purpose flour
- 1 package yeast
- 1 1/2 teaspoons sugar
- 2 teaspoons salt
- 1/2 cup nonfat dry milk
- 2 1/4 cups water, heated to 120 to 130 degrees F
- 1/2 cup cornmeal
- 1/2 cup water

Order of Work

1. Combine 2 1/2 to 3 cups of flour with yeast, sugar, salt, and nonfat dry milk in large mixing bowl. Stir to blend.
2. Add warm water while constantly stirring dry ingredients in mixing bowl. Beat vigorously.
3. Add more flour as needed to form a soft dough and mixture begins to pull away from sides of bowl.
4. Transfer dough to a lightly floured surface and knead until smooth and elastic, about 8 to 10 minutes.
5. Form dough into a ball and place in large mixing bowl lightly coated with nonstick cooking spray. Cover with clean, damp dishtowel. Let rise in warm place, free from drafts, until doubled in size, about 40 minutes.
6. Punch down and divide dough into three equal portions. Shape each piece into a long tapered loaf, about 2" x 14".
7. Sprinkle cornmeal over a cookie sheet. Arrange loaves on baking sheet, leaving space between loaves for rising.
8. Using a sharp knife, make diagonal slashes 1/2-inch deep at intervals across top of each loaf.
9. Brush loaves of bread lightly with water to toughen the top crust. Allow to rise until doubled in volume.
10. Preheat oven to 400 degrees F. Bake loaves for 35 to 45 minutes until they are golden brown and sound hollow when lightly tapped.
11. Remove bread from oven and place on cooling racks.



Nutrition Facts per Serving: 99 calories, less than 1 g fat, 136 mg sodium, 21 g carbohydrate, 1 g fiber, 3 g protein, 18 mg calcium

Oatmeal Bread

Yield: 2 loaves, 20 slices per loaf

Ingredients

- 2 packages active dry yeast
- 3/4 cup water, heated to 100 to 110 degrees F
- 3 tablespoons sugar
- 3 tablespoons melted butter or oil
- 2 cups milk
- 2 teaspoons salt
- 1 cup quick oats
- 3 cups bread flour
- 3 cups whole wheat flour

Order of Work

1. In a large mixing bowl combine yeast, water, and sugar; let stand 10 minutes.
2. Stir in butter or oil, milk, salt, oats, and bread flour; beat until smooth.
3. Mix in enough remaining whole wheat flour needed to form a soft dough and mixture begins to pull away from sides of bowl.
4. On a lightly floured surface, turn out dough; knead until dough is smooth and elastic; about 8 to 10 minutes.
5. Place dough in a large mixing bowl lightly coated with nonstick cooking spray. Cover with clean, damp dishtowel. Let rise in warm place, free from drafts, until doubled in size, about 40 minutes.
6. Lightly coat two 9" x 5" loaf pans with nonstick cooking spray; set aside.
7. Punch down dough and turn out on lightly floured surface. Cover and let rest 10 minutes.
8. Shape into loaves. Place in prepared pans. Cover and let rise until doubled, about 45 minutes.
9. Preheat oven to 425 degrees F. Bake loaves 25 to 30 minutes, until lightly browned and bread sounds hollow when tapped.
10. Remove from pans and place on wire rack to cool.

Nutrition Facts per Slice: 93 calories, 2 g fat, 131 mg sodium, 17 g carbohydrate, 2 g fiber, 3 g protein, 22 mg calcium



English Muffins

Yield: 12 muffins

The secret to making English muffins is browning them on a skillet before baking.

Ingredients

1 cup milk
 1/3 cup water
 1 package (2 1/4 teaspoons) active dry yeast
 3 tablespoon honey
 3 tablespoons butter or margarine, melted and cooled
 2 teaspoon salt
 3 to 4 cups all-purpose or bread flour
 Cornmeal



Order of Work

1. Place milk and water in microwave-safe bowl and heat in microwave for 1 to 2 minutes until mixture reaches 100 to 110 degrees F. Remove bowl from microwave and check temperature with food thermometer. **DO NOT place food thermometer in microwave during cooking.**
2. Pour liquid into large mixing bowl and sprinkle yeast over liquid. Stir in honey, butter, and salt.
3. Add 2 cups flour to liquid mixture. Stir until smooth. Add another cup of flour and stir until smooth. Add 2 tablespoons of flour at a time until dough pulls away from the sides of the bowl and is stiff enough to handle.
4. Turn dough out onto a lightly floured surface and knead until dough is smooth, elastic, and does not stick to surface or hands, about 8 to 10 minutes.
5. Place dough in a mixing bowl lightly coated with nonstick cooking spray. Coat top of dough with spray. Cover bowl with plastic wrap and clean dishtowel, let dough rise until doubled in size, about 1 hour.
6. Sprinkle cornmeal over a large rimmed baking sheet.
7. Punch down dough; turn out onto lightly floured surface; divide into 12 equal pieces.
8. Working with one piece of dough at a time, roll the dough into smooth balls and place on prepared baking sheet, about 1 1/2 inches apart.
9. Spray tops of rolls with nonstick cooking spray, cover loosely with plastic wrap and let rise in a warm place until nearly doubled in size, about 1 hour.
10. Preheat oven to 350 degrees F.
11. Use spatula to gently press rolls into flat, 3/4-inch thick muffins; sprinkle cornmeal on top of each.
12. Heat a skillet or griddle over medium heat for 2 minutes. Carefully lay muffins in the pan, about 1 inch apart. Cook until the bottoms are dark brown, but not burned, 3 to 6 minutes, occasionally pressing gently on the muffins with a spatula to keep them flat.
13. Flip the muffins and continue to cook until well browned, 2 to 4 minutes. Transfer muffins to a baking sheet and bake about 10 minutes until done. Repeat with remaining muffins. Cool on a wire rack.

Nutrition Facts per Muffin: 217 calories, 4 g fat, 421 mg sodium, 40 g carbohydrate, 1 g fiber, 5 g protein, 31 mg calcium



Whole Grains

Whole grains are “good for you” foods, but they also pump up the flavor and texture of food you prepare. Many people enjoy the natural nutty flavor and chewy texture of whole grains. The added benefit is that whole grains, which are rich in fiber, may help reduce the risk of heart disease, type 2 diabetes, and obesity.

This section on Grains will allow you to prepare some forms of grains that you may never have tasted or prepared before. Using a variety of grains in food preparation is also a great way to explore foods from other cultures. (For more information on whole grains, refer to *4-H Cooking 301* pages 53 to 55.)

Corn Grits

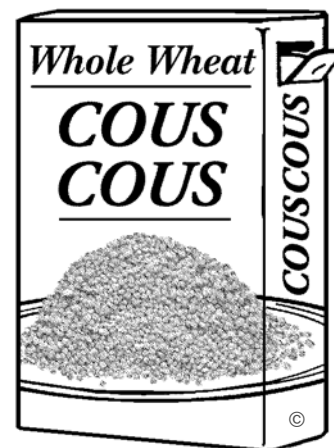
When asked to which food group corn belongs, most people would say “vegetable.” But actually, corn is a grain. One of summer’s best pleasures is fresh corn on the cob, but corn can also be ground into corn flour and cornmeal, both of which are made from the ground endosperm of the corn kernel. Grits are coarsely ground corn. Yellow grits include the whole kernel of the corn, while white grits use hulled kernels. Grits are prepared by adding boiling water to the ground kernels. Grits are considered a regional food favorite in southern states and are used as a main dish for breakfast or brunch.

Bulgur

In some parts of the world, wheat is made into bulgur. The wheat kernels are partially steamed, dried, and ground to produce a golden colored cereal. Bulgur has been a traditional food in the Middle East for thousands of years. Bulgur can be prepared by either cooking or rehydrating it by adding liquids. When used in a pilaf or stew, Bulgur is cooked in a hot liquid.

Couscous

Couscous (pronounced "koos-koos") is also made from wheat. It is a staple of North African cooking and is available in packaged form in most supermarkets. Couscous is made from durum wheat, which contains a high amount of gluten and is used to make bread and pasta. The endosperm of the durum wheat is ground into semolina, coarse granular flour. Granules of semolina are precooked and then dried to make couscous.



Like pasta or rice, couscous can be prepared in many ways. It is simple to prepare. Boiling water is added to the couscous and then it is allowed to sit. You can add spices or sauces to enhance the flavor or serve it plain. Couscous can be used as a base for salads or soups, as a side dish with meats and vegetables, or as a dessert when sweetened, spiced, and mixed with dried fruits.

Baked Cheese Grits

Yield: 4 servings



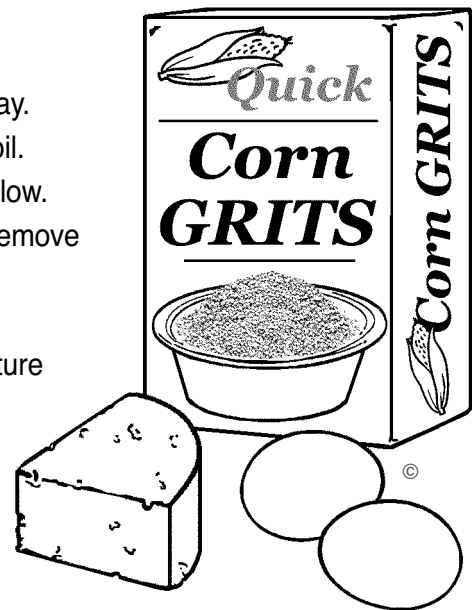
Ingredients

3 cups water
 1/4 teaspoon salt
 3/4 cup quick-cooking grits
 2 tablespoons butter or margarine
 1 cup shredded cheddar cheese
 2 eggs, beaten
 Pepper, to taste

Order of Work

1. Preheat oven to 350 degrees F.
2. Lightly coat a 2-quart baking dish with nonstick cooking spray.
3. Place water in a saucepan and add salt. Bring water to a boil.
4. Add the grits and return to boiling. Reduce heat to medium-low.
5. Stirring constantly, cook until very thick, about 5 minutes. Remove from heat.
6. Add the butter or margarine to the grits.
7. In a small bowl, mix the cheese, eggs, and pepper. Stir mixture into grits.
8. Pour into the prepared baking dish.
9. Bake for 40 minutes or until lightly browned and set.

Nutrition Facts per Serving: 304 calories, 17 g fat, 408 mg sodium, 24 g carbohydrate, 1 g fiber, 12 g protein, 220 mg calcium





Tabbouleh

Yield: 4 servings



Tabbouleh is a popular dish in which the bulgur is simply rehydrated and mixed with a dressing and vegetables.

Ingredients

- 1/2 cup water
- 1 cup bulgur
- 1 cup finely chopped onion
- 1/4 cup finely chopped fresh mint
- 1 1/2 cups finely chopped fresh parsley
- 1 cup diced fresh tomatoes
- 1 cup peeled and chopped cucumber
- 1/4 cup lemon juice
- 1/4 cup olive oil
- Salt, to taste
- Pepper, to taste
- Sesame seeds, if desired



Order of Work

1. In a 2-quart saucepan over high heat, bring water to a boil; stir in bulgur.
2. Remove pan from heat; cover and let stand 10 minutes.
3. Fluff bulgur with a fork and spoon into serving bowl. Add the onion, mint, parsley, tomatoes, and cucumber.
4. In a small bowl, mix lemon juice, oil, salt, and pepper. Pour mixture over the bulgur and vegetables. Mix well.
5. Sprinkle with sesame seeds, if desired. Best if served chilled.

Nutrition Facts per Serving: 280 calories, 15 g fat, 319 mg sodium, 35 g carbohydrate, 9 g fiber, 6 g protein, 69 mg calcium

Zucchini-Couscous Bake

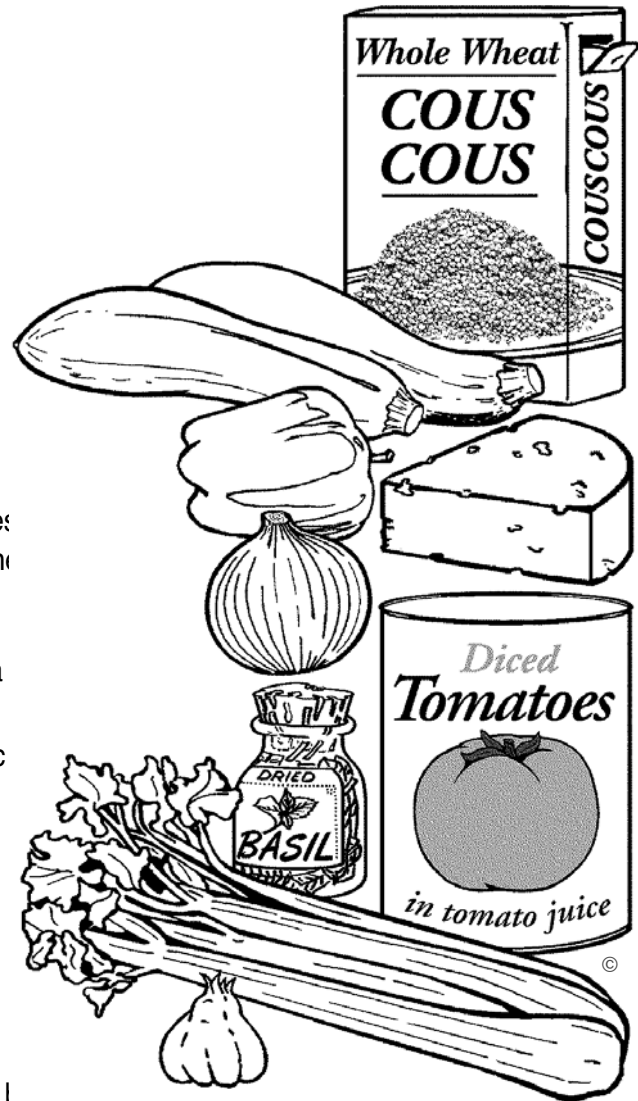
Yield: 6 servings

Ingredients

- 2 teaspoons oil
- 1/2 cup chopped onion
- 2 garlic cloves, minced
- 1 1/2 cups thinly sliced zucchini
- 1 cup chopped green pepper
- 1/2 cup chopped celery
- 1/2 teaspoon dried basil
- 1 cup canned diced tomatoes
- 1/2 cup canned black beans, rinsed and drained
- 1/2 cup couscous, uncooked
- 6 black olives, chopped
- 1 tablespoon grated Parmesan cheese
- 1/4 cup shredded low-fat cheddar cheese

Order of Work

1. Preheat oven to 350 degrees F. Lightly coat a casserole dish with nonstick cooking spray.
2. In a large skillet add oil then onions and garlic and sauté for 2 minutes, stirring frequently.
3. Add zucchini, pepper, celery, and basil. Stirring frequently, cook for 4-5 minutes, or until tender. Stir in tomatoes, beans, couscous, olives, and Parmesan cheese.
4. Spoon mixture into prepared dish. Sprinkle with cheddar cheese.
5. Cover and bake for 15 minutes. Uncover and bake another 15 minutes.



Nutrition Facts per Serving: 130 calories, 3 g fat, 241 mg sodium, 21 g carbohydrate, 4 g fiber, 6 g protein, 65 mg calcium



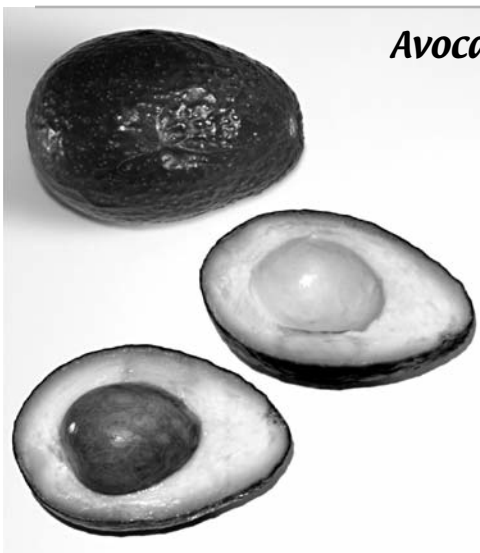
VEGETABLE AND FRUIT GROUPS



Fruits From Around the World

Walking through the produce section of many grocery stores is almost like walking through a tropical paradise of foods. There are fruits of many shapes, colors, and sizes imported from countries all over the world. While the fruits may be beautiful to look at, most people have no idea how to prepare or eat the fruit.

If you haven't sampled many of the readily available imported fruits, here is what you need to know to get started.



Avocado

Avocados are pear-shaped tropical fruits with green or blackish skin that have a single, large seed. It is commonly used in Mexican dishes, such as guacamole. To tell if an avocado is ripe, hold it in the palm of your hand and gently squeeze. If it is ripe, it yields to gentle pressure, much like a soft pear. To prepare an avocado, halve it and remove the pit (seed) then cut each half into quarters and peel off the skin. A ripe avocado has a buttery texture. To prevent the avocado from turning brown when it is cut, sprinkle it with lemon or lime juice. A small amount of lemon or lime juice added to guacamole dip also keeps it from turning brown.



Kiwi

Kiwis are fuzzy, brown, egg-shaped fruits with slightly tart, green flesh. A ripe kiwi has a thin, fuzzy, brown skin and a fruity aroma. It will yield to gentle pressure. Store fresh, ripe kiwi in the refrigerator, away from other fruits, for two to three weeks. Avoid extra soft, wrinkled, or bruised fruit. Ripen firm, unripe kiwis in a paper bag at room temperature. To prepare kiwi, slice off both ends then peel away the skin with a vegetable peeler or sharp paring knife. Cut the fruit in thin slices or cut in half, lengthwise, then cut into wedges.



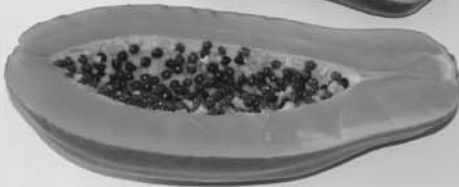
Mango

Mangos may be red, yellow, green, orange or multi-colored, and have a yellow tinge when they are ripe. They are oval and have a large, flat stone in the center, called a **pit**. A ripe mango has a fruity aroma and yields to gentle pressure, like a ripe peach. The best way to ripen a mango is at room temperature. To speed up the ripening process, place the mango in a paper bag overnight. To prepare mango, cut off both ends of the fruit. Stand the fruit on a flat end and cut away the peel from top to bottom. Cut fruit into slices by carving lengthwise along the pit.



Papaya

Papayas come in various shapes and sizes — the Hawaiian variety is smaller and pear-shaped, while Caribbean and Asian papayas are long and large. To select a ripe papaya, look for skin that is turning from green to yellow. Parts of the papaya may look bruised, but that is normal. You should be able to press your thumb into the flesh. If it's too soft or mushy, or if it has a sweet smell to it, the papaya is overripe. If you buy a firmer, green-skinned papaya, it will ripen within one to three days at room temperature. To prepare papaya, slice it in half lengthwise. With a large spoon, scoop out the seeds and discard. Remove the peel with a vegetable peeler or paring knife. Peel and slice the fruit into sections, or use a melon-baller to scoop out the fruit.



Passion Fruit

Passion fruit is a small, nearly round fruit that looks like a wrinkled egg. The shell is smooth and waxy, and ranges from dark purple to light yellow. The fruit is filled with yellowish, jellylike pulp surrounding small, black, edible seeds. The shell becomes brittle and wrinkled when ripe. Cut the fruit in half and scoop out the seeds and the juicy flesh that surrounds them.



Pineapple

Pineapples are shaped like a cylinder and have a scaly green, brown, or yellow skin topped with blue-green leaves. A ripe pineapple will feel heavy for its size and have a sweet aroma. Choose well-shaped golden brown to brown pineapple with dark



green fresh-looking leaves. Avoid pineapple with soft bottoms or darkened spots around the base. Store a fresh pineapple in the refrigerator before and after cutting. To prepare a pineapple use a sharp knife to cut off about 1/2 inch below the leafy top. Then cut off the bottom outer skin. Stand the fruit upright and slice off the skin from top to bottom all the way around the fruit. Use the knife or a potato peeler to remove the brown “eyes” on the fruit. Cut the pineapple in half lengthwise, then cut each half lengthwise into two pieces. Cut off the hard center core of each piece. Slice the fruit into pieces.



Pomegranate

A pomegranate is about the size of an orange, with a yellowish shell that turns a rich red color as it ripens. Inside are seeds surrounded by juice-filled sacs. The juice sacs can be eaten as is, added to salads or desserts, or made into juice. To prepare a pomegranate, cut off the top and then cut the fruit into sections. Place the sections in a bowl of water. Use your fingers to roll the juice sacs into the water. Discard the skin and white pulp. Drain the water.



Star Fruit or Carambola

Star Fruit, also called carambola, got its name from the five pointed star shape created when the fruit is cut across the middle. It has a waxy, golden yellow to green color skin with a flavor combination that hints of plums, pineapples, and lemons. Slightly brown tips on the ribs are normal. Avoid star fruit that are soft, shriveled, blemished, or excessively brown at the edges. Allow greenish, unripe star fruit to ripen at room temperature. To prepare star fruit, wash and cut off the top and bottom, then trim the tip from each rib before slicing. Star fruit does not have to be peeled.

Preparing Fruit

Wash the outside of the fruit under cold, running water before you cut it. Washing helps remove possible bacteria or other contaminants from the fruit.

Since these exotic fruits have unique colors, shapes, textures, and flavors, you can simply arrange them on a platter or combine in an attractive bowl to create a beautiful presentation. A simple dip can be served with the fruit if desired. To use in fruit or vegetable salads, chop the fruit into bite-size pieces.

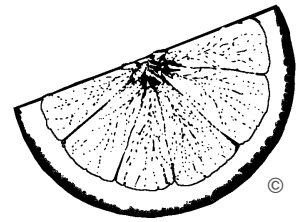


Fruit Dip

Yield: 8 2-tablespoon servings

Ingredients

- 1 (8 oz.) package cream cheese, room temperature
- 1/2 cup sugar
- 1/2 teaspoon vanilla or other flavoring (almond, lemon, or orange)



In a medium bowl, combine cream cheese, sugar, and vanilla or other flavoring. Mix until smooth and creamy. Spoon in serving bowl and chill until served.

Nutrition Facts per Serving: 146 calories, 10 g fat, 91 mg sodium, 14 g carbohydrate, 0 g fiber, 2 g protein, 28 mg calcium

Marshmallow Crème Fruit Dip

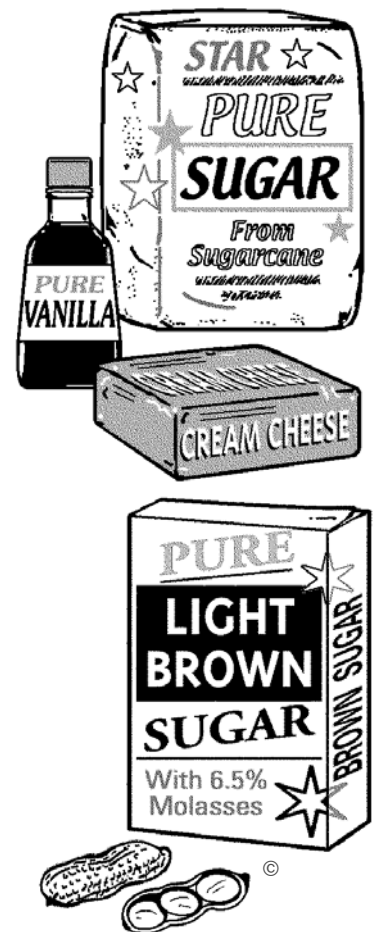
Yield: 16 2-tablespoon servings

Ingredients

- 1 (8 oz.) package cream cheese, room temperature
- 1 jar (7 oz.) marshmallow crème
- 1/2 teaspoon vanilla
- 1/4 cup light brown sugar
- 1/2 cup chopped peanuts, if desired

In a medium bowl, combine cream cheese, marshmallow crème, vanilla, brown sugar, and peanuts, if desired. Mix until smooth and creamy. Spoon in serving bowl and chill until served.

Nutrition Facts per Serving (with peanuts): 130 calories, 7 g fat, 71 mg sodium, 15 g carbohydrate, less than 1 g fiber, 2 g protein, 20 mg calcium





EXPERIMENT WITH FRUIT



Experimenting with some of the fruits you have never tried is a fun way to learn how the fruits taste and how to prepare them. You can invite some friends to sample them with you and make it a party. Start with three or four fruits you have never eaten before. List the fruits you will taste, how to prepare them, and record your findings below.

Type of Fruit	How to Prepare	Comments

Which fruit(s) did you like? Why? _____

Which fruit(s) did you not enjoy? Why? _____

How might you serve the fruit(s) you liked in the future? _____

What did you learn about trying new foods? _____

Pomegranate, Orange, Papaya, and Kiwi Green Salad

Yield: 6 to 8 servings

This beautiful salad invites people to sample fruit they may never have eaten before. Substitute other fruits such as mangos, star fruit, or pineapple, if desired. Select fruit with contrasting colors or texture to add interest and flavor.

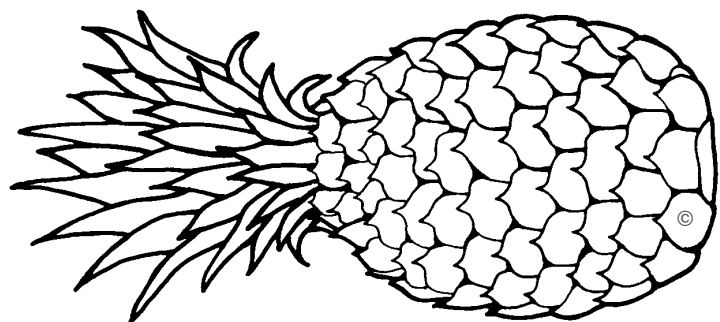
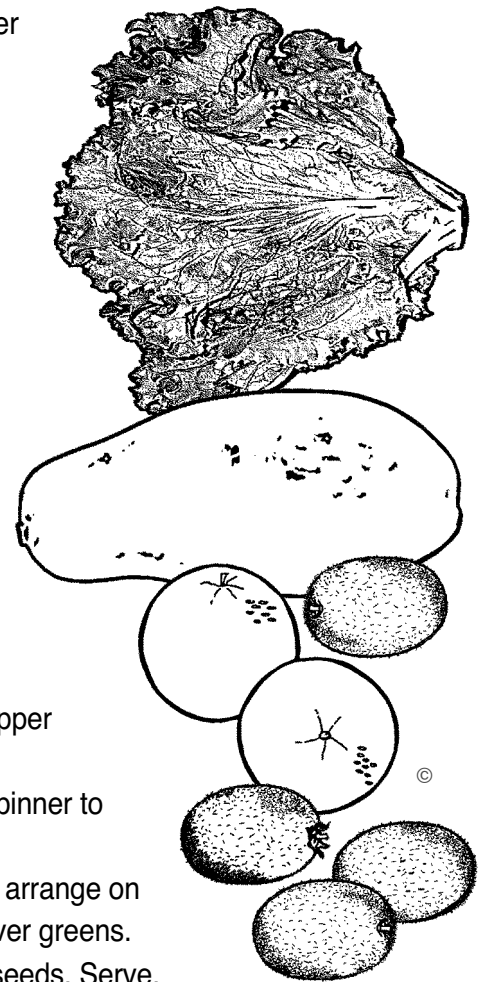
Ingredients

- 1 1/2 teaspoons white wine vinegar
- 1/4 teaspoon salt
- 1/8 teaspoon pepper
- 1/8 teaspoon crushed red pepper flakes
- 1/4 cup olive oil
- 6 cups mixed salad greens
- 2 cups fresh peeled orange slices
- 2 cups fresh peeled papaya slices
- 4 kiwis, peeled and sliced
- 3/4 cup pomegranate seeds

Order of Work

1. To make dressing, combine vinegar, salt, pepper, and red pepper flakes in small bowl; whisk in oil.
2. Wash greens and blot dry with paper towels or use a salad spinner to remove excess water. Chill until ready to serve.
3. Just before serving toss greens with 3 tablespoons dressing; arrange on a serving platter. Alternate orange, papaya, and kiwi slices over greens.
4. Drizzle with remaining dressing. Sprinkle with pomegranate seeds. Serve.

Nutrition Facts per Serving: 144 calories, 8 g fat, 91 mg sodium, 21 g carbohydrate, 4 g fiber, 2 g protein, 41 mg calcium

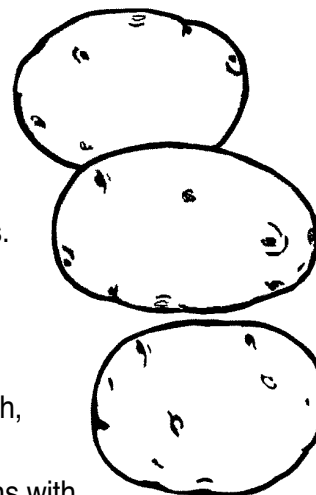




Potato Dishes

Long considered a staple food item in the kitchen, the potato is one of the most versatile vegetables in the world. Whether it is baked, fried, boiled, mashed or steamed, this culinary workhorse also stands out because of its long shelf life, low cost and rich source of vitamins and minerals.

Potatoes are available in hundreds of varieties, which vary in size, shape, taste, color, and starch content. Starch, produced by all green plants, is the plants energy storehouse. Because potatoes contain about 20 percent indigestible starch, they must first be cooked before eating. Needless to say, thousands of recipes have been developed for cooking potatoes, and three of the most popular recipes are Scalloped, Au Gratin, and Twice Baked Potatoes.

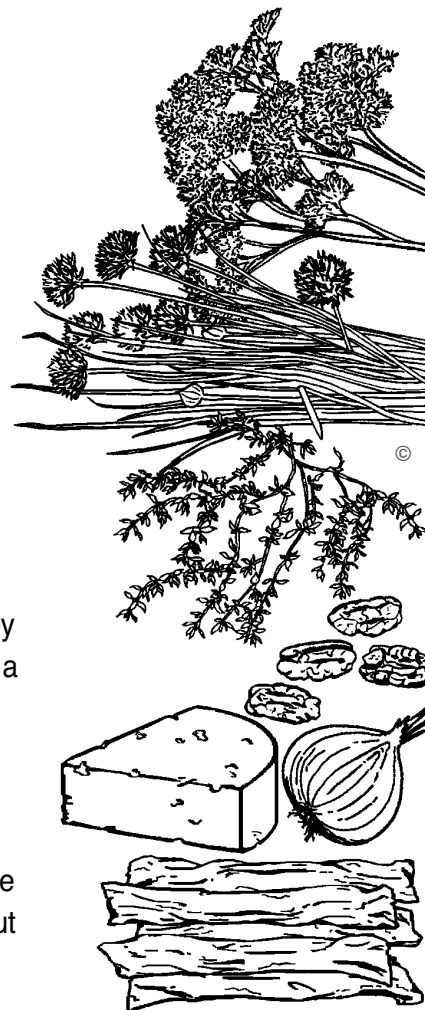


Scalloped Potatoes

The term “scaloped” refers to layering thinly sliced potatoes in a casserole dish, covering with a thickened milk or cream sauce and baked in an oven until fork tender. Variations on this simple potato dish include layering thinly sliced onions with the potatoes and adding herbs such as parsley, chives, or thyme.

Au Gratin Potatoes

The term “Au Gratin” is a French term which means covering with toasted bread crumbs, nuts, cheese, or a combination of these ingredients to produce a crisp, golden crust. Adding a bread crumb topping to the scalloped potato recipe would technically turn the dish into Au Gratin potatoes. In America, the addition of cheese to scalloped potatoes is what is traditionally referred to as Au Gratin potatoes.



Twice Baked Potatoes

Twice baked potatoes combine two of the most popular ways to enjoy potatoes — baked and mashed — into one delicious dish. Start with a baked potato, cut it in half, and scoop out the cooked, fluffy center. Then mash this potato flesh to fill the baked potato shell before baking the potato for the second time. Be creative with additions to the mashed potatoes to make the twice baked potato unique — bacon, sour cream, onions, cheese, chives, or a combination of these ingredients makes for a yummy side dish that not only looks fancy but tastes great too!

Easy Traditional Scalloped Potatoes

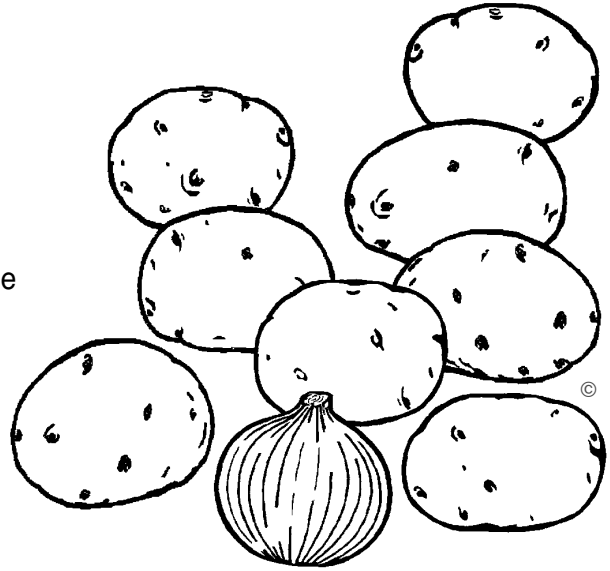
Yield: 6 to 8 servings

Ingredients

- 8 medium russet potatoes
- 1 medium onion
- 1/2 teaspoon salt, divided
- 1/4 teaspoon pepper, divided
- 1 tablespoon flour
- 2 tablespoons unsalted butter, divided
- 1 1/2 cups light cream or half and half

Order of Work

1. Preheat oven to 350 degrees F. Lightly coat a large casserole dish with nonstick cooking spray.
2. Rinse the potatoes under cold water and scrub with brush to remove all dirt. Use potato peeler to remove the brown outer skin from the potatoes; cut potatoes into 1/8-inch thick slices. Place half of the potato slices across the bottom of the prepared casserole dish.
3. Cut onion into 1/8-inch thick slices. Separate slices into individual rings, and spread over potatoes.
4. Season potatoes and onion rings with 1/4 teaspoon salt and 1/8 teaspoon pepper.
5. Sprinkle flour over potatoes; cut 1 tablespoon of butter into small pieces and sprinkle over potatoes.
6. Add another layer of potatoes. Sprinkle remaining 1 tablespoon of butter over the potatoes as before, and season with 1/4 teaspoon salt and 1/8 teaspoon pepper.
7. Heat the cream or half and half in a saucepan over medium-low heat, and remove before it begins to bubble. Pour the hot cream over the potatoes, and cover the casserole dish.
8. Bake for 40 to 45 minutes, or until the potatoes are fork tender. Remove the cover from the dish, and bake for about 15 more minutes to brown top.



Nutrition Facts per Serving: 293 calories, 12 g fat, 175 mg sodium, 43 g carbohydrate, 3 g fiber, 6 g protein, 76 mg calcium



Traditional Au Gratin Potatoes

Yield: 6 to 8 servings

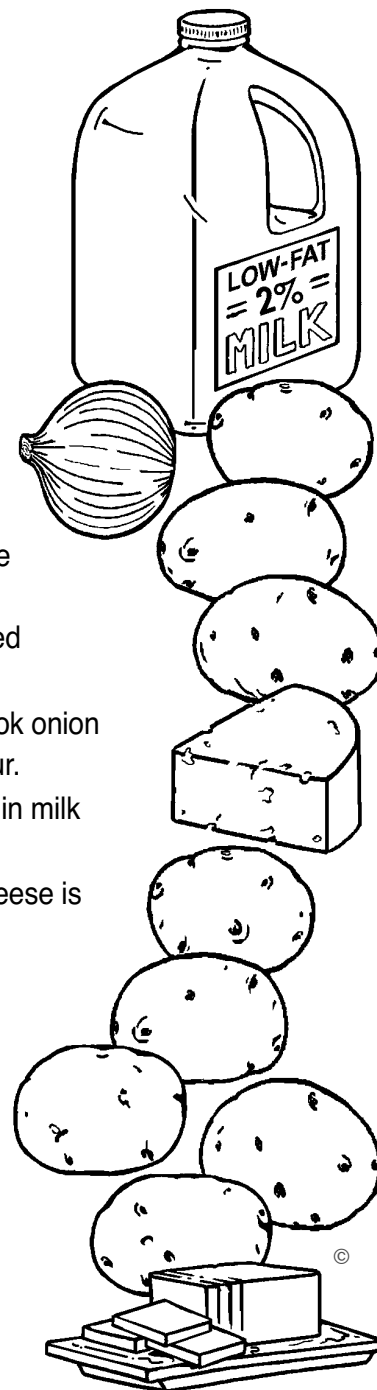
Ingredients

- 8 medium russet potatoes
- 1/4 cup butter
- 1 medium onion
- 1/2 teaspoon salt
- 1/4 teaspoon black pepper
- 1 tablespoon flour
- 2 cups milk
- 2 cups sharp shredded cheddar cheese, divided
- 1/4 cup dry bread crumbs

Order of Work

1. Preheat oven to 350 degrees F. Lightly coat a large casserole dish with nonstick cooking spray.
2. Rinse the potatoes under cold water and scrub with brush to remove all dirt. Use potato peeler to remove the brown outer skin from the potatoes; cut potatoes into 1/8-inch thick slices and place in prepared casserole dish.
3. Melt butter in saucepan over medium heat. Stirring occasionally, cook onion in butter about 2 minutes, or until tender. Stir in salt, pepper and flour.
4. Cook, stirring constantly, until bubbly; remove from heat. Slowly stir in milk and 1 1/2 cups cheese.
5. Heat to boiling, stirring constantly. Boil and stir 1 minute until the cheese is completely melted.
6. Pour cheese sauce over potatoes.
7. Bake uncovered for 1 hour.
8. Mix remaining cheese and the bread crumbs; sprinkle over potatoes. Bake uncovered 15 to 20 minutes or until top is brown and bubbly.

Nutrition Facts per Serving: 388 calories, 16 g fat, 429 mg sodium, 47 g carbohydrate, 3 g fiber, 14 g protein, 314 mg calcium

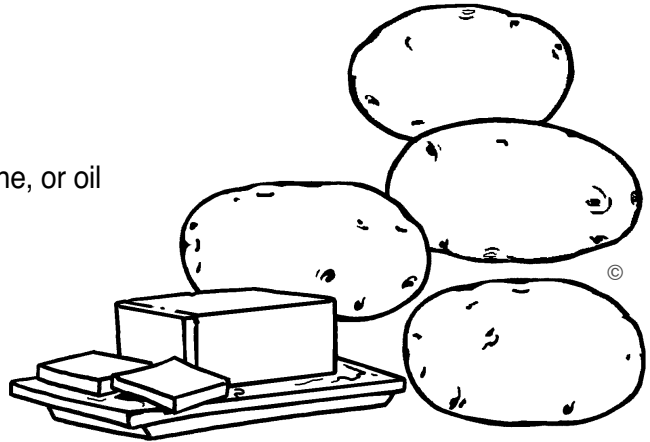


Make It Your Way Twice Baked Potatoes

Yield: 4 servings

Ingredients

- 4 large russet baking potatoes
- 1 tablespoon melted butter or margarine, or oil
- 1 cup sour cream
- 1/2 cup milk
- 4 tablespoons butter
- 1/2 teaspoon salt
- 1/2 teaspoon pepper



Order of Work

1. Preheat oven to 425 degrees F. Scrub potatoes with cold water using a vegetable brush until clean.
2. Lightly coat potatoes with melted butter, margarine, or oil for a soft skin. For a crisp skin, do not use any fat. (To microwave the potatoes refer to *4-H Cooking 201*, page 28 for directions.)
3. Bake potatoes for 50 to 60 minutes, until they stick easily with a fork or until they feel soft when lightly squeezed. Remove from oven and allow them to cool for 10 minutes.
4. Slice potatoes in half lengthwise and use a spoon to scoop insides into separate bowl. While scooping potato, form a potato "canoe", leaving about 1/4 inch of potato on the skin. Place potato skins on a baking sheet.
5. Add sour cream, milk, butter, salt, and pepper to the potato flesh. Mix with a hand mixer until well blended and creamy. Put mashed potato filling into potato skins.
6. Bake at 350 degrees F oven for 15 minutes.

Nutrition Facts per Serving: 551 calories, 25 g fat, 484 mg sodium, 68 g carbohydrate, 7 g fiber, 11 g protein, 131 mg calcium

Variations

Cheddar and bacon

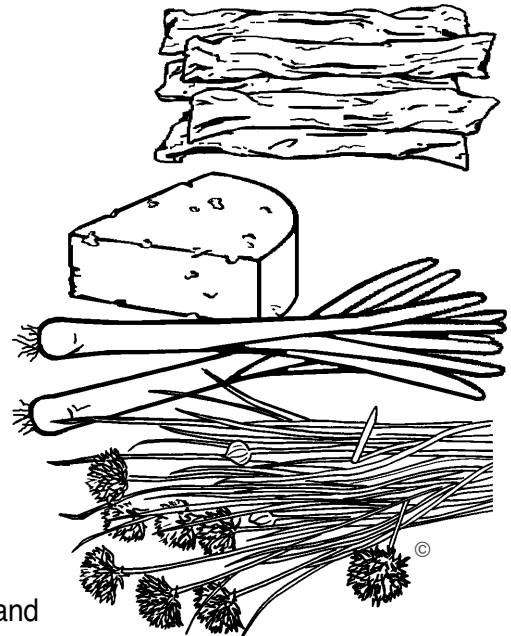
- 4 strips cooked bacon, crumbled
- 1 cup shredded cheddar cheese
- 1/4 cup chopped green onion

Add the bacon, shredded cheese, and green onions to the mashed potato mixture and lightly mix. Spoon the mixture into the potato skins. Bake as directed.

Blue cheese and chives

- 1 cup crumbled blue cheese
- 1/4 cup chopped fresh chives

Mix blue cheese and chives into the mashed potato mixture and spoon the mixture into the potato skins. Bake as directed.





Stir-Frying

Stir-frying is a fast and easy way to cook. By tossing bite-sized pieces of meat and/or vegetables in a hot pan lightly coated with cooking oil, you can have a delicious meal on the table in just a few minutes. Because the cooking time is short, vegetables keep their crisp textures, bright colors, and nutrients. Stir-frying sears the meat, sealing in flavor and juices.

Because stir-frying cooks food very quickly, it is important to follow some basic cooking techniques to prevent over-cooked or burned food.

- Prepare all ingredients before beginning. Slice or chop vegetables and meats. Pre-measure seasonings. If using a sauce, combine liquids and cornstarch or other thickener.
- Slice foods thinly, on a slant, to expose more surface area and to help them cook rapidly.
- Freeze meats just until they are firm so they will slice thinly and evenly into bite-size pieces.
- Use a wok, electric skillet, or large frying pan for cooking.
- Use oils with a high **smoke point**, such as, canola oil or corn oil.
- Heat the cooking oil first and then add vegetables or meat when oil is hot. To test the temperature of the pan, sprinkle a drop of water into the pan. When the pan is hot, the water will sizzle and evaporate quickly.
- Cook meat in small batches to prevent meat from becoming soggy rather than seared and firm.
- Stir and flip food constantly as it cooks to prevent overcooking, loss of texture, and to distribute the oil and seasonings.
- Add foods that cook more quickly toward the end of cooking.
- Remove cooked food to a bowl or platter to prevent overcooking.
- The cooking pan retains heat and continues to cook food even after it is removed from heat. For best results, serve food immediately. If stir-fried food must be held before serving, remove pan from heat before the vegetables are totally cooked throughout.

Choosing a Pan

A pan with a tight fitting lid is essential for stir-frying. A wok, which is shaped like a bowl with sloping sides, is designed for stir-frying, but a large skillet or an electric skillet can be used as well.

Preparing Vegetables for Stir-Frying

A good stir-fry vegetable dish needs just the right amount of moisture. High-moisture vegetables require little or no additional liquid during cooking. Low-moisture vegetables require additional liquid to create steam that helps cook the vegetables. The following table provides suggestions for preparing vegetables and categorizes vegetables by moisture content.

High-Moisture Vegetables

Cabbage	Shred coarsely
Onion, green	Thinly slice
Bean sprouts	No preparation needed
Swiss chard	Chop
Tomatoes	Cut in wedges

Low-Moisture Vegetables

Asparagus	Slice diagonally, 1/2-inch thick
Bell pepper	Cut in 1-inch chunks, thinly slice or dice
Broccoli	Cut in 2-inch flowerets; slice stems 1/4-inch thick
Carrots	Thinly slice, cut in matchstick-size pieces or dice
Cauliflower	Cut in 2-inch flowerets; slice stems 1/4-inch thick
Celery	Slice 1/4-inch thick on diagonal or in 1/2-inch diced pieces
Eggplant	Cut in 1-inch chunks
Mushrooms, fresh	Thinly slice
Peas	None needed
Potatoes	Cut in 1/4-inch thick slices or in 1/2-inch diced pieces
Snow peas	Leave whole or halve if large
Squash, winter	Peel, cut in 1/4-inch thick slices or 1/2-inch diced pieces
Green beans	Snap in pieces or cut in 2-inch lengths
Turnips	Cut in 1/4-inch thick slices or in 1/2-inch diced pieces
Zucchini or yellow summer squash	Cut in 1/4-inch diagonal slices

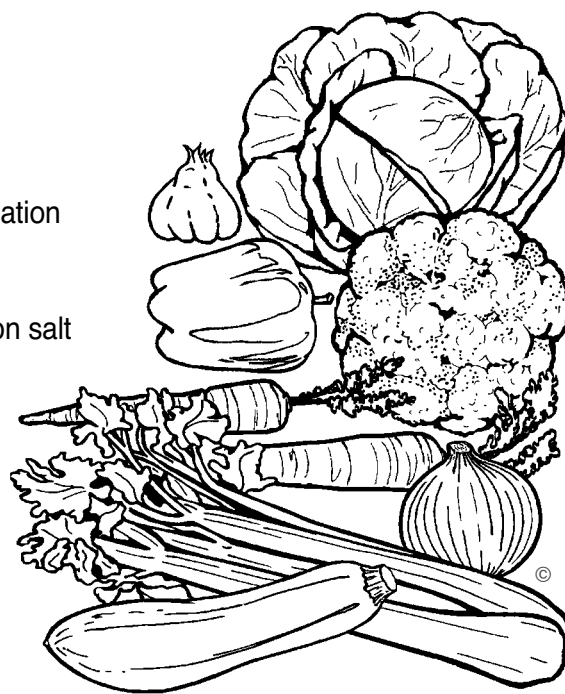


Basic Stir-Fried Vegetables

Yield: 6 1/2-cup servings

Ingredients

- 4 cups fresh or frozen vegetables or combination of vegetables
- 1 clove garlic, diced or crushed, if desired
- 1 to 2 tablespoons soy sauce or 1/2 teaspoon salt
- 1/3 cup broth or water
- 1/2 teaspoon sugar
- 2 tablespoons oil



Order of Work

1. Prepare vegetables. Set aside.
2. Prepare garlic. Measure soy sauce or salt, broth or water, and sugar. Set aside.
3. Place oil in cooking pan and heat using high heat.
4. Quickly add garlic. Heat and stir for 5 to 10 seconds until pungent.
5. Add vegetables and stir to coat with oil. If necessary, lower heat to medium to prevent scorching. Toss and stir vegetables constantly while cooking.
6. Add soy sauce or salt, broth or water, and sugar. Continue stir-frying until vegetables are just heated through; or cover and let steam rise to the surface to continue the cooking.
7. Cook until vegetables just reach the tender-crisp stage. Time will vary with the cut, age, and type of vegetables used. Serve while hot.

Nutrition Facts per Serving (with zucchini, onion, and bell peppers): 63 calories, 5 g fat, mg 498 sodium, 5 g carbohydrate, 1 g fiber, 1 g protein, 15 mg calcium

Variations

- Use additional herbs and spices of your choice. Choose those that blend well with vegetables.
- For spicy stir-fry, add red chili peppers or crushed red pepper to taste when stir-frying the garlic.
- For a traditional Asian flavor, add 1 or 2 slices fresh, peeled, minced ginger root when adding garlic.
- Add 1 teaspoon sugar and 1 tablespoon vinegar when adding the liquid for a sweet-and-sour stir-fry.
- Sprinkle cooked vegetables with sesame seeds, chopped peanuts, or slivered almonds.
- Toss in left-over pieces of meat with the vegetables. Choose from chicken, pork, beef, or ham.

Nice Vegetable Combinations

- Zucchini, onion, and bell pepper
- Carrots, celery, and onion
- Cauliflower and carrots
- Cabbage, bell pepper, and onion

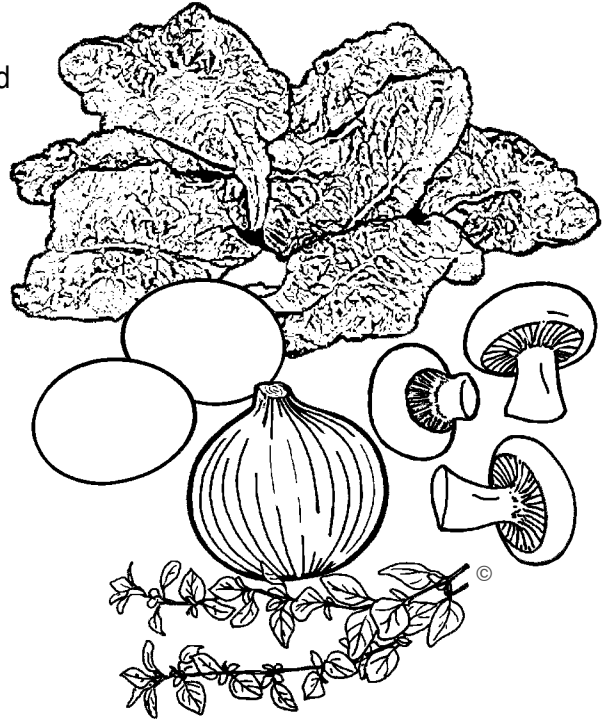
Spinach Quiche

Yield: 8 servings

Try your pastry skills with this savory quiche. It makes a great main dish for lunch or brunch. Use the whole wheat pie crust recipe on page 99.

Ingredients

- 1 prepared whole wheat pie crust, baked for 5 minutes
- 2 tablespoons oil
- 3/4 cup mushrooms, chopped
- 1 cup of onion, chopped
- 1/2 teaspoon dried oregano
- 10-ounce package chopped spinach or 1 quart fresh spinach
- 1 cup water
- 1 quart ice water
- 2 eggs
- 1 cup low-fat milk
- 1/2 teaspoon salt
- 1/2 cup parmesan cheese or provolone cheese, grated
- 1/2 cup ricotta cheese

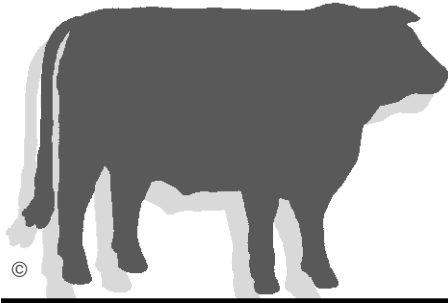


Order of Work

1. Preheat oven to 375 degrees F.
2. Prepare the whole wheat pie crust and bake for 5 minutes.
3. Add oil to skillet and stir-fry mushrooms, onion, and oregano.
4. Bring 1 cup water to boil in heavy saucepan. Add spinach and boil for 1 minute.
5. Place one quart ice water in large mixing bowl. Drain water from spinach and immediately place spinach in ice water. Cool spinach for about 5 minutes and then drain well, squeezing out excess water.
6. In medium mixing bowl, beat eggs, milk, and salt.
7. Layer onions and mushrooms on baked crust; layer spinach over mushroom mixture. Top with parmesan or provolone and ricotta cheese.
8. Pour egg mixture over layers.
9. Reduce oven to 350 degrees F. Bake for 40 to 50 minutes, until eggs are set. A knife inserted in center of quiche will come out clean.
10. Let quiche set for 10 minutes before serving.

Source: *Contemporary Pies*, Cornell University

Nutrition Facts per Serving: 270 calories, 18 g fat, 492 mg sodium, 17 g carbohydrate, 2 g fiber, 11 g protein, 245 mg calcium



MEAT GROUP

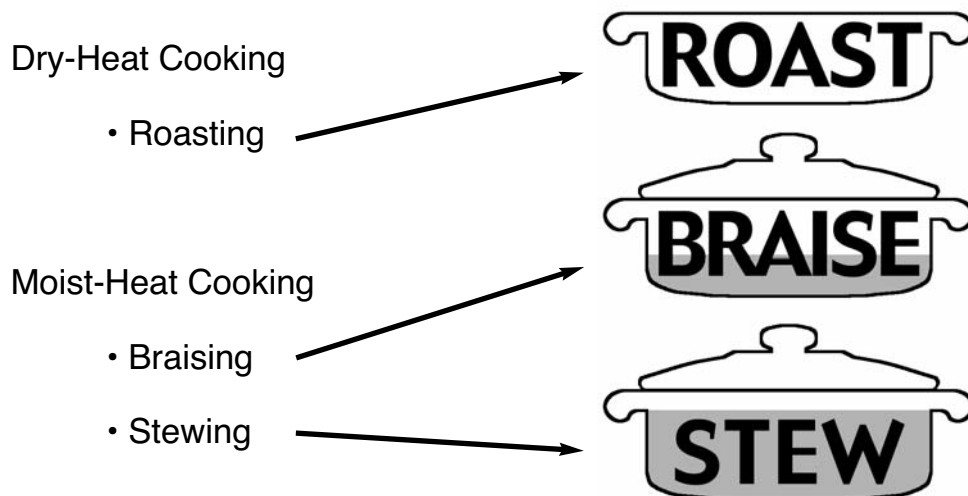
Dry-Heat Cooking: Roasting Meat

Roasting may be one of the easiest cooking methods you can use because the oven does most of the work! Roasting is a **dry-heat cooking** method because the meat cooks in an uncovered pan in the oven. Dry, hot air surrounds the meat cooking it evenly on all sides. The roasting process produces a rich flavor in meats.

The minimum safe oven temperature for cooking meat and poultry is 325 degrees F. This allows the meat to cook evenly and slowly. High heat (400 degrees F or more) would cause a large cut of meat to burn on the outside before it is done on the inside. High heat works best with small cuts of meat, such as tenderloins.

Ask the butcher at the grocery store for recommendations or advice when selecting cuts for roasting. If deciding whether to buy bone-in or boneless cuts for roasting, remember that roasts with the bone-in will cook faster than a boneless roast because the bone conducts heat faster than the meat.

Cooking Methods



Choose the Right Roasting Pan

For best results, use a heavy **roasting pan** with a rack. A roasting pan has low sides which allow the heat from the oven to surround the meat. A heavy pan distributes heat evenly so the meat drippings are less likely to burn. A rack in the bottom of the pan keeps the meat from sitting in the fatty drippings that form during roasting. If the pan does not have a wire rack, a wire cooling rack can be placed in the bottom of the pan to set the meat on.

Testing for Doneness

One of the most common mistakes that many cooks make when roasting meat is to overcook it. That results in a dry, tough piece of meat. A food thermometer is essential to preparing juicy, flavorful roasts. An oven-safe thermometer remains in the meat and shows the temperature of the meat while it is cooking. Insert an oven-safe meat thermometer so the tip is centered in the thickest part of the roast and not resting on fat or touching bone.

An instant-read thermometer quickly measures the temperature of meat, but it must be inserted into the meat after it is removed from the oven. To prevent overcooking, check the temperature before the end of the cooking time given in the recipe. Insert the instant-read thermometer in the thickest part of the meat so that the indentation on the stem is completely covered by the meat.

A table for approximate roasting times is given on page 47 to help in meal planning. Because roasting time is affected by many factors, use the times as a guide. Use a food thermometer to determine if the meat has reached the correct temperature for doneness.

Let It Rest

Roasted meat should rest for 10 to 20 minutes after it is removed from the oven. This allows the juices to be absorbed by the meat. If meat is sliced immediately after it is removed from the oven, the juices will run out of the meat. That causes the meat to be dry and less flavorful.



Meat Roasting Table

ROAST

This table provides *approximate* cooking times to use in meal planning.

Use a food thermometer to determine when meats reach a safe minimum internal temperature.

Type of Meat	Oven °F	Cooking Time/Pound	Internal Temp °F
BEEF			
Beef, rib roast, bone-in; 4 to 8 lbs	325	23 to 30 min/lb	145 med. rare
		27 to 38 min/lb	160 medium
Beef, rib roast, boneless; 4 lbs	325	39 to 43 min/lb	145
Beef, eye round roast; 2 to 3 lbs	325	20 to 22 min/lb	145
Beef, tenderloin roast, whole; 4 to 6 lbs	425	45 to 60 minutes total	145
Beef, tenderloin roast, half; 2 to 3 lbs	425	35 to 45 minutes total	145
LAMB			
Lamb, leg, bone-in; 5 to 9 lbs	325	20 to 26 min/lb	145 med. rare
Lamb, leg, boneless; 4 to 7 lbs	325	26 to 30 min/lb	160 medium
		30 to 35 min/lb	170 well done
PORK, FRESH			
Pork, loin roast, bone-in; 3 to 5 lbs	325	20 to 25 min/lb	160
Pork, loin roast boneless; 2 to 4 lbs	325	23 to 33 min/lb	160
Pork, tenderloin; 1/2 to 1 1/2 lbs	425	20 to 30 minutes total	160
PORK, CURED			
Ham, cook-before-eating, bone-in, whole; 14 to 16 lbs	325	18 to 20 min/lb	160
Ham, cook-before-eating, bone-in, half; 7 to 8 lbs	325	22 to 25 min/lb	160
Ham, fully cooked, bone-in, whole; 14 to 16 lbs	325	15 to 18 min/lb	140
Ham, fully cooked, bone-in, half; 7 to 8 lbs	325	18 to 25 min/lb	140
Ham, fully cooked, boneless; 3 to 4 lbs	325	27 to 33 min/lb	140
VEAL			
Veal, boneless roast, rump or shoulder; 2 to 3 lbs	325	25 to 30 min/lb	145 med. rare
		31 to 35 min/lb	160 medium
		34 to 40 min/lb	170 well done
Veal, bone-in roast, loin; 3 to 4 lbs	325	30 to 34 min/lb	145 med. rare
		34 to 36 min/lb	160 medium
		38 to 40 min/lb	170 well done

Source: USDA Food Safety and Inspection Service

Roast Beef

When purchasing beef to prepare a recipe, it is easy to be confused with all the different types or cuts of beef. Some cuts are more suitable for oven roasting. The tenderest parts of the beef cook well with dry-heat roasting and result in tender, tasty meat. Most supermarket packaging will state the cut of beef and if it is suitable for roasting. Generally, those cuts that are good for roasting are rib, sirloin, tenderloin, or filet. Cuts labeled chuck, rump, round, or flank are too tough for dry-heat cooking.

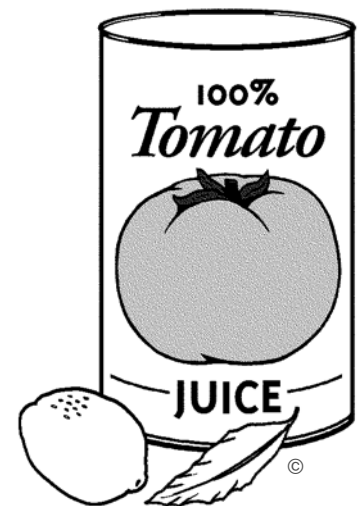
1. Season meat with salt and pepper, if desired.
2. Place meat, fat side up, on a rack in roasting pan.
3. Insert an oven-safe food thermometer so the tip is centered in the thickest part of the roast and not resting on fat or touching bone.
4. Do not add water. Do not cover.
5. Roast at 325 to 350 degrees F until food thermometer reaches correct internal temperature. See table on page 47 for cooking temperatures and approximate cooking times.

Basic Marinade for Roast Beef

Yield: 2 1/4 cups

Ingredients

- 1 teaspoon garlic powder
- 1/2 teaspoon pepper
- 1/2 cup vinegar
- 1/4 cup soy sauce
- 1/3 cup oil
- 1 cup water or tomato juice
- 2 tablespoons lemon juice
- 1 bay leaf



Order of Work

1. Sprinkle meat with garlic powder and pepper.
2. Mix vinegar, soy sauce, oil, water or tomato juice, lemon juice, and bay leaf in small bowl.
3. Place meat in a nonmetal container; pour marinade over meat.
4. Cover and refrigerate overnight or for 6 to 8 hours.
5. When ready to prepare, pour off the marinade. Do not reuse the marinade. This amount of marinade should be enough to prepare a 3 pound roast.

Nutrition Facts per Tablespoon: 20 calories, 2 g fat, 147 mg sodium, less than 1 g carbohydrate, less than 1 g fiber, less than 1 g protein, 1 mg calcium



Roast Pork with Rosemary and Garlic

Yield: 10 servings

Pork also has a variety of cuts and some of these cuts are more suitable for roasting. Those include loin roast, crown roast, fresh pork leg, ham, shoulder, tenderloin, spare ribs, and back ribs.

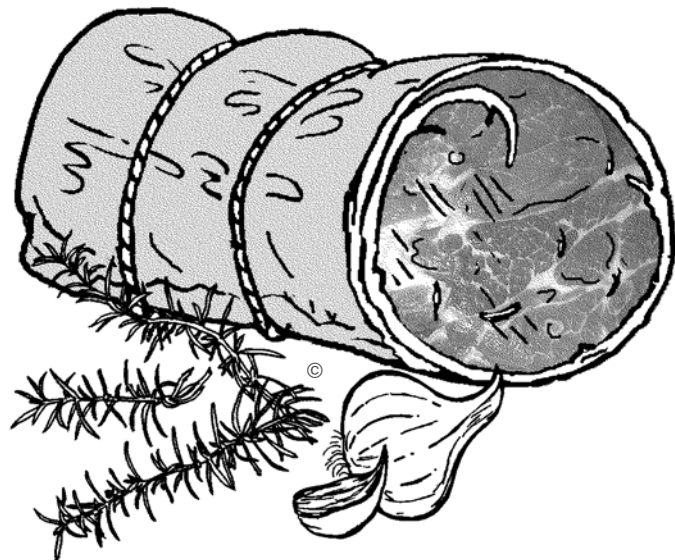
Ingredients

- 2 tablespoons dried rosemary
- 1 teaspoon salt
- 1/2 teaspoon pepper
- 5 cloves garlic, minced
- 3 1/2 pound pork loin roast
- 1 cup chicken broth

Order of Work

1. Preheat oven to 350 degrees F. Lightly coat roasting pan with nonstick cooking spray.
2. Combine rosemary, salt, pepper, and garlic in small bowl.
3. Make 12 1 1/2-inch slits along fatty-side of roast. Stuff slits with rosemary mixture. Rub any remaining mixture over roast.
4. Bake for 1 hour or until meat registers 160 degrees F.
5. Place roast on serving plate and cover to keep warm.
6. To make a meat sauce, add chicken broth to pan, scraping pan to loosen browned bits. Pour broth mixture into a saucepan and bring to a boil over high heat. Reduce heat and simmer for 8 to 10 minutes.
7. Pour any accumulated juices from serving plate into meat sauce.
8. Slice pork roast and serve with the sauce.

Nutrition Facts per Serving: 256 calories, 13 g fat, 436 mg sodium, 1 g carbohydrate, less than 1 g fiber, 31 g protein, 49 mg calcium



Baked Ham



1. Place ham, fat side up, on a rack in a roasting pan. Do not cover or add water.
2. Insert an oven-safe food thermometer into meat. The thermometer should not touch the bone.
3. Bake at 325 degree F. See table on page 47 for approximate cooking times. Cooking times vary depending on the type of ham: cook-before-eating cured or fresh hams; fully-cooked, bone-in; or fully-cooked, boneless.
4. During the last half hour of baking, remove ham from oven and pour fat from the pan. Cut 1/4-inch deep diamond shapes on outside of ham. Insert whole cloves in diamond cuts, if desired.
5. Spoon marmalade, preserves, or glaze over the ham until it is evenly coated.
6. Continue baking for 30 minutes, spooning glaze over the ham two or three times.
7. Allow ham to stand for 20 to 30 minutes before slicing to allow juices to be absorbed into meat.

Tangy Mustard Glaze

Yield: 1/2 cup

Ingredients

- 1 cup packed brown sugar
- 1 teaspoon prepared Dijon mustard or 2 teaspoons dry mustard
- 1/2 cup orange juice

Mix ingredients in small bowl. Spoon over ham until it is evenly coated.

Nutrition Facts per Tablespoon: 112 calories, less than 1 g fat, 23 mg sodium, 29 g carbohydrate, less than 1 g fiber, less than 1 g protein, 24 mg calcium

Apricot Glaze

Yield: 1 1/2 cups

Ingredients

- 1/2 cup packed brown sugar
- 1 tablespoon cornstarch
- 1/2 teaspoon ground ginger
- 1/4 teaspoon salt
- 12 ounces apricot nectar
- 1 tablespoon lemon juice

In a small saucepan, combine brown sugar, cornstarch, ginger, and salt. Stir in apricot nectar and lemon juice. Cook over medium heat, stirring constantly, until the mixture thickens and boils. Boil and stir for 1 minute more. This recipe makes enough glaze for an 8- to 10-pound ham.

Nutrition Facts per Tablespoon: 28 calories, less than 1 g fat, 26 mg sodium, 7 g carbohydrate, less than 1 g fiber, less than 1 g protein, 5 mg calcium

Oven-Barbecued Chicken

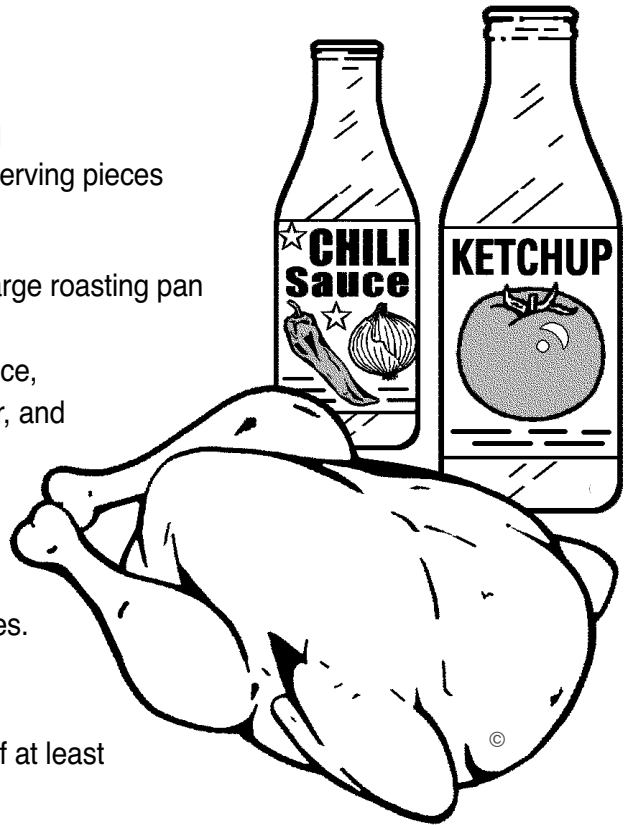
Yield: 6 servings

Ingredients

- 1/4 cup water
- 1/4 cup vinegar
- 2 tablespoons oil
- 1/2 cup ketchup or chili sauce
- 2 tablespoons Worcestershire sauce
- 1 tablespoon dry mustard, optional
- 1/2 teaspoon salt
- 1/2 teaspoon pepper
- 2 tablespoons chopped onion, optional
- 2 1/2 to 3 pounds of chicken, cut into serving pieces

Order of Work

1. Preheat oven to 350 degrees F. Lightly coat a large roasting pan with nonstick cooking spray.
2. Combine water, vinegar, oil, ketchup or chili sauce, Worcestershire sauce, dry mustard, salt, pepper, and onion in a saucepan; simmer for 10 minutes.
3. Place chicken pieces in prepared roasting pan.
4. Pour half of the barbecue sauce over the chicken and bake uncovered for 50 to 60 minutes.
5. Baste chicken with remaining sauce every 15 minutes.
6. Chicken should reach an internal temperature of at least 165 degrees F.



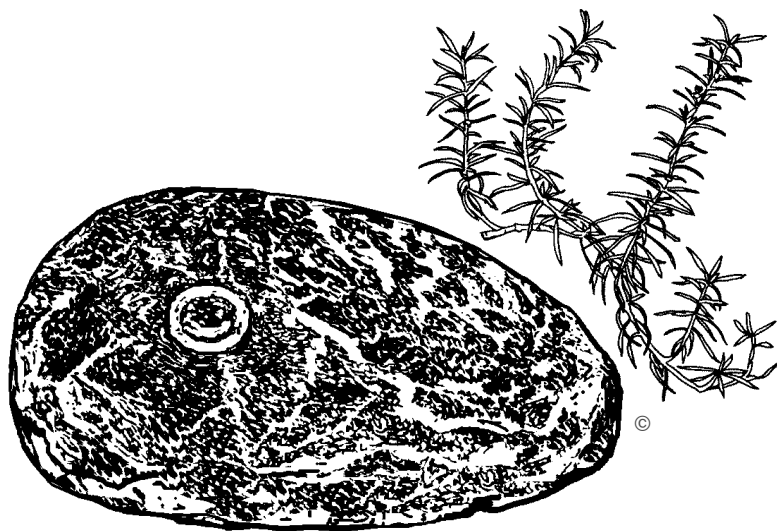
Nutrition Facts per Serving: 861 calories, 79 g fat, 622 mg sodium, 6 g carbohydrate, less than 1 g fiber, 31 g protein, 34 mg calcium



Roast Lamb

Lambs are sent to market when they are about 5 to 8 months old, which makes the meat tender and light in flavor. Lambs that are older than one year are used for **mutton**, which usually has a stronger flavor. A variety of lamb cuts are suitable for roasting: boneless shoulder roast, rib crown roast, loin chops, and legs.

1. Preheat oven to 325 degrees F.
2. Place the roast with fat side up on a rack in a shallow roasting pan.
3. Season as desired with pepper and dried rosemary.
4. Roast uncovered, without added liquid, until the meat thermometer reaches a temperature of 145 degrees F for medium-rare, 160 degrees F for medium, or 170 degrees F for well-done. (See page 47 for approximate roasting times.)
5. Allow roast to stand for 20 to 30 minutes before slicing so juices are absorbed by the meat.



Oven-Fried Fish Fillets

Yield: 4 servings

Some popular varieties of fish are cod, grouper, halibut, mahi-mahi, perch, red snapper, salmon, and trout. For baked fish, select whole fish, fillets, or steaks. One guideline to follow when purchasing fish is that it should not smell “fishy.” A fishy smell may indicate that the fish is not a good quality, fresh fish.

Proper cooking of fish is important because it brings out the delicate flavor of fish. Overcooking fish at too high temperature for too long can make fish tough and less flavorful.



Ingredients

- 1/2 cup toasted bread crumbs
- 1 pound perch, cod, or other firm-fleshed fish fillets
- 1/2 cup milk
- 2 tablespoons butter or margarine, melted
- 1/4 teaspoon salt
- 1/8 teaspoon pepper

Order of Work

1. Preheat oven to 400 degrees F. Lightly coat a baking pan with nonstick cooking spray.
2. Place the bread crumbs on a piece of waxed paper.
3. Dip fillets in milk. Then press each fish fillet into the crumb mixture.
4. Place fillets in prepared baking pan, skin side down.
5. Drizzle butter or margarine over the top of fish; sprinkle with salt and pepper.
6. Bake for 10 minutes or until fish flakes with a fork.

Nutrition Facts per Serving: 224 calories, 8 g fat, 386 mg sodium, 11 g carbohydrate, 1 g fiber, 25 g protein, 147 mg calcium



Moist-Heat Cooking Methods

Moist-heat cooking allows cooks to produce a tender, flavorful meat from less-expensive, tougher cuts of meat. The meat is slowly simmered in a covered pot with added liquid. The **collagen**, or connective tissue, in the meat slowly melts into the broth and gives it a rich flavor. Meat cuts that work well with moist-heat cooking are beef bottom round, pork shoulder, and short ribs.

Stewing and **braising** are two moist-heat cooking methods. In a stew, small pieces of meat are **seared** and then cooked while completely covered in a liquid. Stews are simple to make and are great one-pot meals for the family or for entertaining. Braising uses larger cuts of meat that are seared and then partially submerged in liquid. The liquid shouldn't reach more than halfway up the sides of the meat. This allows the meat to be cooked both in steam and liquid. Stewing and braising result in a rich gravy and tender meat.

Moist-heat cooking requires a large, heavy pot with a tight-fitting lid. The pot should be big enough to hold a large roast and vegetables. A **Dutch oven** is ideal to use. Dutch ovens are heavy cast-iron or stainless steel pots with tight-fitting lids. Some cast-iron Dutch ovens have an enamel coating to prevent reactions between the ingredients and the metals that could give the stew an off flavor.

Whether stewing or braising, begin by browning the meat to **caramelize** the protein, sugars, and fats on the outside of the meat. This is called **searing** the meat. As the meat browns, browned bits form on the bottom of the pot. When liquid is added, the browned bits dissolve and add color and flavor to the liquid.

Add broth or other liquids to the pot. Cover the pot with a tight-fitting lid, and then reduce the heat to a simmer. Do not allow liquid to boil as that causes the meat to be tough.



Braising Meat

Large, less-tender cuts such as chuck, round, and rump are braised as pot roasts. Hard, fibrous vegetables, such as root vegetables, are good also in braises.

1. In a large, heavy pan, slowly sear (brown) meat on all sides in a small amount of oil.
2. Season with salt and pepper, if desired.
3. Add liquid, 1/2 to 2 cups of broth, water, or juice so meat is partially covered by liquid.
4. Cover pan with tight-fitting lid and simmer gently over low heat on top of range or in 325 degree F oven until fork tender and until food thermometer reaches correct temperature. See table on page 47 for cooking temperatures.

Classic Beef Pot Roast

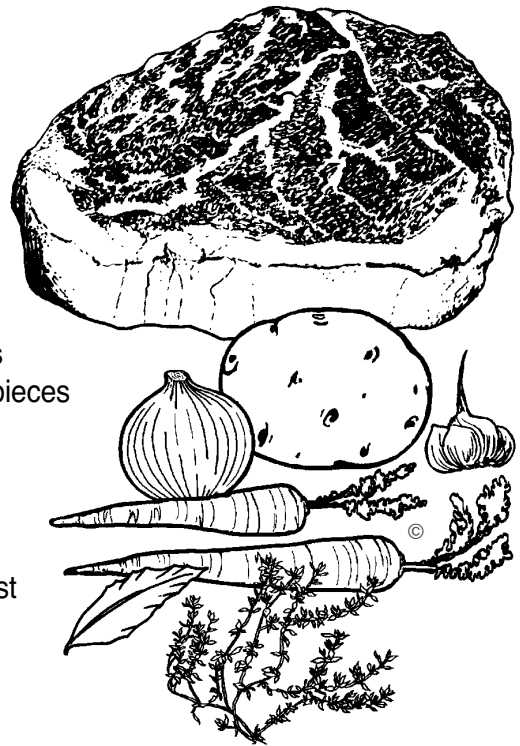
Yield: 10 servings



Cuts of beef that work well for braising go by many different names: Blade roast, cross-rib roast, arm pot roast, and boneless chuck roast are all acceptable cuts for this traditional recipe.

Ingredients

- 1 teaspoon olive oil
- 3 pound boneless chuck roast, trimmed of fat
- 1 teaspoon salt
- 1/4 teaspoon pepper
- 2 cups coarsely chopped onion
- 1 cup water
- 4 thyme sprigs, optional
- 3 garlic cloves, chopped
- 1 can (14 oz.) beef broth
- 1 bay leaf
- 2 cups carrots, cut diagonally into 1-inch pieces
- 2 pounds potatoes, peeled and cut into 2-inch pieces



Order of Work

1. Preheat oven to 350 degrees F.
2. Heat olive oil in a large Dutch oven over medium-high heat. Sprinkle chuck roast with salt and pepper. Add roast to pan; cook 5 minutes, turning to brown on all sides. Remove roast from pan.
3. Add onion to pan; sauté 8 minutes or until tender.
4. Return browned roast to pan. Add the water, thyme sprigs, garlic, beef broth, and bay leaf to pan; bring to a simmer. Cover pan and bake for 1 1/2 hours or until the roast is almost tender.
5. Add carrots and potatoes to pan. Cover and bake an additional 1 hour or until vegetables are tender.
6. Remove thyme sprigs and bay leaf from pan; discard. Shred meat with 2 forks. Serve roast with vegetable mixture and cooking liquid.

Nutrition Facts per Serving: 466 calories, 31 g fat, 448 mg sodium, 20 g carbohydrate, 4 g fiber, 26 g protein, 42 mg calcium



Italian Beef

Yield: 12 to 15 servings



Italian beef is seasoned roast beef served with meat juices, typically on a dense, long Italian-style roll. It is believed to have originated in Chicago, where its history dates back at least to the 1930s. Local legend tells that the Italian beef sandwich was started by Italian immigrants who worked in the stockyards. They often would bring home some of the tougher, less desirable cuts of beef sold by the company. To make the meat more enjoyable, it was slow-roasted to make it more tender, then slow-simmered (braised) in a spicy broth that used Italian-style spices and herbs. The meat was then thinly sliced across the grain and stuffed into fresh Italian bread.

Ingredients

- 1 tablespoon olive oil
- 4 or 5 pound bottom round or eye of round roast
- 1 package (1 oz.) dry onion soup mix
- 3 cloves garlic, sliced
- 5 or 6 pepperoncini (pickled sweet Italian peppers), optional
- 2 tablespoons lemon juice
- 1 tablespoon Worcestershire sauce
- 1 cup beef broth
- 3 cups water or beef broth
- 2 tablespoons Italian seasoning
- 3 bay leaves
- 2 teaspoons salt
- 1 small dried red pepper or dash ground red pepper, optional



Order of Work

1. Preheat oven to 325 degrees F.
2. In a large, heavy pan or Dutch oven, heat oil over medium-high heat. Add roast and brown meat on all sides.
3. Add onion soup mix, garlic, pepperoncini, lemon juice, Worcestershire sauce, broth, water or broth, Italian seasoning, bay leaves, salt, and red pepper to pan so meat is partially covered by liquid.
4. Cover pan with tight-fitting lid and bake for 4 to 5 hours, or until fork tender and food thermometer reaches correct temperature. See table on page 47 for cooking temperatures.
5. Add broth or water as needed to maintain 2 to 3 inches of liquid around the meat.
6. Remove from oven and cool for 30 minutes. Remove bay leaves. Put the meat and broth in the refrigerator for a few hours until the fat has solidified. Remove the fat from the broth and thinly slice the beef, discarding any fat on the meat.
7. Combine the meat and broth and reheat to 165 degrees F for serving. Serve hot with broth over Italian buns or hard rolls. Meat and broth can be frozen in meal-sized portions.

Nutrition Facts per Serving: 266 calories, 12 g fat, 759 mg sodium, 3 g carbohydrate, less than 1 g fiber, 34 g protein, 16 mg calcium

Stewing



Stewing is ideal for less-tender cuts of meat. In fact, if the meat is too lean it can become tough when used for a stew. It is important to simmer meats and not boil them when making stews. Slowly cooking stew over low heat so the liquid barely simmers breaks the meat tissues down and makes the meat tender. If cooked too fast, the meat becomes too firm and tough. It is best to add vegetables, such as potatoes and carrots, after the meat has cooked. This ensures that the meat will be tender, while the vegetables retain their shape and don't become overcooked.

- For beef stew, use beef stew meat, which come from the tougher parts of the cow: the shoulder, leg, and butt. These are often referred to as the **chuck**.
- For a lamb stew, use lamb stew meat which is usually cut-up pieces from the leg of lamb.
- For pork stew, use pork shoulder. This is also called Boston-butt pork roast.

Most stews call for onions, garlic, leeks, or shallots to add flavor. Begin by **sautéing** these ingredients in a small amount of oil until golden brown. Remove from the pan and set aside. Next, **dredge** the meat by placing the pieces in a bowl or plastic bag containing flour. Toss the meat to coat it with flour. Remove meat and shake off any excess flour.

Heat the Dutch oven or soup pot over medium-high heat and add a small amount of oil. Add the meat to the pan and sear it just until browned. Do not completely cook the meat or it will become tough. The flour coating will cook quickly, sealing juices inside the meat. Browned pieces of the flour will stick to the bottom of the pan making a flour-and-fat combination, a **roux** that will thicken the stew. Be careful not to burn the coating on the bottom of the pan. Remove the browned meat from the pan.

Add liquid to the pan and boil while scraping the browned bits from the bottom of the pan. The browned bits will dissolve and add flavor to the gravy. This process is called **deglazing** the pan. Then return meat, onions, garlic, and other ingredients to the pan. Cover with liquid and reduce heat to a simmer. Do not boil the stew. Add vegetables after meat is completely cooked.

Stews often make a large number of servings — and usually for a reason. The flavor of stew continues to develop with time as the ingredients blend together, or **marry**. Usually stew tastes even better the next day. This makes for great leftovers that can be used for meals or frozen for up to three months. Be sure to follow good food safety practices when handling leftovers. (Refer to *4-H Cooking 201* pages 8 to 11 for more information on food safety when handling leftovers.)



Oven Beef Stew

Yield: 8 1-cup servings



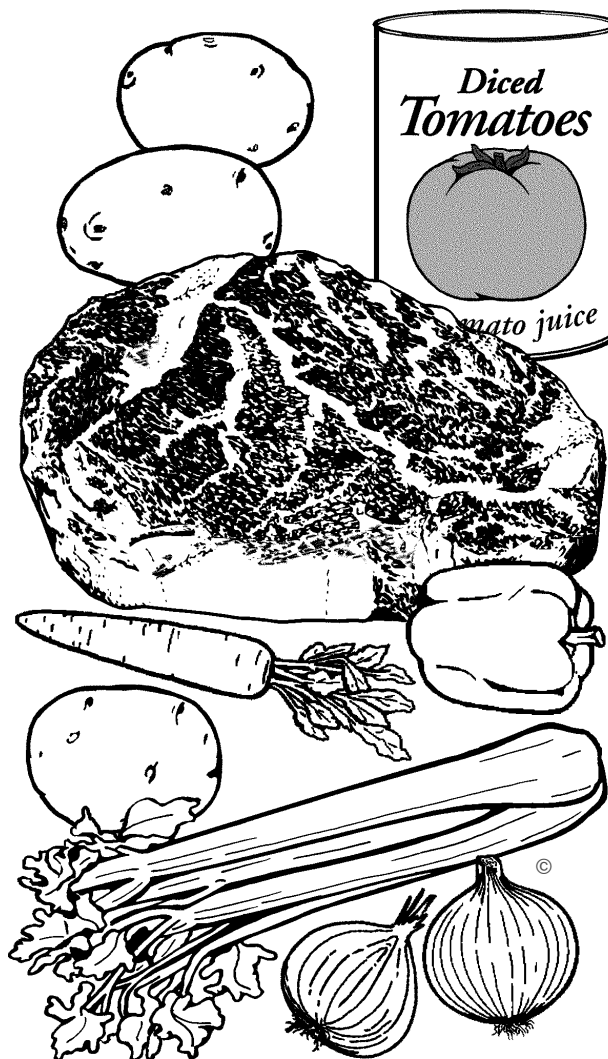
Ingredients

- 4 teaspoons oil, divided
- 3 stalks celery, sliced
- 3 cups onions, coarsely chopped
- 2 pounds beef stew meat
- 3 tablespoons flour
- 1/4 cup quick-cooking tapioca
- 4 cups cubed potatoes
- 2 cups carrots, sliced into 1-inch chunks
- 1 cup green pepper, cut into chunks
- 2 cans (16 oz.) diced tomatoes
- 1 tablespoon sugar
- 1 teaspoon salt
- 1/2 teaspoon pepper

Order of Work

1. Preheat oven to 325 degrees F.
2. Heat 2 teaspoons oil in a 4-quart Dutch oven or soup pot. Add the celery and onions. Cook for 5 minutes, stirring occasionally until lightly cooked. Remove from the pan and set aside.
3. Place the beef stew meat in a bowl or plastic bag with flour. Toss the meat to coat it with flour. Remove meat and shake off any excess flour.
4. Heat the Dutch oven or soup pot over medium-high heat and add remaining 2 teaspoons oil. Add the meat to the pan and sear it just until browned. Remove pot from heat.
5. Add tapioca, potatoes, carrots, green pepper, tomatoes, sugar, salt, and pepper to pot.
6. Cover with tight fitting lid. Bake for 2 to 2 1/2 hours. Check for doneness after 2 hours; vegetables should be fork-tender.

Nutrition Facts per Serving: 394 calories, 14 g fat, 672 mg sodium, 40 g carbohydrate, 5 g fiber, 27 g protein, 72 mg calcium



Chicken Stew

Yield: 12 1-cup servings



Slow cookers are ideal for making hearty stews since they allow the foods to slowly simmer and flavors to blend. The added convenience of coming home to a prepared meal is appealing to busy families.

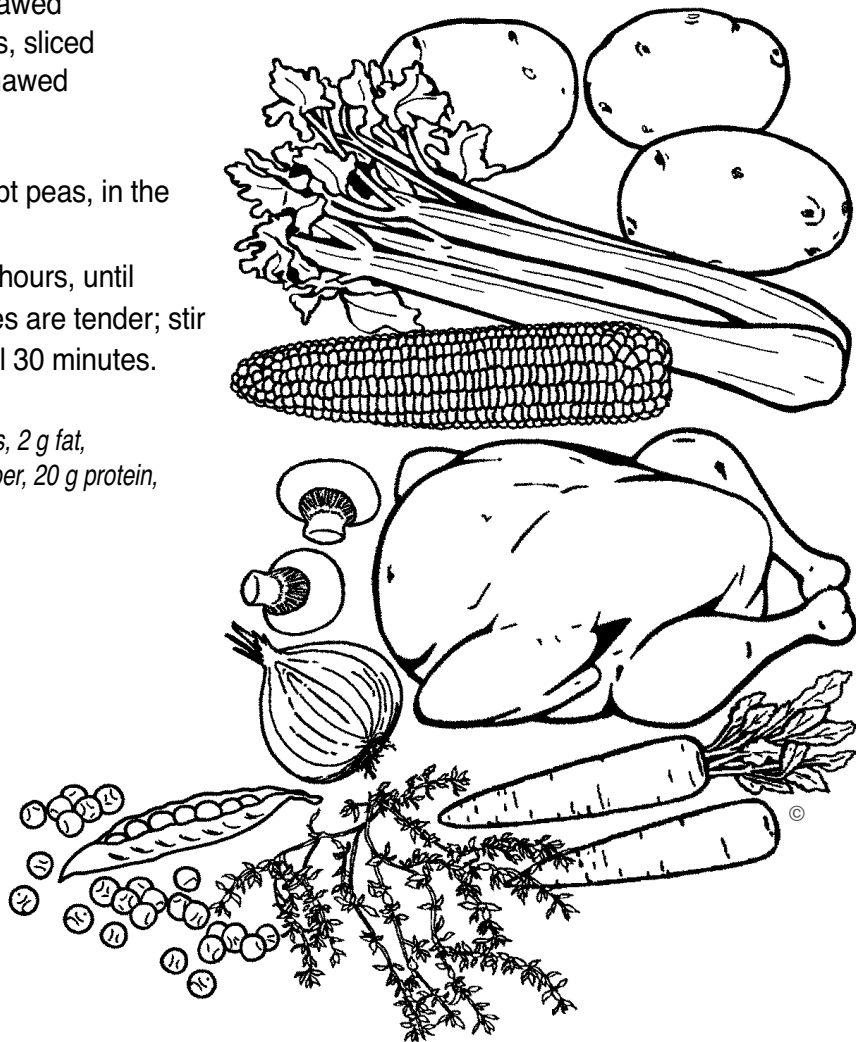
Ingredients

- 2 pounds boneless, skinless chicken breasts, cut into 1-inch cubes
- 1 1/2 cups onions, sliced
- 1 cup baby carrots or carrots, cut into 1-inch slices
- 3 medium potatoes, cut into 1-inch cubes
- 3 1/2 cups chicken broth
- 1 teaspoon celery seed
- 1 teaspoon dried thyme
- 1/2 teaspoon pepper or seasoned pepper mix
- Salt to taste
- 1 cup frozen corn, thawed
- 8 ounces mushrooms, sliced
- 1 cup frozen peas, thawed

Order of Work

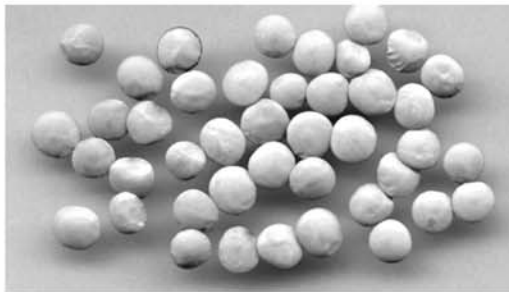
1. Combine all ingredients, except peas, in the slow cooker; stir well.
2. Cover and cook on low 6 to 8 hours, until chicken is done and vegetables are tender; stir in peas and cook an additional 30 minutes.

Nutrition Facts per Serving: 168 calories, 2 g fat, 383 mg sodium, 17 g carbohydrate, 2 g fiber, 20 g protein, 27 mg calcium





Great Northern Beans — mild white beans are often used in casseroles and stews.



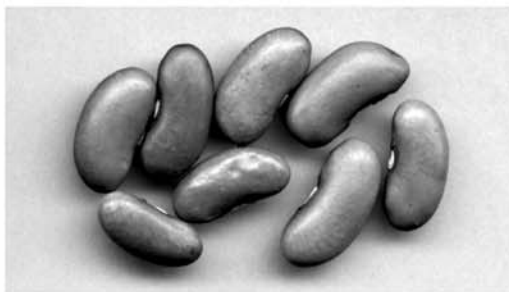
Lentils — small beans with thin skins that are used in soups, casseroles, and salads. Because they are small, they do not require soaking and cook quickly.



Lima Beans or Butter Beans — buttery flavored lima beans are great in soups or stews, or on their own as a side dish. The most popular varieties are the small **baby lima beans** and the larger **Fordhooks**.



Pinto Beans — beans are beige with brown streaks, but turn a uniform pinkish-brown when cooked. Often used to make refried beans and chili.



Red Kidney Beans — long, red beans that are very versatile and often used in chili, refried beans, soups, and salads.



White Navy Beans or Cannellini — white kidney beans with a nutty flavor and delicate texture. Cook gently to prevent them from becoming mushy. Often used in Minestrone soup or bean salad.



Cooking Dried Beans and Peas

1. Prepare dried beans or peas — Rinse beans and pick out stems or stones.

2. Soak beans or peas — (Note: Lentils and split peas do not need to be soaked before cooking.) There are two methods for soaking beans or peas. Choose the method depending on the amount of preparation time available.

Quick Soak — Bring 1 pound of beans or peas and 6 cups of water to a boil in a large saucepan. Boil for 2 minutes. Remove pan from heat and let stand 1 hour. Drain water before cooking.

Overnight Soak — Soak beans overnight in a large saucepan containing 6 cups of water for each pound of beans or peas. Beans and peas soaked by this method will keep their shape, have uniform texture, and cook more quickly. It also makes them more digestible so they are less likely to cause intestinal gas or bloating. Drain before cooking.

3. Cook beans or peas

- Drain the soaked beans and cover with FRESH water. Pouring off the water helps get rid of the indigestible sugars that create gas in the intestine. (See the US Dried Bean Council website for more information.)
- Add 1 tablespoon of oil or other fat to reduce foaming during cooking.
- Bring beans or peas to a boil. Reduce heat to low and simmer until tender. Simmer gently to prevent skins from bursting. Stir occasionally.
- Beans and peas are done when they are tender and can be pierced with a fork. Most varieties will take 1 1/2 to 2 hours to cook.

4. Store beans and peas — Cooked beans may be covered and refrigerated for 4 to 5 days.

Most cooked beans freeze well, except for lentils. Place 1 to 3 cups of beans in a freezer container or plastic freezer bag. Label with contents, quantity, and date. They will maintain their quality in the freezer for up to 6 months.

Black Bean Soup

Yield: 6 1 1/2-cup servings



Black beans are a staple of Latin American and Caribbean cuisine and are usually combined with spices to add flavor and spicy heat to the dish. Adjust the amount of cayenne (red) pepper in this recipe to suit your taste. Many times black beans are called Turtle Beans because of their hard, shiny-black shells.

Ingredients

- 1 pound black beans
- 6 1/2 cups chicken broth
- 1 cup diced ham or 1 ham bone with some meat
- 1 bay leaf
- 1 tablespoon olive oil
- 1 tablespoon minced garlic
- 3/4 cup chopped onions
- 4 stalks celery, chopped
- 3/4 cup diced red bell pepper
- 1 tablespoon ground cumin
- 1/8 to 1/2 teaspoon ground cayenne (red) pepper, to taste
- 1/2 teaspoon black pepper
- 1 tablespoon brown sugar
- 1 tablespoon lime juice
- Salt, to taste
- 1/2 cup sour cream



Order of Work

1. Sort beans to remove any stones or dirt. Place beans in soup pot and cover with water; soak overnight or 6 to 8 hours.
2. Drain soaked beans. Add chicken broth, ham or ham bone, and bay leaf to the black beans. Bring to boil over medium-high heat. Reduce heat to a simmer.
3. While beans cook, heat skillet over medium-high heat. Add olive oil and swirl to coat bottom of skillet. Add garlic, onions, and celery; sauté until tender.
4. Add onion mixture to beans and cook for one hour or until tender.
5. Add red bell pepper, cumin, cayenne pepper (to taste), black pepper, brown sugar, and lime juice. Simmer for 20 to 30 minutes. Add salt, if desired. Remove bay leaves.
6. If a thicker soup is desired, spoon about 3 to 4 cups of the black bean mixture into a blender. Puree the bean mixture on high. Return the pureed beans to the pot. Mix well.
7. If soup is made with a ham bone, before serving remove ham bone from soup. Remove any meat that has not fallen off bone and return meat to soup. Serve soup with a dollop of sour cream on top.

Nutrition Facts per Serving: 456 calories, 11 g fat, 1241 mg sodium, 64 g carbohydrate, 20 g fiber, 26 g protein, 179 mg calcium

Red Beans and Rice

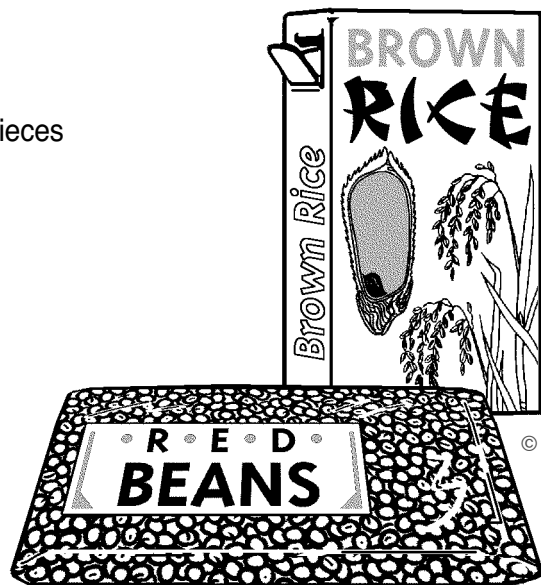
Yield: 6 servings



Red Beans and Rice is an important food staple in Central America and Caribbean countries. Centuries ago when people from these countries migrated to the New World, many of them located in what is now New Orleans. They brought with them the red beans and their native dish quickly became and has remained, a favorite in New Orleans. Now it is considered part of Cajun cooking, which is a blend of French, African, and Native American cuisine.

Ingredients

- 1 pound dried red beans, rinsed and sorted
- 1 tablespoon oil
- 1/4 cup chopped ham
- 1/2 pound smoked sausage, cut into 1-inch pieces
- 1 1/2 cups chopped onions
- 3/4 cup chopped celery
- 3/4 cup chopped green peppers
- 1/2 teaspoon salt
- 1/2 teaspoon black pepper
- Pinch cayenne pepper, if desired
- 3 bay leaves
- 2 tablespoons chopped fresh parsley
- 1/2 teaspoon dried thyme
- 3 tablespoons chopped garlic
- 10 cups chicken broth
- 4 cups cooked brown rice



Order of Work

1. Place the beans in a large soup pot and cover with water. Soak overnight or for 6 to 8 hours. Drain and set aside.
2. In a large skillet, heat the oil over medium-high heat. Add the chopped ham and sausage and cook, stirring, for about 4 minutes or until lightly browned.
3. Add the onions, celery and green peppers to the skillet. Season with the salt, black pepper, and cayenne pepper, if desired; cook, stirring occasionally, until vegetables are soft, about 4 minutes.
4. Add the bay leaves, parsley, thyme, and garlic; cook for 1 minute.
5. Add the chicken broth to beans and bring to a boil. Add meat and vegetable mixture from skillet. Mix well. Reduce the heat to medium-low and simmer, uncovered, stirring occasionally, until the beans are tender and starting to thicken, about 2 hours. (Should the beans become too thick and dry, add more water, about 1/4 cup at a time.)
6. Remove from the heat and with the back of a heavy spoon, mash about 1/4 of the beans against the side of the pot. Continue to cook until the beans are tender and creamy, 15 to 20 minutes.
7. Remove from the heat and remove the bay leaves. Serve over rice.

Nutrition Facts per Serving: 618 calories, 17 g fat, 2184 mg sodium, 87 g carbohydrate, 9 g fiber, 30 g protein, 164 mg calcium



Sweet Baked Beans

Yield: 6 to 8 servings



Baked beans have been eaten in North America since before the Pilgrims landed. It is believed that Native Americans created the first baked bean recipes using maple syrup, cooking them in earthenware pots that were placed in pits and covered with hot rocks. The Pilgrims most likely learned how to make the beans from the Native Americans.

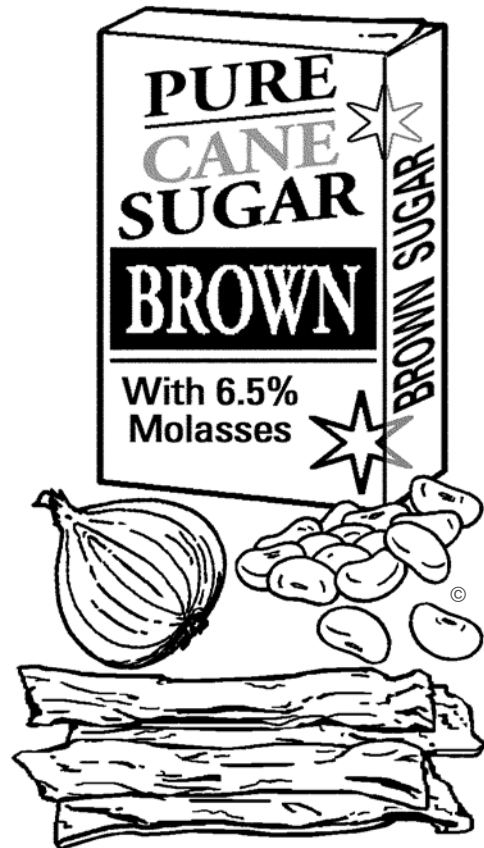
Slow cooking these beans in the oven requires extra cooking time, but one bite and you'll know why these beans are a favorite. You'll never want canned baked beans again. The beans also provide a substantial amount of fiber, which is an important nutrient.

Ingredients

- 4 bacon slices, cut into 1/2-inch pieces
- 1 cup diced onion
- 1 pound dried small white beans
- 8 cups chicken broth or water
- 1/2 cup light molasses, plus extra for seasoning
- 2 tablespoons prepared brown mustard
- 1 teaspoon salt
- 1 teaspoon cider vinegar
- 1/2 teaspoon pepper
- 1/4 cup packed brown sugar, or to taste

Order of Work

1. Place oven rack in lower-middle position. Preheat oven to 300 degrees F.
2. Cook the bacon pieces in a large Dutch oven or heavy soup pot over medium heat until bacon is crisp, about 5 minutes.
3. Remove bacon from pan, reserving 1 tablespoon drippings in pan. Return bacon to pan. Add onions to bacon drippings and cook 5 minutes, or until onion begins to brown.
4. Sort beans and remove any stones or debris and rinse. Add to Dutch oven.
5. Stir in chicken broth or water, molasses, mustard, and salt. Bring to boil, scraping up any brown bits from the bacon.
6. Cover and transfer to oven. Bake, stirring every hour, until the beans are tender, about 4 hours.
7. Remove the lid and continue to bake until the liquid has thickened to a syrupy consistency, about 1 to 1 1/2 hours.
8. Stir in the vinegar, pepper, and brown sugar.



Nutrition Facts per Serving: 356 calories, 6 g fat, 1400 mg sodium, 60 g carbohydrate, 14 g fiber, 15 g protein, 170 mg calcium

Hummus

Yield: 2 cups



The word hummus is actually the Arabic word for chickpea. It is made of softened and pureed chickpeas, garlic, olive oil, and lemon juice. Hummus is one of the most widely eaten and popular foods in the Middle East. In the United States it is often served as a dip or appetizer with flatbreads or fresh vegetables.

Ingredients

- 1/4 cup lemon juice
- 2 cups canned chickpeas (garbanzo beans), drained and rinsed
- 1/4 cup olive oil
- 2 teaspoons chopped garlic
- 1 teaspoon grated lemon zest, optional
- 1/2 teaspoon salt

Order of Work

1. Place all ingredients in a blender or food processor.
2. Process until the texture is slightly chunky. Taste and add more lemon juice if desired.
3. Serve with pita bread, fresh vegetables, or crackers.

Nutrition Facts per 2-Tablespoon Serving: 56 calories, 4 g fat, 144 mg sodium, 5 g carbohydrate, 1 g fiber, 1 g protein, 6 mg calcium





Tex Mex Bean Salad

Yield: 6 1 1/2-cup servings, plus lettuce

Black beans are a staple of Latin American and Caribbean cuisine and are usually combined with spices to add flavor and spicy heat to the dish. This salad uses salsa and pepper-jack cheese for the heat. Using canned black beans instead of dried beans saves preparation time. Rinsing the beans removes much of the sodium (salt) from the beans.

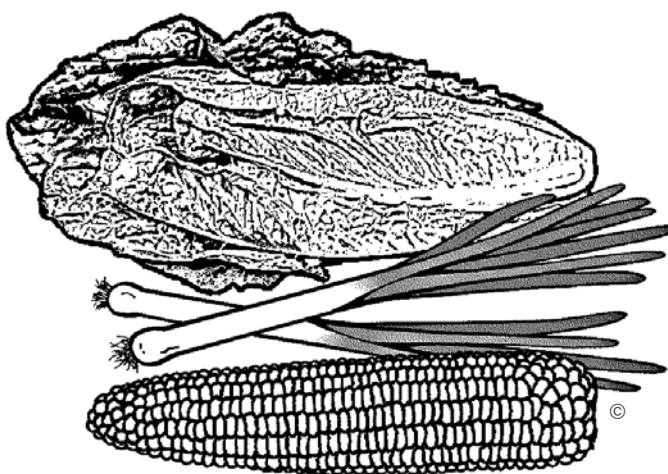
Cilantro is one of those foods that people either love or hate. Cilantro is a herb used in Indian, Asian, and Latin American cuisines. It is available year round in most supermarkets. Choose bunches with bright green leaves and a fragrant aroma. Store it in a plastic bag or place the roots in a container of water with the tops covered by a plastic bag. If you don't like the taste of cilantro, this salad is still delicious made without it.

Ingredients

- 1/3 cup salsa
- 3 tablespoons sour cream
- 1 tablespoon apple cider vinegar
- 2 cans (15 oz.) black beans, rinsed and drained
- 1 cup grape tomatoes, halved
- 3/4 cup fresh or thawed frozen corn kernels
- 1/2 cup avocado, peeled and diced
- 4 green onions, thinly sliced
- 1/2 cup fresh chopped cilantro, or less to taste
- 6 cups romaine lettuce, shredded
- 1/2 cup cubed pepper-jack cheese
- Tortilla chips

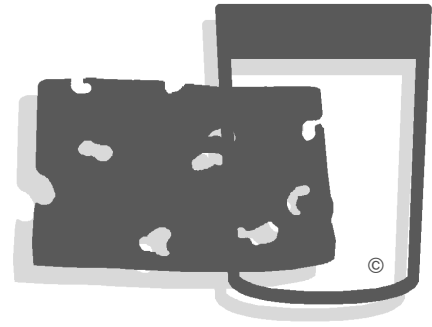
Order of Work

1. To make the dressing, combine salsa, sour cream, and vinegar in a large bowl.
2. Add the beans, tomatoes, corn, avocado, green onions, and cilantro. Toss well to coat.
3. Divide the lettuce among 6 serving plates. Top evenly with the bean mixture and sprinkle with cheese. Serve with tortilla chips.



Nutrition Facts per Serving (without chips): 232 calories, 7 g fat, 670 mg sodium, 32 g carbohydrate, 13 g fiber, 12 g protein, 145 mg calcium

MILK GROUP



Making Ice Cream

A sure way to “crank-up” the fun at a summertime gathering is enjoying a dish of homemade ice cream. You only need milk, cream, sugar, and flavoring to make the basic mix. Using this basic mix, you can make unlimited types or flavors of ice cream.

As with many types of food preparation, knowing the science behind the process helps you produce a better quality product. The key to a smooth creamy texture is the size of the ice crystals that form during churning. Large ice crystals cause the ice cream to have a grainy texture. Small ice crystals produce the smooth, creamy texture that makes ice cream so delicious. Let’s look at how ice crystals form in ice cream and how they can be modified. First, consider the ingredients and how they influence the formation of crystals in the mixture.

- Sugar lowers the freezing temperature of the ice cream mixture. One cup of sugar in a quart of the ice cream mixture decreases the freezing point approximately 2 degrees F. This means that the ice cream must be chilled below the normal freezing temperature of water for ice crystals to form.
- The fat in the cream gives the ice cream flavor. But fat also interferes with ice crystal formation during freezing and helps produce a velvety smooth ice cream.
- **Milk solids** add flavor and give the ice cream mixture a thicker, creamier texture.

Properly freezing the mixture is also critical to producing the creamy texture we enjoy in ice cream. The mixture is slowly stirred or agitated during freezing to prevent large ice crystals from forming. A mixture of ice and salt is used to reduce the freezing temperature so the milk mixture freezes below the normal freezing point of water. Both are important to producing a good ice cream.

- Stirring or agitating causes small crystals to form and helps beat air into the mixture.
- The correct ratio of salt to ice is important. Too much salt causes the mixture to get too cold; too little salt prevents the temperature from going low enough. Use one part salt for every eight parts of ice (one cup salt for every eight cups of ice). While some recipes call for rock salt (a coarse form of salt), table salt can be used. Some ice cream makers have a refrigeration unit and do not use salt and ice. See ice cream maker instructions for details.

- The ice cream is done when the ice cream is so thick and frozen that the dasher stops turning. Gently pour cold water over the lid of the ice cream canister to remove any salt. Open the canister and remove the dasher, being careful not to get any salt water into the ice cream. Return the lid to the canister and pack the sides and top of the ice cream container with ice and salt. Cover with heavy blanket and let stand for two hours. This allows the ice cream to harden, or become firmer, before serving.
- Electric, hand-turned, and counter-top ice cream makers all come with manufacturer's instructions. Follow the instructions included with your machine for best results.

Food Safety and Ice Cream Making

Because eggs may be contaminated with the bacteria Salmonella, do NOT use recipes that call for eggs that are never cooked. Either use a cooked custard-type recipe where the mixture is cooked before freezing or use recipes with no eggs.

Ice Cream in a Bag

Yield: 4 1/2-cup servings

Ingredients

- 1 cup 2% milk
- 1 cup half-and-half, light cream or whipping cream
- 1/4 cup sugar
- 1 teaspoon vanilla extract
- 4 to 6 cups ice
- 1/2 cup salt or rock salt
- Ice cream cones, optional

Equipment

- 1-quart freezer bag
- Freezer tape
- 1-gallon freezer bag
- Cups or bowls for serving



Order of Work

1. Combine milk, half-and-half, sugar, and vanilla in a 1-quart freezer bag; seal tightly. Use freezer tape or waterproof tape to seal the end of the bag.
2. Put the small bag inside a 1-gallon freezer bag, packing ice around the smaller bag. Sprinkle salt or rock salt on ice before tightly sealing larger bag. Use freezer tape or waterproof tape to seal the end of the larger bag. Shake the bags until mixture is frozen.
3. Open and discard the outer bag with the ice and salt solution.
4. Quickly rinse the small bag with cold water before opening.
5. Cut off one corner of the bag and squeeze ice cream into 4 cups or ice cream cones. Serve immediately.

Nutrition Facts per Serving: 142 calories, 8 g fat, 50 mg sodium, 15 g carbohydrate, 0 g fiber, 4 g protein, 134 mg calcium



EXPERIMENT WITH ICE CREAM



An easy way to learn about ice cream is to make “Ice Cream in A Bag” (see page 71). The recipe makes a small amount of ice cream while you learn about freezing and agitating the mix.

- What did you learn about making ice cream?

- Prepare a second recipe of ice cream except don't add the salt to the ice. What happened? Why did you get these results?

- Prepare a third recipe of ice cream and add additional ingredients, such as candy bits, crushed cookies, or fruit. How did these ingredients change the ice cream? What would you do differently next time you made ice cream and added ingredients?

- Gather the ingredients and supplies you need to make ice cream with a group of friends, senior citizens, or young children. How did making ice cream influence the group?





No-cook Ice Cream

Yield: 8 1/2-cup servings

Ingredients

- 2 cups half-and-half
- 1 cup heavy or whipping cream
- 1 cup sugar
- 1 teaspoon vanilla
- 1/8 teaspoon salt



Order of Work

1. Add the half-and-half and cream to a microwave-safe container. Heat cream mixture to 175 degrees F. Do not use a metal thermometer in the microwave.
2. Stir in the sugar, vanilla, and salt.
3. Refrigerate until cold.
4. Place mixture in ice cream maker and freeze following manufacturer's directions.
5. If using salt and ice mixture to freeze ice cream, when ice cream is finished, gently pour cold water over ice cream canister. Open the lid and remove the dasher, being careful not to allow salt water to get into ice cream. Return the canister lid and seal tightly. Add more ice to completely cover freezer canister. Cover with heavy blanket and allow ice cream to harden for about 2 hours before serving.

Nutrition Facts per Serving: 281 calories, 18 g fat, 71 mg sodium, 29 g carbohydrate, 0 g fiber, 2 g protein, 83 mg calcium

Variations

(for 1 quart ice cream recipe)

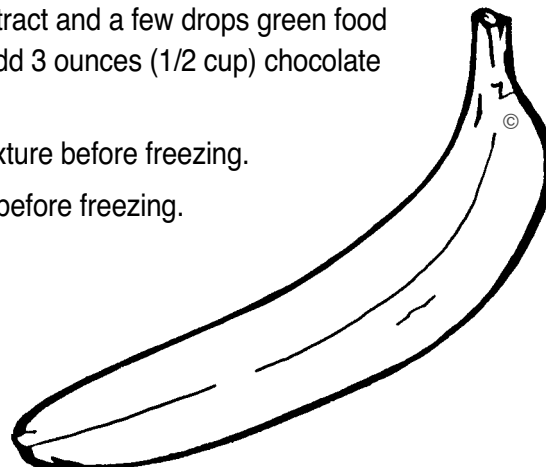
Cookies and Cream — Crumble chocolate sandwich cookies. Add to mixture before freezing. For 1 quart of ice cream, use about 6 cookies.

Chocolate Chip — Stir in 3 ounces (1/2 cup) of grated semisweet chocolate or chocolate chips after removing the dasher.

Mint Chocolate Chip — Add 3/4 teaspoon peppermint extract and a few drops green food coloring (optional) to chilled mixture before freezing. Add 3 ounces (1/2 cup) chocolate chips after removing the dasher.

Strawberry, Peach — Add 1 cup pureed fruit to chilled mixture before freezing.

Banana — Add 1 cup mashed bananas to chilled mixture before freezing.

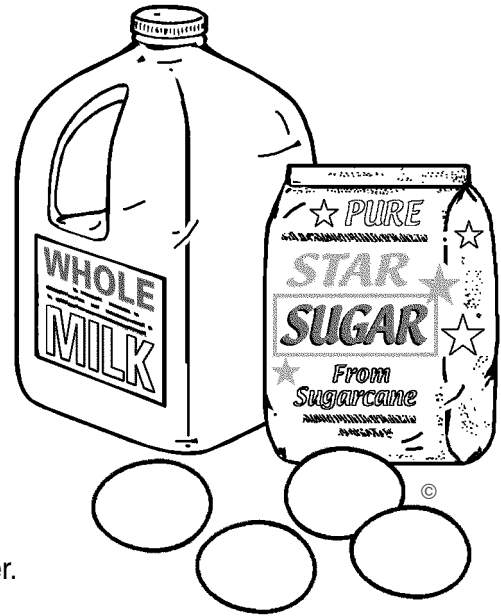


Cooked Custard Ice Cream

Yield: 16 1-cup servings

Ingredients

- 2 cups sugar
- 1/4 cup cornstarch
- 1/4 teaspoon salt
- 4 cups whole milk
- 4 eggs, beaten
- 2 tablespoons vanilla
- 4 cups half-and-half



Order of Work

1. Mix sugar, cornstarch, and salt in the top of a double boiler.
2. Gradually blend in milk.
3. Cook over hot water, stirring occasionally until thickened, about 12 to 15 minutes.
4. Stir a small amount of the hot milk mixture into the beaten eggs. Stir the eggs into the remaining milk mixture.
5. Continue cooking, stirring constantly for 4 to 5 minutes or until the mixture is the consistency of pudding.
6. Chill thoroughly. This step is essential for a smooth ice cream.
7. Stir in vanilla and half-and-half.
8. Pour into a 1 gallon ice cream freezer and freeze according to manufacturer's directions.
9. If using salt and ice mixture to freeze ice cream, when ice cream is finished, gently pour cold water over ice cream canister. Open the lid and remove the dasher, being careful not to allow salt water to get into ice cream. Return the canister lid and seal tightly. Add more ice to completely cover freezer canister. Cover with heavy blanket and allow ice cream to harden for about 2 hours before serving.

Nutrition Facts per Serving: 243 calories, 10 g fat, 109 mg sodium, 33 g carbohydrate, less than 1 g fiber, 5 g protein, 131 mg calcium

Variations (for 4-quart ice cream recipe)

Cookies and Cream — Crumble chocolate sandwich cookies. Add to mixture before freezing. For 4 quarts of ice cream, use about 25 cookies.

Chocolate Chip — Stir in 12 ounces (2 cups) of grated semisweet chocolate or chocolate chips after removing the dasher.

Mint Chocolate Chip — Add 2 teaspoons peppermint extract and 1/2 teaspoon green food coloring (optional) to chilled mixture before freezing. Add 12 ounces (2 cups) chocolate chips after removing the dasher.

Strawberry, Peach — Add 4 cups pureed fruit to chilled mixture before freezing.

Banana — Add 3 cups mashed bananas to chilled mixture before freezing.



Custard and Pudding

Cold, creamy pudding is a favorite dessert for both kids and adults. If the only kind of pudding you have ever eaten came out of a can or a box, you have missed a simple, but delightful dessert that can have a wide variety of flavors. Puddings are cooked, baked, steamed, or chilled. An example of uncooked pudding is mousse.

Custard is a thick, creamy pudding-like dessert made with eggs, cream or milk, sugar, and flavorings. Some custard recipes use starches, such as flour, cornstarch, or tapioca, to thicken the mixture when it is baked or cooked. Custard is firmer than pudding and can be used in other desserts — for example, custard pies, éclairs, or cream puffs. Custards are prepared in two ways: stirred and cooked on top of the stove or baked in the oven.

Baked custard is done when a metal knife inserted off-center comes out clean. The very center still may not be quite done, but the heat retained in the mixture will continue to cook after it is removed from the oven.

Custard is often used to make pies. Uncooked custard is poured into an unbaked pie shell and baked in the oven. This differs from a cream pie, which is made from cooked custard and then spread into a pre-baked pie shell. Pumpkin and pecan pies are both types of custard pies. The 4-H Custard Pie recipe (see page 113) is a long time favorite and one you may want to try.

Thick, Creamy Texture of Custards and Pudding

The thick, creamy texture of custards and pudding comes from the blend of eggs, milk or cream, and/or **starch thickeners**. Starch thickeners are used to thicken sauces, pie fillings, custard, and pudding. They thicken without adding fat or much flavor. Three of the most commonly used thickeners are cornstarch, flour, and tapioca. Each thickener gives different characteristics to the finished product.

Cornstarch thickens with a satiny smoothness, gives the cooked food a glossy appearance, and adds no taste of its own to mask the flavor of foods. Foods thickened with cornstarch have a brighter, more translucent appearance than those thickened with flour. Cornstarch blends easily with cold liquids. Because cornstarch thickens as soon as it is added to a hot mixture, mix the cornstarch with a small amount of cold water or other liquid before adding to hot mixture to prevent lumps from forming. Simmer the food while stirring constantly for a few minutes until the mixture thickens. Be careful — the mixture will thin if cooked too long or stirred too vigorously.

Flour is also used to thicken cooked foods, but it only has half the thickening capacity of cornstarch. Once flour is added to a mixture, the food must be cooked for several minutes to thicken. To use flour when making pudding, mix the flour with lukewarm water and blend until smooth before adding to the pudding mixture. Bring mixture to a boil to prevent a starchy flavor and white appearance.

Instant or Quick-Cooking Tapioca is small white granules of cassava root. The grains don't dissolve completely when cooked, so puddings and pies thickened with them are packed with tiny gel-like balls, which add an interesting texture to the food. Tapioca is flavorless and gives a transparent gloss to foods.

Cooking with a Double Boiler

Custards and puddings are often prepared in a double boiler to prevent the mixture from scorching, sticking, burning, scalding, or separating. Double boilers are used to heat or prepare foods that are too delicate to be in direct contact with cooking heat, such as eggs, milk, cheese, or chocolate. Cooking food over boiling or simmering water allows the food to cook at a low temperature.

A double boiler consists of two pans, one fitting inside the other. If you do not have a double boiler, a suitable substitute is a heavy saucepan and a heavy metal bowl large enough to fit into the saucepan without touching the bottom of the pan.

Fill the bottom pan with 2 to 3 inches of water and bring to a steady boil. Reduce heat so water maintains a slow boil or simmer. Insert the top of the double boiler over the bottom pan or place the heavy metal bowl in the saucepan. Check to make sure that the boiling water does not touch the bottom of the top pan or bowl.

Tempering the Eggs

When making custards, the recipe frequently requires adding hot liquid to cold eggs or egg whites. Use a **tempering** technique to prevent the hot liquid from immediately cooking the eggs. Slowly add the hot liquid to the cold eggs to gradually bring the temperatures of the two mixtures together. To temper the eggs, while whisking constantly, add a large spoonful of the hot mixture to the eggs. Whisk until combined. Add another spoonful of hot mixture while continuing to whisk the eggs. Then gradually add warmed eggs to hot mixture while whisking constantly.

Cooling the Custard or Pudding

When custards, puddings, and other sauces that contain milk or milk products are cooked, they will form a **skin** or film on the top as they cool. Some people don't like the appearance or texture of the skin. To prevent the skin from forming, press plastic wrap on the surface of the custard or pudding while it is still warm and refrigerate.

Evaluate Your Custard or Pudding

Texture — Is the custard smooth and jelly-like (not curdled or porous)?

Consistency — Is the custard firm enough to hold shape (firm to center)?

Flavor — Does custard have a well-blended flavor? Is the flavor pleasing and delicate?



Baked Custard

Yield: 5 1/2-cup servings

Ingredients

- 2 large eggs
- 1/4 cup sugar
- 1/4 teaspoon salt
- 3/4 teaspoon vanilla
- 2 cups milk
- Ground nutmeg, if desired

Order of Work

1. Preheat oven to 350 degrees F.
2. In large mixing bowl, beat together eggs, sugar, salt, and vanilla. Slowly beat in milk until well blended.
3. Pour into 5 small (6 oz.) custard cups or pour into a 1-quart baking dish. Sprinkle lightly with nutmeg, if desired.
4. Place custard cups or baking dish in a 9" x 13" baking pan and pour enough hot water into the pan to come halfway up the sides of the custard cups or baking dish. Carefully place pan in oven.
5. Bake the cups for 40 minutes; bake the dish 35 to 40 minutes; or until the custard is set and the point of a knife comes out clean. Carefully remove baking pan from oven.
6. Remove custard cups or baking dish from water.
7. May serve warm or chill before serving.
8. Refrigerate leftovers.



Nutrition Facts per Serving: 118 calories, 4 g fat, 182 mg sodium, 15 g carbohydrate, less than 1 g fiber, 6 g protein, 123 mg calcium

Vanilla Pudding

Yield: 4 1/2-cup servings

Ingredients

- 3 tablespoons cornstarch
- 1/3 cup sugar
- 1/8 teaspoon salt
- 2 cups milk
- 1 teaspoon vanilla

Order of Work

1. Mix cornstarch, sugar, and salt in top of double boiler or a heavy metal bowl that fits inside a saucepan without touching the bottom. Gradually add the milk. Stir until well blended.
2. Place 2 to 3 inches of water in bottom of a double boiler or heavy sauce pan; bring to a boil. Reduce heat until water is simmering. Place top of double boiler or metal bowl in saucepan. Cook mixture and stir constantly until thickened. Cover and cook 10 to 15 minutes. Remove from heat.
3. Add vanilla and stir until mixed. Pour into individual custard cups or serving dish. Chill until firm.
4. May serve with fresh or canned fruit.

Nutrition Facts per Serving: 151 calories, 2 g fat, 120 mg sodium, 28 g carbohydrate, less than 1 g fiber, 4 g protein, 143 mg calcium

Variations

Butterscotch Pudding

1. Substitute brown sugar for sugar.
2. Add 3 tablespoons butter after pudding is removed from heat.
3. Chill. Serve plain or with whipped cream or whipped topping.

Chocolate Pudding

1. Increase sugar to 1/2 cup and milk to 2 1/4 cups.
2. Mix 1/3 cup cocoa with dry ingredients or melt two 1-ounce squares of chocolate in mixture after it becomes hot.
3. Chill. Serve plain or with whipped cream or whipped topping.

Vanilla Cream Pie

1. Pour cooked pudding into a baked graham cracker pie crust.
2. Chill until firm.
3. Cover pudding with whipped topping. Serves 8.





Tapioca Pudding

Yield: 6 servings

Ingredients

- 3 tablespoons quick cooking tapioca
- 1/3 cup sugar
- 1/8 teaspoon salt
- 1 egg
- 2 3/4 cups milk
- 1 teaspoon vanilla

Order of Work

1. In heavy saucepan, combine tapioca, sugar, and salt.
2. Place egg in medium bowl and beat well. Gradually add milk and stir until well blended. Add to dry ingredients in pan.
3. Allow to sit for 4 or 5 minutes.
4. Cook mixture over medium heat, stirring very often, until it comes to a full rolling boil; continue to boil while stirring constantly.
5. Remove pan from heat and add vanilla. Stir to blend well.
6. Pour pudding into small individual servings or medium bowl. Allow to cool for 20 minutes before serving. During this time pudding will set.
7. Serve warm or cover and refrigerate until serving.



Nutrition Facts per Serving: 133 calories, 3 g fat, 104 mg sodium, 21 g carbohydrate, 0 g fiber, 5 g protein, 135 mg calcium

Crème Brûlée

Yield: 6 servings

One of the simplest and richest custards is Crème Brûlée (pronounced krehm broo-LAY): Simple, because it contains only four ingredients — egg yolks, cream, sugar, and vanilla; rich, because egg yolks and cream are extremely high in fat. The high fat content gives the custard a smooth and creamy texture and a wonderful flavor.

Crème Brûlée is usually served in individual **ramekins** — 4 to 6 ounce oven-safe dishes — and then topped with sugar that is caramelized just before serving. Caramelizing sugar requires heating the sugar to a stage where it turns brown and syrupy. When the caramel cools it forms a crunchy topping. For Crème Brûlée, the caramel is formed by either heating the sugar with a special hand-held butane torch until the sugar melts or by placing it under the broiler.

Ingredients

- 8 egg yolks
- 1/2 cup granulated sugar
- 2 cups whipping cream
- 1 teaspoon pure vanilla extract
- 1/4 cup granulated sugar, for the caramelized tops

Order of work

1. Preheat oven to 300 degrees F.
2. In a large bowl, cream together egg yolks and sugar with a whisk until the mixture is pale yellow and thick.
3. Pour cream into a medium saucepan over low heat. Add vanilla extract and bring to a brief simmer.
4. Remove cream from heat and temper yolks by gradually whisking in 1/4 cup of hot vanilla cream into yolk and sugar mixture. Slowly add the rest of the hot cream, whisking constantly.
5. Divide the mixture among 6 ramekins or custard cups.
6. Place the ramekins or custard cups in a 9" x 13" cake pan and pour enough hot water into the pan to come halfway up the sides of the ramekins.
7. Bake until custard is set around the edges, but still loose in the center, about 50 minutes.
8. Remove the ramekins from the hot water bath and place on cooling rack for 20 minutes.
9. Refrigerate cooled ramekins at least 2 hours or up to 2 days.
10. When ready to serve, sprinkle about 2 teaspoons of sugar over each custard. Using a hand-held butane torch, heat the sugar in a swirling motion to melt the sugar or place under the broiler until the sugar melts. Serve when caramelized sugar hardens.

Nutrition Facts per Serving: 447 calories, 36 g fat, 41 mg sodium, 28 g carbohydrate, 0 g fiber, 5 g protein, 82 mg calcium



Flan

Yield: 8 servings



The Mexican version of Crème Brulee is called flan or caramel custard.

This dessert can be made in individual ramekins or in a cake pan or special flan mold.

Ingredients

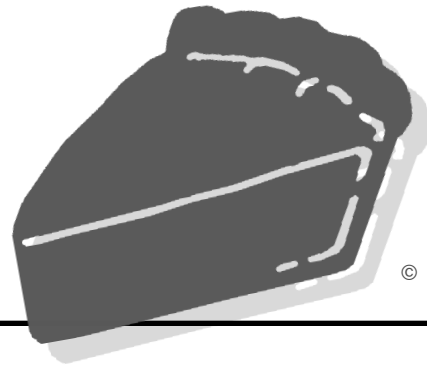
- 1/4 cup water
- 1/2 cup sugar
- 2 egg yolks, room temperature
- 2 eggs, room temperature
- 1 1/2 cups low-fat milk
- 1 (14 oz.) can sweetened condensed milk
- 1/4 teaspoon grated fresh lemon zest, optional

Order of work

1. Heat oven to 350 degrees F. Place kitchen towel on the bottom of a large roasting pan and place a 9-inch round cake pan on the towel.
2. Bring 6 cups of water to a boil.
3. Pour 1/4 cup of water into a small saucepan; pour sugar into the center of the pan. Gently stir until sugar is completely wet. Bring to a boil over medium-high heat and cook, without stirring, until the sugar has dissolved completely and the liquid has a faint golden color, about 3 to 5 minutes.
4. Reduce the heat to medium-low and continue to cook until it has a dark amber color, about 2 additional minutes.
5. Carefully pour the syrup into the prepared cake pan.
6. Whisk the egg yolks and eggs together in a bowl. Whisk in the milk, sweetened condensed milk, and zest until thoroughly combined. Pour into the cake pan.
7. Place roasting pan in the oven and carefully pour enough boiling water into the pan to reach halfway up the sides of the cake pan.
8. Bake custard until the center is just barely set, about 30 to 40 minutes.
9. Carefully remove the cake pan from the water bath and let custard cool to room temperature. Cover the pan tightly with plastic wrap and refrigerate until cold.
10. To serve, run a small knife around the cake pan to loosen custard. Place inverted serving platter over the top and quickly flip the custard onto the platter, drizzling any extra sauce over the top.

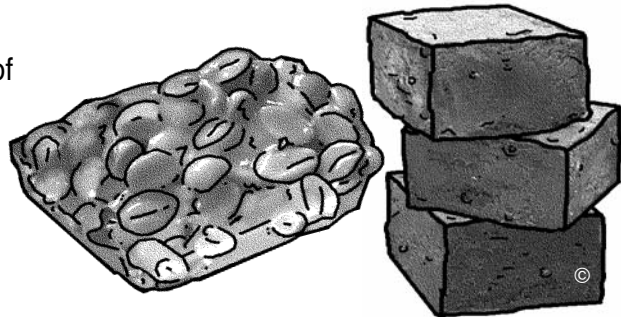
Nutrition Facts per Serving: 273 calories, 7 g fat, 97 mg sodium, 44 g carbohydrate, less than 1 g fiber, 8 g protein, 197 mg calcium

DESSERTS



Candy

Candy is a popular treat that requires a great deal of skill to prepare. It helps to know and understand the science behind candy making because the science often determines whether the candy turns out as desired.



Understanding the Science of Candy Making

When sugar is added to liquid, the sugar crystals dissolve into a solution. But the solution can only absorb so much sugar. When as much sugar as possible has been dissolved into a solution, the solution is **saturated**. The saturation point is different at different temperatures. The higher the temperature, the more sugar can be held in solution. You may have noticed this principle when making tea. When adding sugar to hot tea, sugar dissolves very quickly. If sugar is added to iced tea, it is very difficult to get the sugar to dissolve. The iced tea becomes saturated with just a small amount of sugar.

Use extra caution when making candy.

The sugar solution cooks at very high temperatures so it is extremely hot and can cause serious burns. Adult supervision is recommended.

When making candy, the ingredients are heated to extremely high temperatures in order to dissolve a large amount of sugar. At these high temperatures, the sugar remains in solution. When the candy has been cooked and begins to cool, there is more sugar in the solution than is normally possible. The solution is said to be **supersaturated** with sugar. Sugar naturally wants to crystallize back into a solid form. Stirring or pouring the candy can cause the sugar to crystallize.

The next step in the candy making process depends on the type of candy being made. There are two categories of candies — crystalline candies and non-crystalline or amorphous candies.

Crystalline candies contain small sugar crystals that give them a smooth, creamy texture. Examples are fudge, fondant, divinity, and creams.

Non-crystalline or amorphous candies do not contain sugar crystals. Examples are toffee, peanut brittle, taffy, and caramels.



Crystalline Candies

When making crystalline candies, it is important to follow the instructions carefully in order to insure a good quality product, a candy with many small sugar crystals.

Recipe ingredients also help in the formation of the small crystals that give this candy a smooth texture. Ingredients are added to the candy recipe to make it difficult for large sugar crystals to form. These are called **interfering agents** because they interfere with the formation of large sugar crystals. Butter, the fat in chocolate, and corn syrup are examples of ingredients that act as interfering agents.

After cooking, crystalline candies should not be disturbed until cooled to about 110 degrees F. This allows many small crystals to form quickly, which results in a smoother candy. After the candy is cooled to 110 degrees F, it is stirred until the candy becomes solid. Stirring prevents large sugar crystals from forming, adds air to the mixture, makes the candy less shiny, and produces a lighter color.

Tips for Making Quality Crystalline Candy

- Use an accurate candy thermometer. To make sure it is accurate, check the thermometer by using the instructions on page 86.
- If possible, make candy on a dry day. Crystalline candies that cool under extremely humid conditions will pick up moisture from the air resulting in soft candy. If candy must be made on a rainy or other damp day, adjust for humidity by cooking crystalline candy to one degree F higher than the recipe states.
- While cooking, allow the mixture to reach the temperature called for in the recipe. Read the temperature accurately. A small error on the low side will make the candy too soft and too high of a cooking temperature creates a crumbly product.
- Cook candy in a heavy, unlined, flat-bottomed pan.
- Use butter because it has a consistent fat and water content. Soft margarines and spreads contain too much water, vary in amounts of fat, and produce poor quality candy.
- Butter the sides of the saucepan. This helps prevent the mixture from boiling over during cooking and helps prevent crystals from sticking to the sides of the pan.
- Add each ingredient in the order listed in the recipe.
- Don't stir or otherwise agitate hot candy. Stirring at the wrong time can cause sugar to crystallize into large grains. Wait until candy cools to start stirring.
- Cook candy on the heat setting indicated. Candy cooked too slowly will result in soft candy.
- Do not double or increase the size of candy recipes.
- Do not scrape the sides of the pan.
- Keep trying. Good candy making takes practice. If a batch fails, evaluate the cooking process and the techniques used to determine what to do differently next time.

Evaluating Crystalline Candy — Fondant and Fudge

Appearance:	Color typical of type of candy Satin sheen on surface
Texture:	Very fine, uniformly smooth Holds a cut edge Soft but not sticky at room temperature
Flavor:	Sweet, well-blended flavors typical of type of candy

Non-Crystalline or Amorphous Candies

Non-crystalline or amorphous candies have a higher concentration of sugar than crystalline candies. The cooked syrups are so thick that sugar crystals cannot form. They are not easy to chew or to cut with a knife. The texture of amorphous candies varies from extremely chewy caramels to very hard, brittle candies like toffee and peanut brittle.

While amorphous candies cook, water evaporates and the sugar becomes concentrated. As the water evaporates, the boiling point of the mixture rises. These candies reach the correct sugar concentrations at cooking temperatures of 260 to 300 degrees F depending on the candy being made.

Tips for Making Quality Amorphous Candy

- To keep the candy from scorching, stir constantly while mixture is boiling.
- Use a heavy, unlined pan, with a flat bottom for even heat distribution.
- Oil or butter the sides of the saucepan to prevent the mixture from boiling over and crystals from sticking to the sides of the pan.
- Never dip a spoon that has been dipped in syrup back in the syrup without washing. Crystals clinging to the spoon can cause crystallization.

Evaluating Amorphous Candy

Appearance:	Color typical of type of candy
Texture:	Caramels should be chewy Taffy is slightly hard Toffees and brittles break easily
Flavor:	No trace of scorching or burning Pleasingly rich and characteristic of the ingredients and flavorings Sweet, well-blended flavors typical of type of candy

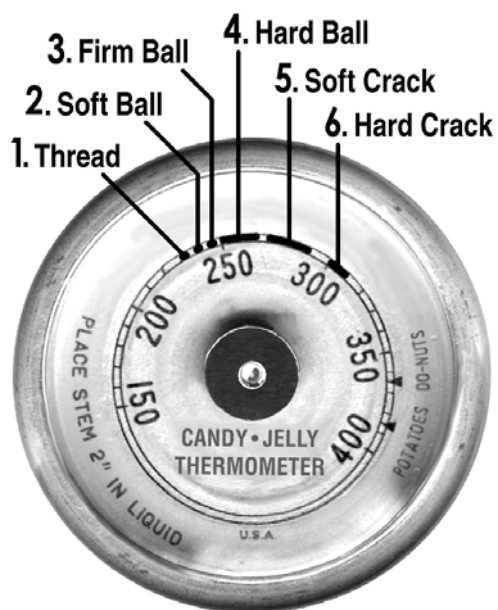


Temperatures for Candy Making

As you learned in the **Understanding the Science of Candy Making** section, temperature is very important to making quality candy. Different temperatures determine the type of candy. High temperatures produce hard candy; medium temperatures are used to make soft candy; low temperatures make chewy candy. The higher the temperature, the harder the candy because more sugar dissolves and more water evaporates.

Cooking candy to certain temperatures produces desired characteristics. The highest temperature that the candy reaches during cooking determines what the candy will be like when it cools. These characteristics are used to identify each temperature stage, for example Soft Ball. At Soft Ball the candy will form a soft ball when a small amount is dropped into a cup of cold water. When the ball is removed from the water, it loses its shape.

Most candy recipes will tell you to boil the candy mixture until it reaches one of six stages: **Thread, Soft Ball, Firm Ball, Hard Ball, Soft Crack, and Hard Crack** (See following table for descriptions of each stage). For accurate measurement and best results, use a candy thermometer to check the temperature of the mixture. To test the characteristics of the candy at a specific temperature, place a small amount of the cooking mixture on a spoon. Be careful because the mixture is very hot. Immediately drop the mixture into a cup of cold water. Observe the form the cooled candy takes. Compare it to the description listed below for the specific temperature.



Temperature	Term and Description	Type of Candy
230 to 234° F	Thread — forms 2-inch threads	Syrup
234 to 240° F	Soft Ball — forms a ball that flattens, loses its shape when removed	Fudge, fondant, pralines
244 to 248° F	Firm Ball — forms a ball that holds shape	Caramels
250 to 266° F	Hard Ball — ball is hard and firm	Divinity
270 to 290° F	Soft Crack — hard, pliable threads that crack when touched	Taffy
300 to 310° F	Hard Crack — fine, hard brittle threads that separate	Brittles, toffee

Candy Thermometers

It is important to use a candy thermometer when making candy because even a slight difference in temperature makes the difference between a quality batch of candy and one that is ruined. Use a candy thermometer that clips to the side of the pot during cooking. When clipping the thermometer to the pan, check to make certain that the tip of the thermometer does not touch the bottom of the pan. If the thermometer does touch the pan, it will read the temperature of the pan, not the candy and give a false high temperature.

Checking Candy Thermometers

With use and over time, candy thermometers can lose their accuracy. Before using a candy thermometer, use this simple process to test the thermometer's accuracy. The few minutes you take to do this helps ensure a quality batch of candy.

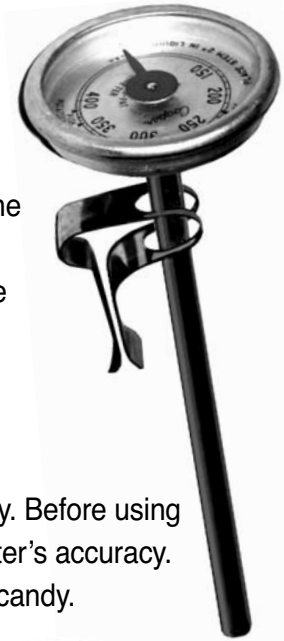
Before every use, check the accuracy of the candy thermometer. Boil some water in a saucepan and then attach the candy thermometer to the inside of the pan. Wait about two to three minutes and then read the temperature. Water boils at 212 degrees F, so the thermometer should read exactly 212 degrees. Make certain to read the thermometer at eye level to get an accurate reading.

If the thermometer does not give an accurate reading, you should purchase a new candy thermometer. If necessary, you can make adjustments when reading the temperature of the cooking candy mixture using an inaccurate thermometer. Record the temperature the thermometer reads at the boiling point and determine the difference between that temperature and the boiling point, either plus or minus. For example, if the thermometer reads 210 degrees F at boiling point, the thermometer is off by 2 degrees. To get an accurate temperature from this thermometer, subtract 2 degrees from the temperature given in the recipe. For example, if the recipe calls for a temperature of 240 degrees F, cook the mixture to 238 degrees F.

The thermometer may also give a false high reading. For example, the thermometer reads 214 degrees F at the boiling point. To get an accurate temperature from this thermometer, add 2 degrees to the temperature given in the recipe. For example, if the recipe calls for a temperature of 240 degree F, cook the mixture to 242 degrees F.

Practice! Practice! Practice!

The best way to learn how to make good quality candy is to do it. You may want to start with the Experiment with Candy activity on page 87 and ask an experienced cook to help you. Enjoy the science of cooking!





EXPERIMENT WITH CANDY



Before you begin making candy, you may want to do this experiment to learn about the properties of cooked sugar syrups at different temperatures.

Order of Work

1. Gather equipment — 2 quart saucepan, wooden spoon, small glass or cup filled with ice water, candy thermometer.
2. Combine 1 cup sugar and 1/2 cup water in saucepan. Place over medium heat.
3. When the mixture begins to boil, attach the candy thermometer to the side of the pan, being careful not to allow the thermometer to touch the bottom of the pan.
4. Closely watch the mixture as it continues to cook. Be careful because the mixture is very hot and can cause serious burns.
5. When the thermometer reaches the first temperature range listed in the table below, carefully use a spoon to remove a small amount of boiling sugar syrup and drop the syrup into the cold water.
6. Observe and describe the characteristics of the chilled syrup in the box next to the temperature range.
7. Continue cooking the syrup mixture, repeating the exercise for each of the temperatures listed in the table.
8. Review the information on making candy to find the cooking terms used to describe each stage of the cooled mixture.

Temperature	Description of Cold Mixture	Cooking Term for Description
230 to 234 degrees F		Soft Ball
234 to 240 degrees F		
244 to 248 degrees F		
250 to 266 degrees F		
270 to 290 degrees F		
300 to 310 degrees F		

- What was the most difficult part of the experiment?

- How did the mixture change with the increasing temperature?

- How will you use what you learned when making candy in the future?



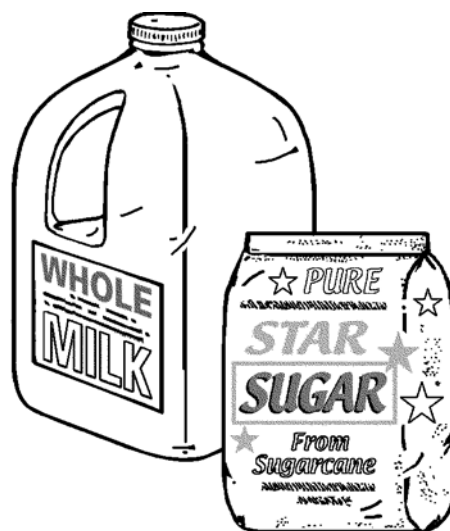


Classic Chocolate Fudge

Yield: 1 1/2 pounds or 32 pieces

Ingredients

Butter, softened
 2 cups sugar
 3/4 cup half and half or whole milk
 2 ounces unsweetened baking chocolate,
 coarsely chopped
 2 tablespoons corn syrup
 1/4 teaspoon salt
 2 tablespoons butter
 1 teaspoon vanilla
 1/2 cup coarsely chopped nuts, if desired



Order of Work

1. Line a 9" x 4" x 3" loaf pan or an 8" x 8" pan with foil, extending the foil over the edges of the pan. Butter the foil and set aside.
2. Butter the sides of a heavy 2-quart saucepan. In the saucepan combine sugar, milk, chocolate, corn syrup, and salt.
3. Cook and stir over medium-high heat until the mixture boils. Clip a candy thermometer to the side of the pan.
4. Reduce heat to medium-low; continue boiling. Stir frequently.
5. Cook until the thermometer registers 234 degrees F. If no thermometer is available, cook to the soft ball stage. Test by dropping a small amount of syrup into cold water.
6. When candy reaches 234 degrees F, remove saucepan from heat. Add butter and vanilla but **DO NOT STIR**.
7. Cool, without stirring or disturbing in any way, to 110 degrees F. This should take 45 to 60 minutes.
8. Remove thermometer from saucepan. With a wooden spoon, beat vigorously until fudge just begins to thicken. If desired, add nuts. Continue beating until the fudge becomes very thick and just starts to lose its glossy sheen. This should take 5 to 10 minutes.
9. Immediately spread fudge in the prepared pan. Score the pieces while still warm.
10. When fudge is firm, use the foil to lift out of the pan. Cut fudge into squares.
11. Store fudge in a tightly covered container.



Nutrition Facts per Piece with Nuts: 87 calories, 3 g fat, 27 mg sodium, 15 g carbohydrate, less than 1 g fiber, less than 1 g protein, 7 mg calcium

Caramels

Yield: 1 1/4 pounds or 80 to 90 pieces

Ingredients

Butter
1 cup white sugar
1 cup cream
1 cup light corn syrup
1/4 cup butter

Order of Work

1. Lightly butter 8-inch square pan.
2. Combine sugar, cream, corn syrup, and butter in 2-quart heavy saucepan.
3. Stir over medium heat until sugar is dissolved and mixture starts to boil.
4. Reduce heat; cook at a low, steady boil, stirring occasionally until mixture reaches firm ball stage, 246 to 248 degrees F.
5. Remove pan from heat at once and pour into prepared pan. Let cool about 1 hour or until candy starts to become firm.
6. Score in strips about 3/4-inch wide.
7. When cool and firm, remove strips from pan, one at a time; lay on cutting board and with a very sharp knife, cut in 9 even-sized pieces. Wrap each piece in waxed paper.



Nutrition Facts per Piece: 33 calories, 1 g fat, 8 mg sodium, 5 g carbohydrate, 0 g fiber, less than 1 g protein, 2 mg calcium



Toffee

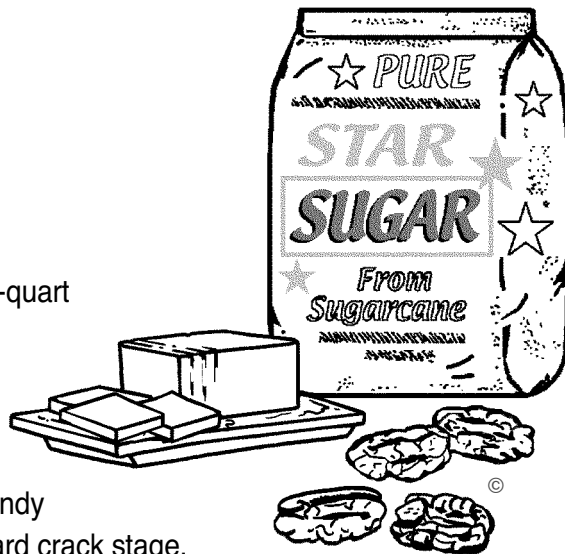
Yield: 1 1/2 pounds or 48 pieces

Ingredients

- 1 cup butter
- 1 cup sugar
- 1 tablespoon corn syrup
- 1/4 cup water
- 1/2 cup real semi-sweet chocolate chips
- 1/4 cup finely chopped pecans

Order of Work

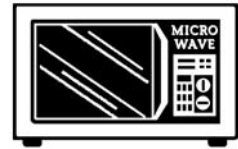
1. Spread some of the butter on the sides of a heavy 2-quart saucepan.
2. Add sugar, corn syrup, and water. Cook and stir over medium-high heat until the mixture boils.
3. Reduce heat to medium; continue boiling at a moderate, steady rate, stirring frequently until the candy thermometer reads 300 degrees F or reaches the hard crack stage. Watch carefully after candy reaches 280 degrees F to prevent scorching. If a candy thermometer is not available, test for doneness by dropping a small amount of syrup into cold water and look for the hard crack stage.
4. Quickly spread mixture into an ungreased 15" x 10" x 1" jelly-roll pan. Sprinkle chocolate chips over the hot candy. Allow to stand about 5 minutes or until chocolate is soft.
5. Spread melted chocolate evenly over candy; sprinkle with pecans.
6. Allow to cool completely. Break into pieces.
7. Store toffee in an airtight container in a cool, dry place. Do not refrigerate.



Nutrition Facts per Piece: 66 calories, 5 g fat, 32 mg sodium, 6 g carbohydrate, less than 1 g fiber, less than 1 g protein, 1 mg calcium

Microwave Marshmallow Fudge

Yield: 81 1-inch pieces



Ingredients

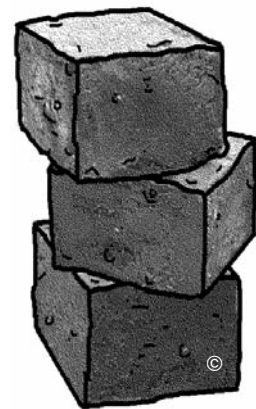
Butter, softened
 2/3 cup evaporated milk
 1/2 cup butter
 2 cups sugar
 1 jar (7 oz.) marshmallow creme
 2 cups real semi-sweet chocolate chips
 1/2 cup chopped nuts, if desired

Order of Work

1. Butter side and bottoms of a 9" x 9" pan. If a thinner candy is desired, use a 9" x 13" pan.
2. In a 3-quart microwave-proof casserole or dish, combine milk, butter, and sugar.
3. Microwave on high power for a total of 9 to 12 minutes.* Stir mixture every 3 minutes and cook until mixture reaches 234 degrees F, soft ball stage. **Do NOT place the thermometer in the bowl while cooking in the microwave.**
4. To test for soft ball stage, drop a small amount of syrup into cold water. If it has reached temperature, it will form a soft ball when dropped into the water. Remove mixture from microwave.
5. Remove lid from jar of marshmallow creme. Place in microwave and heat for 30 seconds at 50% power until soft and easy to remove from jar.
6. Add marshmallow creme to sugar mixture along with chocolate chips and nuts, if desired. Stir until chips are melted and all ingredients are well blended.
7. Pour into the prepared pan.
8. Cool until firm. Cut into 1-inch square pieces.
9. Store in an airtight container in a cool place.

*Recipe was tested in a 750 watt microwave. Cooking times will vary depending on the wattage of the microwave oven.

Nutrition Facts per Piece with Nuts: 72 calories, 3 g fat, 13 mg sodium, 11 g carbohydrate, less than 1 g fiber, 1 g protein, 6 mg calcium



Microwave Peanut Brittle

Yield: 48 pieces

Ingredients

Butter, softened
 1 cup sugar
 1/2 cup white corn syrup
 1 cup roasted, salted peanuts
 1 teaspoon butter
 1 teaspoon vanilla
 1 teaspoon baking soda

Order of Work

1. Lightly coat a 15" x 10" x 1" baking pan with butter. Set aside.
2. In a 1 1/2-quart or larger microwave-safe bowl or dish, combine sugar and syrup. Microwave on high for 4 minutes.*
3. Stir in peanuts. Microwave on high for an additional 3 to 5 minutes until mixture is lightly brown. Check the color of the mixture every minute after the first 2 minutes.
4. Add butter and vanilla, blending well. Microwave on high an additional 1 to 2 minutes or until peanuts are lightly browned and syrup reaches 300 degrees F, or hard crack stage. **Do NOT place the thermometer in the bowl while cooking in the microwave.**
5. Add baking soda and gently stir until light and foamy.
6. Pour mixture into prepared pan.
7. Let cool. When cool, break into pieces.
8. Store in an airtight container.

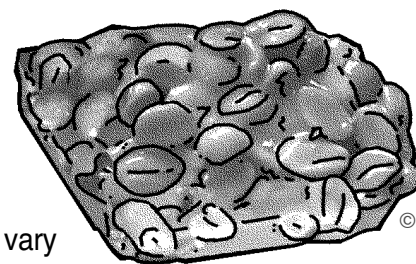
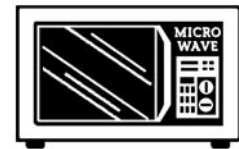
*Recipe was tested in a 750 watt microwave. Cooking times will vary depending on the wattage of the microwave oven.

Note: If raw peanuts are used, add to the sugar and syrup mixture before microwaving. Add 1/8 teaspoon salt with the raw peanuts.

Nutrition Facts per Piece: 46 calories, 2 g fat, 39 mg sodium, 7 g carbohydrate, less than 1 g fiber, 1 g protein, 2 mg calcium

Variations

Pecan or Cashew Brittle: Omit peanuts and add 1 cup pecan halves or 1 cup dry roasted cashews.



Pastry

You may have heard the expression, “that’s as easy as pie!” But many people don’t think making a pie is easy — and making pastry seems even more difficult. **Pastry** is simply the dough that is shaped, baked, and used as a crust for pies or tarts. Good pastry should be light, flaky, crisp, and tender. It takes practice to make good pastry, but the results are worth the time and effort. Let’s get started!

Start with Fresh Ingredients

Pastry is made with four basic ingredients: flour, water, shortening, and salt.

Flour — all-purpose flour makes a flaky pastry. Some recipes use **pastry flour**, which has lower gluten content. (See *4-H Cooking 301* page 21 for more information on gluten.)

Fat — a variety of fats can be used to make flaky pie crusts: butter, lard, shortening, or vegetable oil. Lard and shortening make a very tender and flaky crust, but these fats usually contain saturated or *trans* fats, which should be eaten in limited amounts. (See *4-H Cooking 301* for more information on saturated and *trans* fats.)

Crusts made with all butter are very flavorful, though they are generally not quite as flaky as crusts made with shortening or lard. Pie dough made with vegetable oil is easier to work with and holds its shape better than all butter crusts, but the flavor won’t be as rich. Do not use light or soft margarines to make pastry because they usually contain more water and often yield a poor quality crust.

Liquid — cold water is typically used, but some recipes use other liquids such as milk or juice.

Salt — salt adds flavor to the pastry.

Gather Needed Equipment

You will need a mixing bowl, pastry blender or two knives, scissors or sharp knife, fork, measuring cups and spoons, **pastry mat or cloth** or waxed or parchment paper, rolling pin, and pie pans.

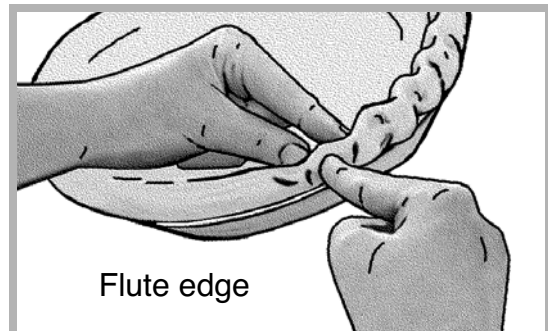
A **pastry cloth** is made from heavy cotton fabric and used for rolling out pastry dough with a rolling pin. To keep the dough from sticking, rub flour on the cloth and the rolling pin. After each use, shake out any excess flour and place the cloth in a plastic bag for storage. To wash the pastry cloth, use mild soap and wash by hand. **Pastry mats** are often made from silicone so no extra flour is needed to keep the dough from sticking. Follow package directions for cleaning pastry mats.



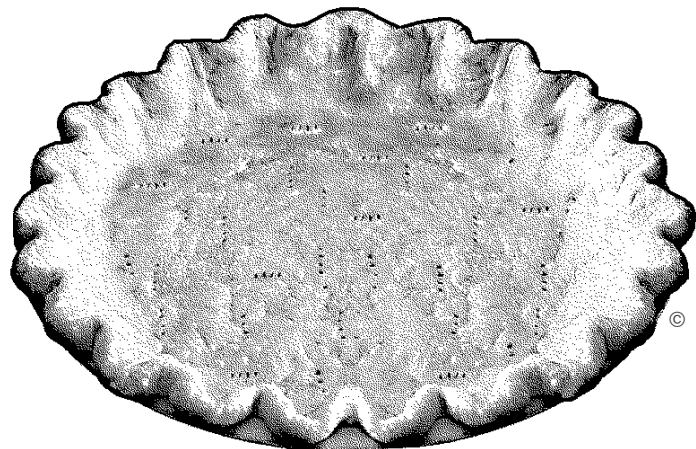
Use Good Techniques

Technique is important in making a flaky, tender pie crust.

- Chill the fat and liquid before beginning. Remove fat from the refrigerator just before adding it to the mixing bowl.
- Use a pastry blender, fork, or two knives to cut the fat into the flour until the dough forms pea-sized pieces.
- Add chilled liquid one tablespoon at a time and mix gently with a fork after each addition. Add only enough liquid to hold the dough together. Too much liquid makes the dough sticky; too little liquid makes it crumbly.
- Do not overwork the dough and handle it as little as possible to keep it from becoming tough.
- Chill the dough for 15 to 30 minutes before rolling it out. This allows the flour to absorb the liquid and helps prevent the dough from sticking when rolled out.
- Roll the dough out on a lightly floured surface, a pastry mat or cloth, or between two sheets of waxed or parchment paper. Roll the dough from the center outward using even, firm pressure on the rolling pin. To keep the dough in a circular shape, turn the dough slightly with each roll.
- Be careful not to roll over the edge of the pie crust to prevent the edges from becoming too thin. Finished pie crust should be about 1/8-inch thick.
- The finished pie crust should be slightly larger than the pie pan. To check the size of the dough, invert the pie pan on top of the dough. The dough should be about 1 1/2 inches wider than the inverted pan.
- Use a dry pastry brush or clean dishtowel to brush off excess flour from the dough.
- Gently fold the pie crust in half or roll it around the rolling pin and place it in the pie plate. Carefully press the dough into the pie plate.
- Use a glass pie plate or a dull metal pie plate for making pies. Shiny metal pans keep the crust from browning properly. If using a glass pie plate, reduce the oven temperature by 25 degrees. Do not oil or grease pie plates.
- Use scissors or a sharp knife to trim the crust. Leave about a one-inch overhang on the edge of the pie pan to form an edge.
- Create a decorative or **fluted edge** by placing left thumb and index finger 1/2 inch apart on outside of pastry rim. With right index finger push pastry between fingers.



- Chill prepared pie crust in the refrigerator for 20 to 30 minutes before filling and baking to prevent dough from shrinking during baking.
- When baking an unfilled pie crust, line it with aluminum foil or parchment paper and fill it with rice, dried beans, or **pie weights**. This prevents the crust from bubbling up during baking. Bake about 15 minutes at 350 degrees F or just until the edge begins to brown. Remove the weights and lining. Return the crust to the oven and continue baking until the crust is slightly browned.
- For pies with two crusts, cut small slits in the top or upper crusts or pierce crust with a fork to allow steam to escape during baking.





Pastry for Two-Crust Pie

Yield: 2 9-inch or 10-inch pie crusts or 3 8-inch pie crusts

Ingredients

- 3 cups all-purpose flour
- 1 teaspoon salt
- 1 cup solid fat
- 5 to 6 tablespoons cold water



Order of Work

1. Thoroughly chill fat and water.
2. Place flour and salt together in medium bowl. Stir to mix.
3. Use a pastry blender, fork, or two knives to cut the fat into the flour until the dough forms pea-sized pieces.
4. Add cold water one tablespoon at a time and sprinkle over flour/fat mixture. Toss mixture lightly with a fork. **DO NOT STIR.** Add only enough water to hold dough together. Let dough stand at least 5 minutes. Shape into a ball, handling as little as possible.
5. Chill dough 15 to 30 minutes.
6. Sprinkle 3 to 4 tablespoons of flour on a clean, dry surface or pastry mat/cloth. Lightly coat a rolling pin with flour. Or use two 18" x 18" sheets of waxed or parchment paper to roll out dough.
7. Divide dough into two parts. Form one piece of dough into circular shape and then flatten with rolling pin on pastry mat/cloth or between two sheets of waxed or parchment paper.
8. Roll dough with short strokes from center to outer edge, using a light, quick motion. Be careful not to roll over edge of dough. Press on a different part of the dough with each roll. Lift from surface occasionally. Roll about 1/8-inch thick and slightly larger than the pie pan.
9. Fold dough in half, lift and place in pie plate, and unfold.
10. Beginning at center of pan and working toward edge, gently press dough into pie pan. Do not pull or stretch dough since that can make the pie crust shrink during baking.
11. To finish pie crust, follow directions for baked pie crust, one-crust pie, or two-crust pie.

Baked Pie Crust

1. Preheat oven to 450 degrees F.
2. After pressing pie crust in place, trim overhang with scissors or knife. Leave about a one-inch overhang on the edge of the pie pan to form an edge.
3. Turn edge of pastry under so it is even with edge of pan. Flute edge by placing left thumb and index finger 1/2 inch apart on outside of pastry rim. With right index finger push pastry between fingers.
4. Pierce bottom and sides of crust with a fork to prevent bubbles from forming during baking.
5. Chill crust for 30 minutes if time permits.
6. Line crust with aluminum foil or parchment paper and fill the bottom of the pan with a layer of rice, dried beans, or pie weights.

7. Bake for 12 to 15 minutes or until golden brown. After five minutes of baking, check to see if bubbles have formed. If so, pierce with fork.
8. Completely cool baked pie crust on cooling rack before filling.

One-Crust Pie

1. After pressing pie crust in place, trim overhang with scissors or knife. Leave about a one-inch overhang on the edge of the pie pan to form an edge.
2. Turn edge of pastry under so it is even with edge of pan. Flute edge by placing left thumb and index finger 1/2 inch apart on outside of pastry rim. With right index finger push pastry between fingers.
3. Chill crust for 30 minutes if time permits.
4. Fill and bake according to recipe directions.

Two-Crust Pie

1. If time allows, chill prepared pie crust for 20 to 30 minutes to prevent crust from shrinking during baking.
2. Spoon filling into prepared pie crust.
3. Use cold water to moisten edges of the dough on the rim of the pie pan.
4. Roll out remaining dough for upper crust. Cut small holes in center, or fold dough in half and make diagonal slits in dough.
5. Place upper crust on pie, unfold, and press upper and lower edges together on rim of pie pan.
6. Use a knife to trim dough evenly around edge of pie pan.
7. Flute edge by placing left thumb and index finger 1/2 inch apart on outside of pastry rim. With right index finger push pastry between fingers or lightly press edges together with a fork.
8. Bake according to recipe directions.

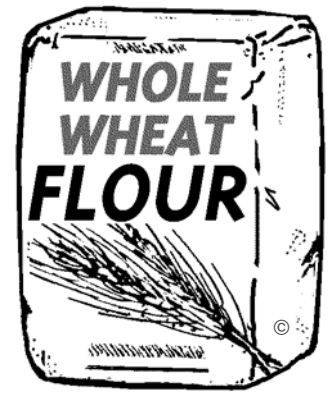


Whole Wheat Pie Crust

Yield: 2 8-inch or 9-inch pie crusts

Ingredients

- 1 cup whole wheat flour
- 1 cup all-purpose flour
- 3/4 teaspoon salt
- 2/3 cup shortening
- 4 to 5 tablespoons cold water



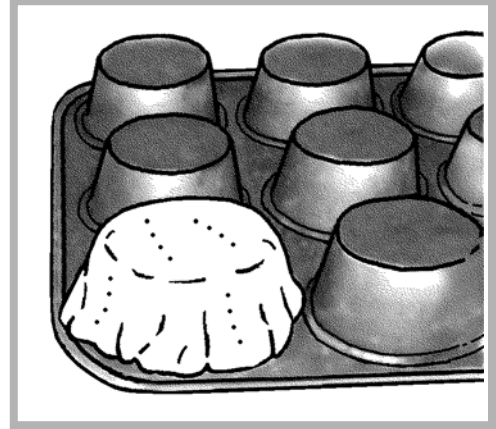
Order of Work

1. Combine the flours and salt in medium bowl.
2. Add shortening and mix with pastry blender or forks until coarse mixture is formed.
3. Add cold water one tablespoon at a time and sprinkle over flour mixture. Toss mixture lightly with a fork. **DO NOT STIR.** Add only enough water to hold dough together. Let dough stand at least 5 minutes. Shape into a ball, handling as little as possible.
4. Divide dough in half.
5. Sprinkle 3 to 4 tablespoons of flour on a clean, dry surface or pastry mat/cloth. Lightly coat a rolling pin with flour. Or roll between two 18" x 18" sheets of waxed or parchment paper to roll out dough.
6. Divide dough into two parts. Form one piece of dough into circular shape and then flatten with rolling pin on pastry mat/cloth or between two sheets of waxed or parchment paper.
7. Roll dough with short strokes from center to outer edge, using a light, quick motion. Be careful not to roll over edge of dough. Press on a different part of the dough with each roll. Lift from surface occasionally. Roll about 1/8-inch thick and slightly larger than the pie pan.
8. Fold dough in half, lift and place in pie plate, and unfold.
9. Beginning at center of pan and working toward edge, gently press dough into pie pan. Do not pull or stretch dough since this can make the pie crust shrink during baking.
10. To finish pie crust, follow directions for baked pie crust, one-crust pie, two-crust pie, or tarts.
11. This crust is recommended for the Spinach Quiche recipe. (See page 44.)

Source: *Contemporary Pies*, Cornell University

Tarts

1. Preheat oven to 350 degrees F.
2. Prepare pastry as for pie.
3. Turn muffin tin over to cover outside of individual muffin cups. Cut dough into pieces large enough to cover inverted muffin tins or 3-inch custard cup.
4. Place dough on outside of inverted muffin tins and pinch into pleats to fit snugly. Pierce with a fork on bottom of tart and sides between pleats.
5. Bake for 15 minutes. Place inverted muffin tin on rack to cool.
6. Carefully remove tart shells when cool.
7. Fill tart shells with filling of choice: lemon, cream, fresh fruit, or canned fruit.



Source: *4-H Pastry Book*, University of Illinois Extension

Oil Pastry

Yield: 2 8-inch or 9-inch pie crusts

Use a vegetable oil, such as corn or canola oil, for this pastry. Olive oil and other flavored oils may give the finished crust an undesirable flavor. Substituting oil for solid fat in the pastry decreases the amount of saturated and *trans* fat in the pie crust and slightly reduces the calories.

Ingredients

- 2 2/3 cups all-purpose flour
- 1 1/2 teaspoons salt
- 3/4 cup vegetable oil
- 4 to 5 tablespoons ice water

Order of Work

1. Measure the flour and salt into large mixing bowl; add vegetable oil. Mix until particles are size of small peas.
2. Sprinkle in ice water, 1 tablespoon at a time, mixing until flour is moistened and dough almost cleans side of bowl. A small amount of additional water can be added if needed.
3. Form dough into a ball, and then divide in half. Press each half firmly into a ball. Shape dough into flattened round.
4. Place flattened round between two 15-inch squares of waxed paper. Roll pastry 2 inches larger than inverted pie pan.
5. Peel off top paper. Place pastry, paper side up, in pan. Peel off paper. Ease pastry loosely into pan.
6. Beginning at center of pan and working toward edge, gently press dough into pie pan. Do not pull or stretch dough since this can make the pie crust shrink during baking.
7. To finish pie crust, follow directions for baked pie crust, one-crust pie, or two-crust pie.



Graham Cracker Pie Crust — Unbaked

Yield: 1 8-inch or 9-inch pie crust

Ingredients

- 1 1/2 cups graham cracker crumbs
- 1/3 cup powdered sugar
- 7 tablespoons melted butter or margarine

Order of Work

1. Combine ingredients in medium mixing bowl and mix well.
2. Spoon mixture into pie pan and pat firmly into pan being careful to evenly distribute mixture.
3. Lightly cover and refrigerate. Chill for several hours before adding filling.

Variation

Substitute crushed vanilla, chocolate, or ginger wafers for the graham cracker crumbs.

Graham Cracker Pie Crust — Baked

Yield: 1 8-inch or 9-inch pie crust

Ingredients

- 1 1/3 cups graham cracker crumbs
- 1/4 cup sugar
- 1/4 cup melted butter or margarine

Order of Work

1. Preheat oven to 375 degrees F.
2. Combine ingredients in medium bowl and mix well.
3. Spoon mixtures into pie pan and pat firmly into pan being careful to evenly distribute mixture.
4. Bake for about 8 minutes or until golden brown.

Variation

Substitute crushed vanilla, chocolate, or ginger wafers for the graham cracker crumbs.

Source: *Contemporary Pies*, Cornell University

Meringue

Meringue is a simple mixture of egg whites, sugar, and air. It is used as a soft topping for cream pies, a light shell for cookies, or a firm, crisp shell to hold custards, fruit, or ice cream. Meringues can make desserts look elegant without much effort as long as you follow some simple techniques when handling egg whites.

Mixing Meringue

- For best results, make meringue on a cool, dry day. Humidity and rain causes meringue to become sticky and spongy because sugar in the meringue absorbs moisture from the air. Meringue may also develop beads or droplets of sugar syrup on the surface.
- Separate the eggs as soon as they are removed from the refrigerator. Cold eggs separate more easily than room temperature eggs. If some of the yolk falls into the egg white, use a spoon to scoop it out. Even a small speck of yolk will keep beaten egg whites from reaching full volume.
- Let egg whites stand at room temperature for 30 minutes before beating.
- Be sure that beaters and bowls are clean and completely free of fat or oil because the least bit of fat will prevent beaten egg whites from reaching their full volume. Use only metal or glass bowls since plastic bowls tend to absorb fat.
- Beat the egg whites with cream of tartar, until foamy. Cream of tartar is an acid that stabilizes the egg whites and allows them to reach their full volume. Use 1/2 teaspoon cream of tartar for each 2 egg whites,
- When the eggs whites are foamy, gradually beat sugar into egg whites, about 1 tablespoon at a time, so the sugar dissolves completely for a meringue that is smooth and not gritty. Continue beating until the meringue forms stiff peaks when you lift the beaters out of the mixture.
- Spread meringue completely over hot pie filling so that it forms a seal with the crust to prevent the meringue from shrinking during baking. This also prevents liquid from accumulating between the meringue and the filling, a problem often called **weeping**.
- Swirl meringue into points with a spatula to create a decorative finish and bake until peaks are lightly browned.
- After baking, cool the meringue pie away from air drafts to prevent meringue from shrinking as it cools.

Food Safety and Eggs

Remember to practice good food safety when cooking with eggs. Refer to *4-H Cooking 201* (page 12) if you need more information. Following are some food safety practices to use when making pies with eggs.

- Meringue-topped pies should be baked at 350 degrees F for about 15 minutes.



- Do not use pie fillings made with raw egg whites, such as chiffon pies or fruit whips. Substitute pasteurized dried egg whites, whipped cream, or a whipped topping in place of the eggs. Dried egg white powder whips like fresh egg whites when mixed with water. Because it is pasteurized, it can be used safely without cooking or baking. It is usually found in stores that sell cake decorating supplies or at larger grocery stores in the baking supplies section.
- When making pie filling that uses uncooked eggs, heat the eggs in a liquid from the recipe over low heat, stirring constantly, until the mixture reaches 160 degrees F. Then combine it with the other ingredients and complete the recipe.

Meringue for Pies

Yield: meringue for 1 8-inch or 9-inch pie

Ingredients

- 3 egg whites
- 1/4 teaspoon salt
- 1/2 teaspoon vanilla, if desired
- 6 tablespoons sugar

Order of Work

1. Place egg whites in medium mixing bowl and bring to room temperature.
2. Preheat oven to 350 degrees F.
3. Add salt and vanilla, if desired, to egg whites; beat with an electric mixer until whites are foamy.
4. While continuing to beat eggs whites, add sugar, one tablespoon at a time; beat well after each addition. Adding sugar in small amounts before egg white are stiff, allows sugar to dissolve better and prevents beads of moisture from forming on the finished meringue.
5. Continue to beat egg whites until stiff peaks form. Test for stiff peaks by gently lifting spoon from egg whites. Egg whites should stand up in small peaks with the tip end rounded.
6. Spoon meringue onto the warm pie filling. Lightly spread meringue over filling until it touches inner edge of crust all around pie to prevent meringue from shrinking. Use back of spoon, to gently lift peaks into meringue to make it attractive.
7. Bake about 15 minutes or until lightly browned.
8. Place on rack to cool.

EVALUATING PIES — How Did You Do?

Evaluate your pies when they are done baking. How did you do? Mark the appropriate box with an X. Making good pies takes practice—the more you do it, the better you become. Keep practicing!

	Excellent	Good	Fair	Poor	NA
Appearance					
• Regular in shape, free from bulges or depressions					
• Attractive and uniform browning for two-crust pie					
• Meringue has uniform delicate browning, moist in appearance, adhering to crust around edge of pie					
• Custard or pumpkin pie is smooth, free from cracks					
Crust					
• Tender and crisp on bottom and along edges					
• Flaky with rough surface, blistered in appearance					
Filling					
• Fruit is well-cooked, not too dry or too juicy					
• Custard is smooth with no holes or curdles; tender and firm enough to hold shape when cut					
• Cream is smooth and stiff enough to prevent running, but not pasty					
Flavor					
• Crust has a rich, blended flavor of well-baked ingredients					
• Filling has a pleasing flavor — not flat, too sweet, or too tart					
• Filling has a well-cooked flavor — not raw or starchy					

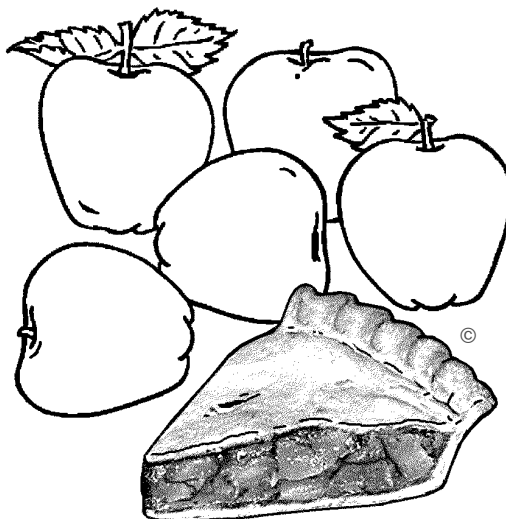


Apple Pie

Yield: 8 servings

Ingredients

- 1 prepared unbaked pastry for two-crust pie
- 5 cups peeled, sliced tart apples (5 to 6 apples)
- 2 tablespoons lemon juice
- 3/4 to 1 cup sugar
- 1 tablespoon flour
- 1/4 teaspoon salt
- 1 tablespoon butter or margarine
- 1 egg, beaten or 2 tablespoons milk, if desired
- 1 teaspoon sugar, if desired



Order of Work

1. Prepare pastry and place bottom crust in pie pan. Place in refrigerator to chill while preparing filling.
2. Preheat oven to 425 degrees F.
3. Rinse, peel, and core apples. Slice apples and place in medium bowl. Sprinkle with lemon juice to prevent apples from turning brown and toss gently.
4. In small mixing bowl, combine sugar, flour, and salt. Add to apple slices and mix.
5. Spoon apple mixture into prepared pie crust.
6. Cut butter or margarine into small pieces and sprinkle on top of apple filling.
7. Place upper crust on pie, unfold, and press upper and lower edges together on rim of pie pan.
8. Cut venting holes in top of pastry.
9. Use a knife to trim dough evenly around edge of pie pan.
10. Flute edge by placing left thumb and index finger 1/2 inch apart on outside of pastry rim. With right index finger push pastry between fingers or lightly press edges together with a fork.
11. If desired, brush top crust with beaten egg or milk then lightly sprinkle with sugar.
12. Bake for 15 minutes, then reduce heat to 350 degrees F. Bake 25 minutes longer or until crust is brown.

Nutrition Facts per Serving: 555 calories, 28 g fat, 386 mg sodium, 71 g carbohydrate, 2 g fiber, 6 g protein, 14 mg calcium

Variations

Spices — Add 1 teaspoon cinnamon and/or 1/2 teaspoon nutmeg to sugar mixture, if desired.

Cooked or canned fruit — substitute 2 to 2 1/2 cups cooked or canned fruit (drained) and 1/2 cup reserved fruit juice for fresh apples. Omit lemon juice. Bake at 425 degrees F about 30 minutes or until well browned.

Cherry Pie

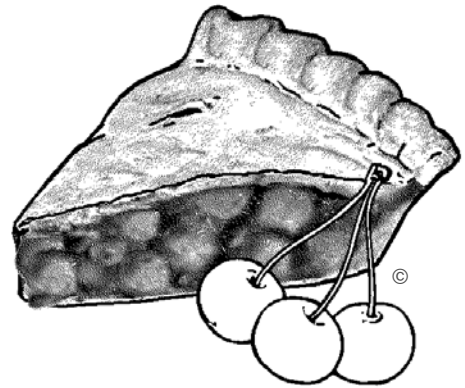
Yield: 8 servings

Ingredients

- 1 prepared unbaked pastry for two-crust pie
- 3 tablespoons flour OR 2 tablespoons quick-cooking tapioca
- 1 to 1 1/2 cups sugar (depending on tartness of cherries)
- 3 cups pitted cherries
- 1 teaspoon almond extract, if desired
- 1 egg, beaten or 2 tablespoons milk, if desired
- 1 teaspoon sugar, if desired

Order of work

1. Prepare pastry and place bottom crust in pie pan. Place in refrigerator to chill while preparing filling.
2. Preheat oven to 425 degrees F.
3. In medium mixing bowl, combine flour or tapioca and sugar. Add pitted cherries and mix.
4. If desired, add 1 teaspoon of almond extract for flavoring. Stir well.
5. Spoon cherry mixture into prepared pie crust.
6. Place upper crust on pie, unfold, and press upper and lower edges together on rim of pie pan.
7. Cut venting holes in top of pastry.
8. Use a knife to trim dough evenly around edge of pie pan.
9. Flute edge by placing left thumb and index finger 1/2 inch apart on outside of pastry rim. With right index finger push pastry between fingers or lightly press edges together with a fork.
10. If desired, brush top crust with beaten egg or milk then lightly sprinkle with sugar.
11. Bake for 15 minutes, then reduce heat to 350 degrees F. Bake 25 minutes longer or until crust is brown.



Nutrition Facts per Serving: 595 calories, 27 g fat, 303 mg sodium, 83 g carbohydrate, 2 g fiber, 7 g protein, 21 mg calcium

Variation

Cooked or canned fruit — substitute 2 to 2 1/2 cups cooked or canned fruit (drained) and 1/2 cup reserved fruit juice for fresh cherries. Bake at 425 degrees F about 30 minutes or until well browned.



Peach Pie

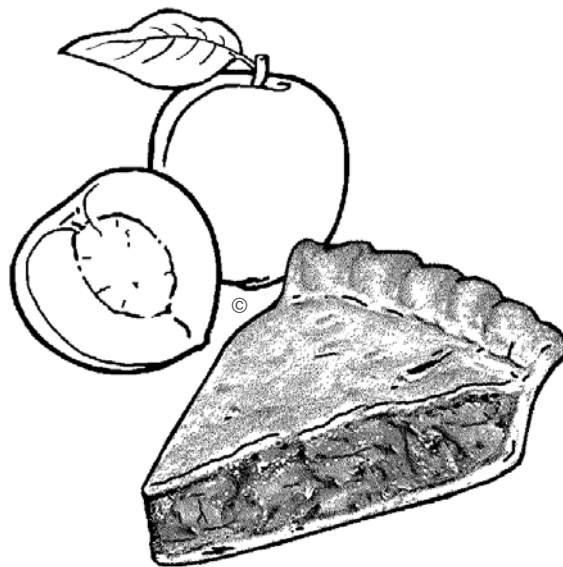
Yield: 8 servings

Ingredients

- 1 prepared unbaked pastry for two-crust pie
- 5 cups fresh peaches, peeled and sliced
- 2 tablespoons lemon juice
- 1/4 cup flour
- 3/4 cup sugar
- 1 egg, beaten or 2 tablespoons milk, if desired
- 1 teaspoon sugar, if desired

Order of Work

1. Prepare pastry and place bottom crust in pie pan. Place in refrigerator to chill while preparing filling.
2. Preheat oven to 425 degrees F.
3. Rinse and peel peaches. Slice peaches and place in medium bowl. Sprinkle with lemon juice to prevent peaches from turning brown and toss gently.
4. In small mixing bowl, combine flour and sugar. Add to peach slices and mix.
5. Spoon peach mixture into prepared pie crust.
6. Place upper crust on pie, unfold, and press upper and lower edges together on rim of pie pan.
7. Cut venting holes in top of pastry.
8. Use a knife to trim dough evenly around edge of pie pan.
9. Flute edge by placing left thumb and index finger 1/2 inch apart on outside of pastry rim. With right index finger push pastry between fingers or lightly press edges together with a fork.
10. If desired, brush top crust with beaten egg or milk then lightly sprinkle with sugar.
11. Bake for 15 minutes, then reduce heat to 350 degrees F. Bake 25 minutes longer or until crust is brown.



Nutrition Facts per Serving: 534 calories, 27 g fat, 302 mg sodium, 68 g carbohydrate, 3 g fiber, 7 g protein, 18 mg calcium

Variation

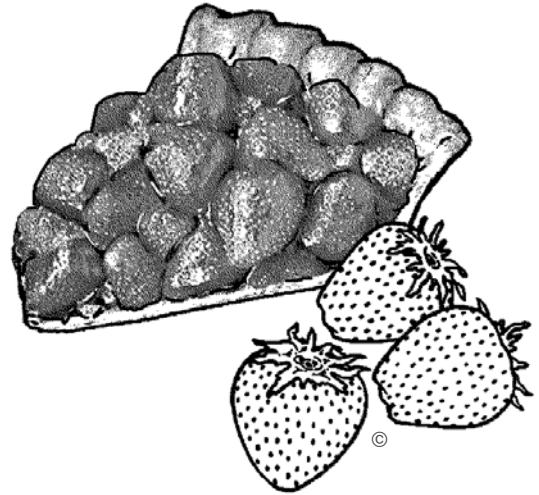
Cooked or canned fruit — substitute 2 to 2 1/2 cups cooked or canned fruit (drained) and 1/2 cup reserved fruit juice for fresh peaches. Omit lemon juice. Bake at 425 degrees F about 30 minutes or until well browned.

Pat's Fresh Strawberry Pie

Yield: 8 servings

Ingredients

- 1 cup flour
- 3 1/2 tablespoons powdered sugar
- 1/2 cup butter
- 1 1/2 quarts whole fresh strawberries*
- 1 cup sugar
- 4 tablespoons cornstarch



Order of Work

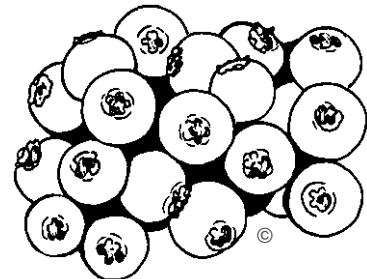
1. Preheat oven to 350 degrees F.
2. Blend flour and powdered sugar in medium bowl.
3. Cut butter into pieces and add to flour mixture.
4. Using a fork or pastry blender, work butter into dry mixture until butter is cut into small pieces.
5. Press mixture into 8-inch or 9-inch pie pan. Bake until lightly browned, about 20 minutes.
6. Remove from oven, place on rack to cool.
7. Rinse strawberries with cold water, remove stems, and pat dry.
8. When crust is cooled, place half the strawberries in baked crust. Leave strawberries whole, unless they are very large, and then cut in half.
9. Combine sugar and cornstarch in medium saucepan. Crush remaining berries and add to saucepan. Mix well.
10. Place pan on medium heat. Stirring constantly, bring to boil and cook until mixture is clear and thick.
11. Cool slightly before pouring over berries in crust. Cool before serving. Best served the day pie is made.
12. Serve with whipped cream or whipped topping, if desired.

*If using out of season strawberries, increase to 2 quarts.

Nutrition Facts per Serving: 331 calories, 12 g fat, 97 mg sodium, 56 g carbohydrate, 4 g fiber, 3 g protein, 27 mg calcium

Variations

Substitute fresh sliced peaches, fresh berries, or combination of peaches and blueberries for the strawberries.





Fruit Turnovers

Yield: 8 servings

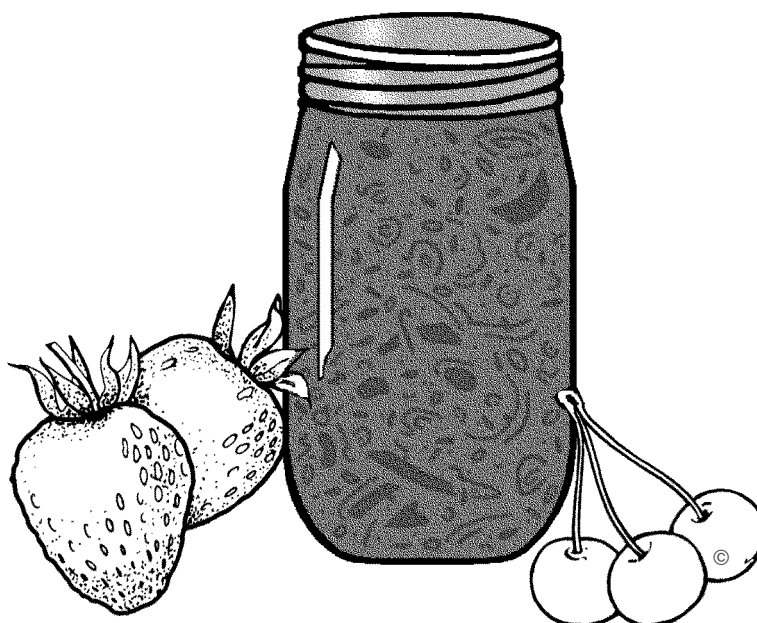
Ingredients

Prepared pastry for two-crust pie

Filling of choice: fresh fruit as prepared for pie; or jam, or preserves, or fruit sauce

Order of Work

1. Preheat oven to 425 degrees F.
2. Prepare pastry as for pie. Divide dough into two parts.
3. Form one piece of dough into rectangular shape and then flatten with rolling pin on pastry mat/cloth or between two sheets of wax paper.
4. Roll dough with short strokes from center to outer edge, using a light, quick motion. Be careful not to roll over edge of dough. Press on a different part of the dough with each roll. Lift from surface occasionally. Roll about 1/8-inch thick rectangle.
5. Cut into 4-inch squares or 4 1/2-inch circles.
6. Place 1 tablespoon filling mixture in one corner of each square or one side of circle.
7. Moisten edges with water. Fold from one corner (or side) to opposite corner (or side).
8. Seal edges with a floured fork. Pierce top with fork to vent steam.
9. Repeat with remaining pie dough and filling. Place on baking sheet.
10. Bake about 15 minutes or until crust is brown.
11. Cool on racks.

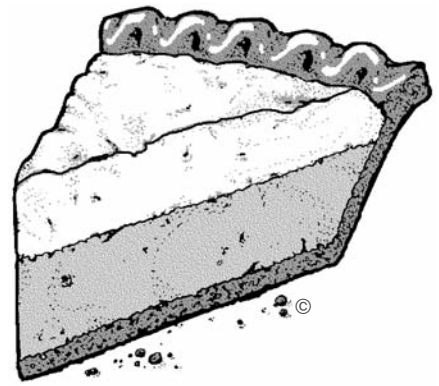


Cream Pie

Yield: 8 servings

Ingredients

- 2/3 cup sugar
- 1/2 teaspoon salt
- 1/4 cup cornstarch
- 2 cups cold milk
- 2 tablespoons butter or margarine
- 3 egg yolks, slightly beaten
- 1 teaspoon vanilla
- 1 baked 9-inch pie shell



Order of Work

1. Mix sugar, salt, and cornstarch together in heavy saucepan.
2. Add cold milk and butter or margarine to sugar mixture, stirring or whisking until ingredients are blended.
3. Place pan on low heat. Stirring constantly, cook until mixture is thick and bubbly.
4. In a small bowl, beat egg yolks slightly. Stir a small amount of the hot pudding mixture into the egg yolks.
5. Combine egg mixture with the remaining cooked pudding, stirring until well blended; cook 5 minutes.
6. Remove from heat; add vanilla.
7. Pour into baked pie shell.
8. Cover with meringue and brown in oven. (See recipe for Meringue on page 103.)

Nutrition Facts per Serving: 398 calories, 19 g fat, 439 mg sodium, 51 g carbohydrate, 1 g fiber, 7 g protein, 86 mg calcium

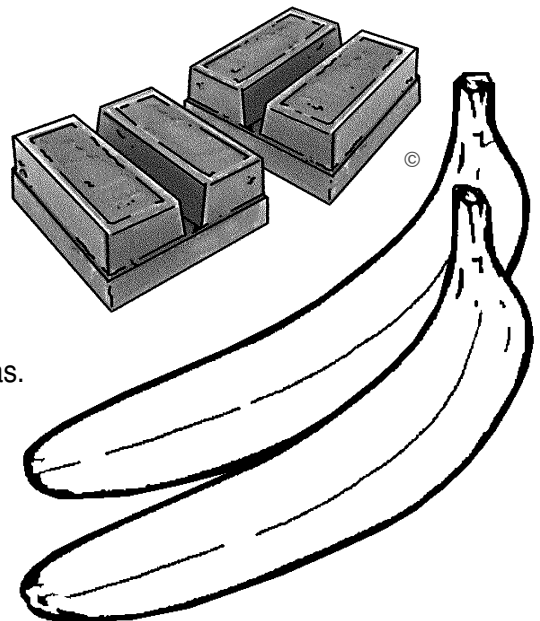
Variations

Chocolate — add two 1-ounce squares of bitter chocolate to milk. Increase sugar to 1 cup.

Coconut — add 1/2 to 1 cup of moist shredded coconut to cooked cream pie mixture. Sprinkle 1/2 cup coconut over meringue before browning.

Banana — spoon half of filling in pie shell. Slice two bananas over filling. Spoon remaining filling over bananas.

Graham Cracker Crust — substitute a baked graham cracker crust for the baked pie shell. Pour cooked pudding into baked crust and chill until firm. Cover pudding with whipped topping.

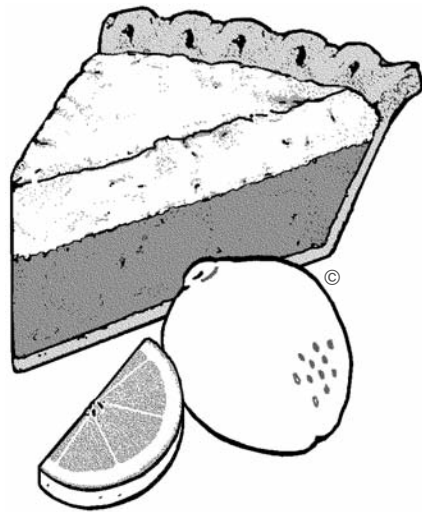


Lemon Meringue Pie

Yield: 8 servings

Ingredients

1/3 cup cornstarch
 1/4 teaspoon salt
 1 1/2 cups sugar
 1 1/2 cups cold water
 3 egg yolks
 2 tablespoons butter
 1 tablespoon grated lemon rind
 1/2 cup lemon juice
 9-inch baked pie shell
 3 egg white meringue



Order of Work

1. In a heavy, medium-sized saucepan, mix cornstarch, salt, and sugar; slowly stir in cold water.
2. Stirring constantly, cook mixture until it is clear and thick.
3. In a small bowl, beat egg yolks slightly. Stir a small amount of the hot mixture into the egg yolks.
4. Add egg mixture to the remaining cooked pudding and cook 1 minute. Remove from heat.
5. Stir in the butter, lemon rind, and juice. Blend thoroughly. Pour into baked shell.
6. Cover with meringue and bake in oven at 350 degrees F for 15 minutes, or until lightly browned. (See page 103 for meringue recipe.)

Nutrition Facts per Serving: 457 calories, 18 g fat, 344 mg sodium, 71 g carbohydrate, 1 g fiber, 5 g protein, 18 mg calcium



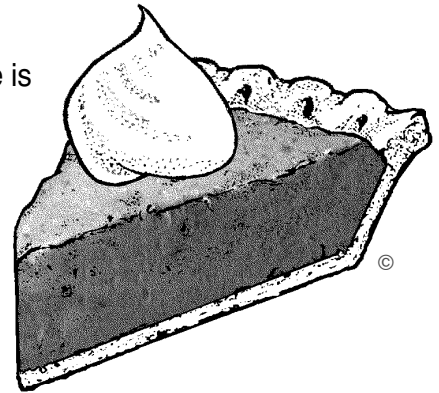
Traditional Pumpkin Pie

Yield: 8 servings

Some foods are traditional favorites at holiday meals. Pumpkin pie is one of those desserts that show up for fall and winter gatherings. This custard pie is simple to make.

Ingredients

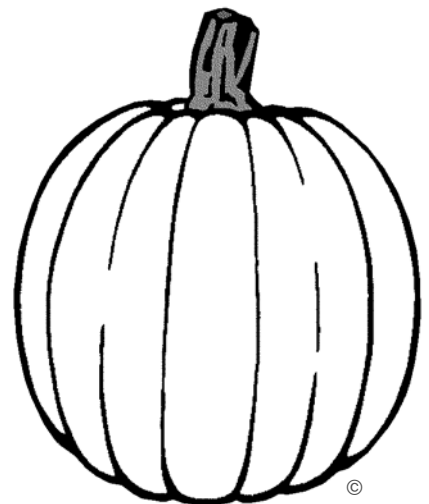
- 3/4 cup granulated sugar
- 1 1/2 teaspoons pumpkin pie spice
- 1/2 teaspoon salt
- 2 large eggs
- 1 can (15 oz.) pure pumpkin
- 1 can (12 oz.) evaporated milk
- 1 unbaked 9-inch pie shell
- Whipped topping, if desired



Order of Work

1. Preheat oven to 425 degrees F.
2. Mix sugar, pumpkin pie spice, and salt in small bowl.
3. Beat eggs in large mixing bowl. Stir in pumpkin and sugar/spice mixture.
4. Gradually stir in evaporated milk. Pour mixture into pie shell.
5. Bake for 15 minutes.
6. Reduce temperature to 350 degrees F; bake for an additional 40 to 50 minutes or until knife inserted near center comes out clean.
7. Remove from oven and cool on wire rack.
8. Serve immediately or refrigerate. If desired, top with whipped topping before serving.

Nutrition Facts per Serving (without whipped topping): 369 calories, 18 g fat, 356 mg sodium, 46 g carbohydrate, 3 g fiber, 8 g protein, 142 mg calcium





4-H Custard Pie

Yield: 8 servings

Ingredients

- 1 prepared unbaked pastry for one-crust pie
- 4 eggs, slightly beaten
- 1/2 cup sugar
- 1/2 teaspoon salt
- 1 teaspoon vanilla
- 2 cups milk
- 1/2 teaspoon nutmeg, optional

Order of Work

1. Prepare pastry and place in pie pan. Place in refrigerator to chill while preparing filling.
2. Preheat oven to 450 degrees F.
3. In mixing bowl combine eggs, sugar, salt, vanilla, and milk. Stir until well blended.
4. Pour custard mixture into unbaked pie crust. Sprinkle nutmeg on top, if desired.
5. Bake for 15 minutes; reduce to 350 degrees F and bake for about 15 to 20 minutes, or until a knife insert in the center of the pie comes out clean.
6. Remove from oven and cool on rack. Serve or refrigerate until served.



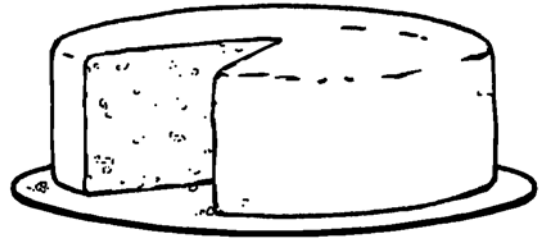
Source: Illinois 4-H Pastry Book

Nutrition Facts per Serving: 297 calories, 17 g fat, 351 mg sodium, 30 g carbohydrate, 1 g fiber, 8 g protein, 89 mg calcium

Foam Cakes

Cakes that contain little or no fat, such as angel food, sponge, and chiffon, are referred to as foam cakes. Each of these cakes has a light, springy texture produced by the large amount of eggs used to prepare the cakes.

The air and steam produced by baking whipped egg whites cause the cake to rise. The egg whites must be whipped correctly to produce the desired light, springy texture. The foam cake must be baked immediately or the egg whites will deflate and produce a flat, tough cake.



The key to a perfect foam cake is in the speed at which you beat the egg whites. Start at the lowest mixer speed to mix the eggs into a froth. Then increase the speed to medium to form soft, cloud-like mounds. When large bubbles stop appearing around the edges of the bowl, add the sugar, one tablespoon at a time. After all the sugar is added, the whites should be shiny and form soft peaks when the beaters are lifted out of the egg whites. Do not continue beating the egg whites since overbeating produces a flatter, denser cake.

A foam cake should be tall and perfectly shaped, have a light, tender crumb, and have a thin, delicate, golden crust.

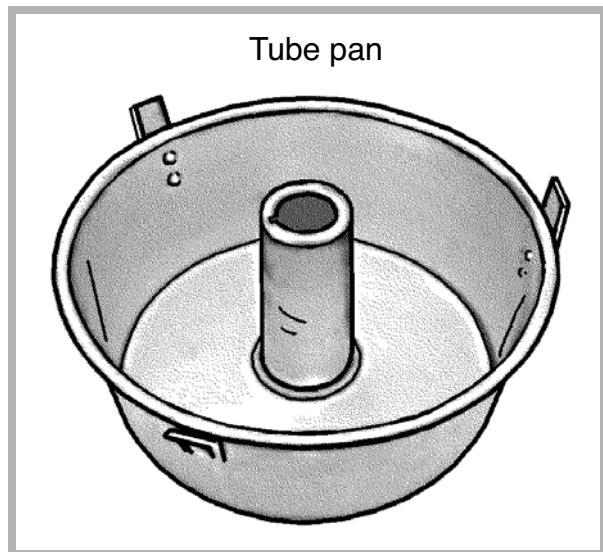
Tips for Making Quality Foam Cakes

- Separate the eggs as soon as they are removed from the refrigerator. Cold eggs separate more easily than room temperature eggs. If some of the yolk falls into the egg white, use a spoon to scoop it out. Even a small speck of yolk will keep beaten egg whites from reaching full volume.
- Let egg whites stand at room temperature for 30 minutes before beating.
- Be sure that beaters and bowls are clean and completely free of fat or oil because the least bit of fat will prevent beaten egg whites from reaching their full volume. Use only metal or glass bowls since plastic bowls tend to absorb fat.
- For best results, use cake flour instead of all-purpose flour. Cake flour has less gluten and will provide a finer texture.

- Choose a **tube pan** with a removable rim for best results.

A tube pan has a hollow center tube which allows heat to flow into the center of the cake so the entire cake cooks evenly. If using a one-piece tube pan, line the bottom with parchment or wax paper to aid in removing the baked cake from the pan.

- Never oil or grease the pan as the batter must cling to the pan side as it bakes and cools.
- To cool the baked cake, if cake pan has prongs around the rim to elevate the cake, invert pan onto prongs. If not, invert pan over the neck of a bottle or funnel so that air can circulate.
- For best results, use a serrated knife in a sawing motion to cut the cooled cake.



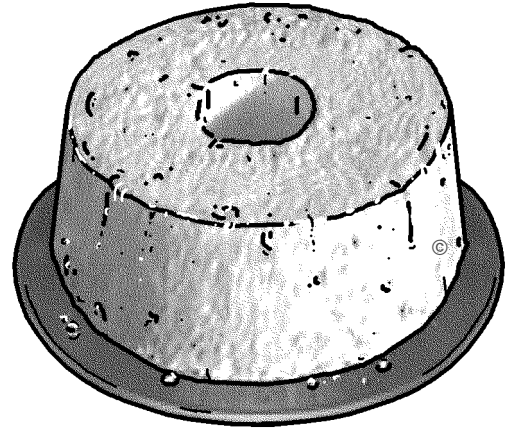
Simply Delicious Angel Food Cake

Yield: 16 servings

Angel food cake contains no fat and, unlike creamed cakes, it does not use baking powder and/or baking soda for leavening. Air and steam produced by baking whipped egg whites cause cake to rise.

Ingredients

- 1 cup cake flour
- 1 1/2 cups sugar, divided
- 1 2/3 cup egg whites (about 12 large eggs)
- 1 teaspoon cream of tartar
- 1/4 teaspoon salt
- 1 1/2 teaspoons vanilla
- 1 1/2 teaspoon lemon juice
- 1/2 teaspoon almond extract



Order of Work

1. Preheat oven to 350 degrees F. Adjust oven rack to the lowest position.
2. In a small bowl, whisk the flour with 3/4 cup sugar.
3. Add egg whites to large mixing bowl and beat egg whites at low speed until beginning to froth. Add cream of tartar and salt; beat at medium speed until whites form soft mounds.
4. Add remaining 3/4 cup sugar, 1 tablespoon at a time, until all sugar is added and whites are shiny and form soft peaks. Add vanilla, lemon juice, and almond extract; beat until just blended.
5. Sift flour-sugar mixture over egg whites about 3 tablespoons at a time, and gently fold it in.
6. Gently scrape batter into a 10-inch tube pan, smooth the top, and give pan a couple of raps on the counter to release any large air bubbles.
7. Bake until cake is golden brown and top springs back when pressed, about 50 to 60 minutes.
8. If cake pan has prongs around the rim, invert pan onto prongs. If not, invert pan over the neck of a bottle or funnel so air can circulate. Let the cake cool completely, 2 to 3 hours.
9. Unmold the cooled cake by running a metal spatula around the edges of the pan, being careful not to separate the crust from the cake. Slide cake out of pan and cut the same way around removable bottom to release, or peel off parchment or wax paper, if used.
10. Place the cake, bottom-side up, on a platter. Cut slices by sawing gently with serrated knife.

Nutrition Facts per Serving: 118 calories, less than 1 g fat, 79 mg sodium, 26 g carbohydrate, less than 1 g fiber, 3 g protein, 3 mg calcium

Variations

Fall Harvest Angel Food Cake — Add 1 teaspoon cinnamon, 1/2 teaspoon nutmeg, and 1/4 teaspoon cloves to the flour mixture in step 2.

Peppermint Candy Angel Food Cake — Crush 10 peppermint candies with a rolling pin. Gently fold the candy into the batter after completely folding in flour.

Cocoa Angel Food Cake — Substitute 1/4 cup sifted cocoa for 1/4 cup cake flour. Omit almond extract.



Golden Sponge Cake

Yield: 16 servings

The basic sponge cake is an angel food cake that uses the entire egg — not just the egg whites. This cake does contain fat, but it comes entirely from the egg yolk.

Ingredients

- 1 1/3 cups cake flour
- 1/2 teaspoon baking powder
- 1/2 teaspoon salt
- 1 1/2 cups sugar, divided
- 6 eggs, yolks and whites separated
- 1 teaspoon cream of tartar
- 1/4 cup water
- 1 teaspoon vanilla
- 1 teaspoon lemon extract

Order of Work

1. Preheat oven to 375 degrees F.
2. Sift flour once, measure, and sift again with baking powder, salt, and 1 cup sugar. Set aside.
3. Beat egg whites and cream of tartar in large mixing bowl until soft mounds begin to form.
4. Beating at high speed, sprinkle remaining sugar over egg whites, 2 tablespoons at a time. Beat until stiff peaks are formed.
5. Combine egg yolks, water, vanilla, and lemon extract in a small bowl. Add dry ingredients and beat enough to blend.
6. Fold egg yolk mixture into beaten egg whites by cutting down through mixture, lifting up, and folding over, about 40 strokes. Pour batter into an ungreased 10-inch tube pan.
7. Bake for about 35 minutes, until the cake is golden and springs back when lightly touched.
8. If cake pan has prongs around the rim for elevating the cake, invert pan onto prongs. If not, invert pan over the neck of a bottle or funnel so that air can circulate all around it. Let the cake cool completely, 2 to 3 hours.
9. Unmold the cooled cake by running a metal spatula around the edges of the pan, being careful not to separate the crust from the cake. Slide cake out of pan and cut the same way around removable bottom to release, or peel off parchment or wax paper, if used.
10. Place the cake, bottom-side up, on a platter. Cut slices by sawing gently with serrated knife.

Nutrition Facts per Serving: 143 calories, 2 g fat, 117 mg sodium, 28 g carbohydrate, less than 1 g fiber, 3 g protein, 15 mg calcium

Basic Chiffon Cake

Yield: 16 servings

Chiffon cakes differ from angel food and sponge cakes since chiffon cakes contain baking powder, oil, and egg yolks. Because of the oil, chiffon cakes stay fresh longer than other foam cakes.

Ingredients

- 2 1/4 cups cake flour
- 1 tablespoon baking powder
- 1 teaspoon salt
- 1 1/2 cups sugar, divided
- 1/2 cup vegetable oil
- 5 large egg yolks
- 1 tablespoon vanilla
- 3/4 cup cold water
- 7 large egg whites
- 1/2 teaspoon cream of tartar

Order of Work

1. Preheat oven to 325 degrees F.
2. In a large bowl, combine flour, baking powder, salt, and 1 cup sugar.
3. Make a well in the center and add oil, egg yolks, vanilla, and water. Whisk until smooth.
4. Beat egg whites and cream of tartar in large mixing bowl until soft mounds begin to form.
5. Beating at high speed, sprinkle remaining 1/2 cup sugar over egg whites, 2 tablespoons at a time. Beat until stiff peaks are formed.
6. Gently fold one-third of the whites into the yolk mixture. Fold in remaining whites.
7. Pour batter into an ungreased tube pan.
8. Bake 1 1/2 hours or until top springs back when lightly touched. If cake pan has prongs around the rim for elevating the cake, invert pan onto them. If not, invert pan over the neck of a bottle or funnel so that air can circulate. Let the cake cool completely, 2 to 3 hours.
9. Carefully run a metal spatula around the sides of the pan to loosen cake. Remove cake from the pan and place on cake plate. Cut slices by sawing gently with serrated knife.

Nutrition Facts per Serving: 231 calories, 8 g fat, 276 mg sodium, 35 g carbohydrate, less than 1 g fiber, 4 g protein, 30 mg calcium

Variations

Lemon Chiffon Cake — Omit 3/4 cup cold water; add 1/2 cup plus 2 tablespoons cold water and 2 tablespoons strained lemon juice. Omit vanilla and add 1 tablespoon grated lemon rind.

Orange Chiffon Cake — Omit 3/4 cup cold water; add 1/2 cup cold water and 1/4 cup strained orange juice. Omit vanilla and add 1 tablespoon grated orange rind.

Pineapple Chiffon Cake — Omit 3/4 cup cold water; add 3/4 cup cold, unsweetened pineapple juice.



Evaluating Angel, Sponge, and Chiffon Cakes

Desirable Characteristics	Poor Characteristics	Possible Causes
Volume — cake nearly doubles its volume	Undersized	Over-beaten egg whites Egg whites not fresh Under-beaten egg whites (or yolks for chiffon) Too much cream of tartar
	Sunken	Too much sugar (or oil for chiffon) Under-baked Pan not inverted for cooling
Shape — flat or slightly rounded top with no cracks and peaks	Runs over top	Too much batter for pan Too much leavening
	Cracks	Too much flour Not enough liquid Placed too high in oven
Surface — delicate brown with tender, thin, rough crust free from stickiness	Sticky crust	Too much sugar Under-baked
Grain — fine grained; even-sized cells throughout; free from tunnels	Heavy and compact	Overbeating of egg white or yolk Too little sugar or liquid Wrong baking temperature Pan not inverted for cooling
	Coarse grain	Flour not folded in well Egg whites under-beaten
Flavor — delicate; free from excessive taste of egg, acid, or flavorings	Unpleasant flavor	Poor quality eggs or flavorings

Continued on next page

Evaluating Angel, Sponge, and Chiffon Cakes, continued

Desirable Characteristics	Poor Characteristics	Possible Causes
Color — uniform	Dark spots or streaks	Insufficient mixing
Texture — tender, slightly moist, fluffy	Tough crust	Not enough sugar Too much flour Oven too hot Baked too long
	Pale crust	Oven not hot enough Not enough sugar
	Tough	Not enough sugar Not enough shortening (for chiffon) Baked too long
	Dry	Too much flour Not enough shortening (for chiffon) Not enough liquid Baked too long
	Soggy	Too much cream of tartar (for chiffon and angel)



Fluffy Icing

Yield: frosting for 1 angel food cake or 2 angel food loaves

Some cooked icings that contain egg whites develop a hard crust after frosting the cake. This frosting remains soft and fluffy.

Ingredients

- 1 cup white corn syrup
- 2 tablespoons sugar
- 2 tablespoon water
- 1 teaspoon vanilla
- 2 egg whites

Order of Work

1. Mix corn syrup, sugar, water, and vanilla in a small saucepan; bring to a boil over medium-high heat.
2. While syrup ingredients are heating, beat the egg whites until frothy.
3. After syrup mixture has reached boiling, beat egg whites at high speed and slowly pour the hot syrup into the egg whites. Continue beating the mixture for 8 to 10 minutes or until the icing reaches spreading consistency.
4. Frost cake and serve.

Nutrition Facts per Serving: 71 calories, less than 1 g fat, 21 mg sodium, 19 g carbohydrate, 0 g fiber, less than 1 g protein, 3 mg calcium

EQUIPMENT



Dutch oven — a heavy, cast-iron or stainless steel pot with a tight-fitting lid; can be used for stove-top cooking or in the oven.

Roasting pan — a heavy pan with low sides that allows heat from the oven to surround the food.

Tube pan — a cake pan with high sides and a hollow center tube which allows heat to flow into the center of the cake for even baking.



GLOSSARY

- Aromatic plants** — plants that give a sweet smelling fragrance and flavor to food.
- Braising** — to cook meat or vegetables by lightly browning in fat and then cooking slowly in a closed pan with a small amount of liquid.
- Caramelize** — melting sugar until it becomes a caramel colored liquid; a mixture of sugar and water cooked until it darkens and becomes syrupy and reaches a temperature from 320 to 356 degrees F; searing meat caramelizes the sugars and browns the proteins in the meat, creating more color and flavor and an appealing crust.
- Chuck** — an inexpensive beef cut taken from between the neck and shoulder blade; chuck roasts usually include a portion of the blade bone and are sometimes referred to as blade roasts; chuck cuts must be cooked slowly, as in stewing or braising.
- Cilantro** — the bright green leaves and stems of the coriander plant; also called Chinese parsley; it has a lively, pungent fragrance; widely used in Asian, Caribbean and Latin American cooking.
- Collagen** — the protein that makes up connective tissues such as tendons and ligaments; when cooked at low temperatures collagen breaks down and melts into a soft gelatin, making the meat tender and flavorful; if cooked at too high temperatures, the collagen produces tough, chewy meat.
- Crystalline candy** — candy that contains small sugar crystals that produce a smooth, creamy texture; examples are fudge, fondant, divinity, and creams.
- Custard** — a thick, creamy pudding-like dessert made with eggs, cream or milk, sugar, and flavorings.
- Deglaze** — after meat is sautéed and meat and excess fat are removed from the pan, a small amount of liquid is heated in the pan and stirred to loosen browned bits of food on the bottom of the pan.
- Dredge** — coat food with flour, cornmeal, or bread crumbs to help brown the food.



Dry-heat cooking — heat is transferred to the food item without using any moisture, typically using high heat.

Flatbread — bread made in thin, circular pieces or sheets, often unleavened.

Fluted edge — a scalloped or decorative design on the edge of a pie crust.

Interfering agent — ingredients used in making candy that interfere with the formation of large sugar crystals.

Marry — flavors of combined foods blend together.

Milk solids — the fat, proteins, sugar, and ash that give milk its creamy texture.

Moist-heat cooking — gently cooking foods in liquids along with meats, aromatics, or vegetables.

Non-crystalline or amorphous candy — candy that does not contain crystals; examples are toffee, peanut brittle, taffy, and caramels.

Pastry — dough that is shaped, baked, and used as a crust for pies or tarts.

Pastry cloth — a piece of fabric made from heavy-weight cotton and used to roll out pastry dough.

Pastry flour — flour with lower gluten content used for making pastry and other delicate baked goods.

Pastry mat — a mat typically made from silicone and used to roll out pastry dough.

Pepperoncini — mild peppers with a slight heat to them; they are commonly pickled and sold packaged in jars.

Pie weights — small pellet-sized metal or ceramic weights used when baking an unfilled pie or tart crust to keep it from shrinking.

Pit — the single central kernel or stone of certain fruits, such as a peach or cherry.

Ramekin — an individual baking dish, usually 3 to 4 inches in diameter, that resembles a miniature soufflé dish; usually made of porcelain or earthenware.

Roux (roo) — a mixture of flour and fat that is slowly cooked over low heat; used to thicken mixtures such as soups and sauces.

Saturated — the most concentrated solution possible at a given temperature; unable to dissolve more of a substance.

- Sautéing** — quickly frying food in a small amount of fat.
- Searing** — cooking the surface of the foods, usually meat, poultry or fish, at high temperatures so that a caramelized crust forms; also referred to as browning.
- Skin** — a thin film or coating that develops on pudding and custards as they cool; does not affect the flavor of the food.
- Smoke point** — the stage at which heated fat begins to produce smoke and acrid odors and gives an unpleasant flavor to foods; the higher the smoke point, the better suited a fat is for frying.
- Starch thickeners** — used to thicken sauces, pie filling, custard, and pudding; most commonly used thickeners are cornstarch, flour, and tapioca; thicken without adding fat or much flavor.
- Supersaturated** — to cause a solution to be more highly concentrated than is normally possible under given conditions of temperature and pressure.
- Stewing** — cooking foods at a slow boil or simmer.
- Tempering** — gently heat egg yolks before adding to a hot sauce to prevent the eggs from curdling; add a small amount of the sauce to egg yolks and beat well before adding yolks to a hot sauce.
- Weeping** — term used to describe when liquid accumulates between the meringue and filling of pies.



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