

# How to Bake

## Your Complete Reference Book



Ingredients, techniques, and recipes for  
successful baking in your kitchen!

Dennis R Weaver & The Prepared Pantry

# How to Bake

## Your Complete Reference Book

Copyright © 2006 by Dennis R Weaver and [The Prepared Pantry](#). All rights reserved.

Photographs by Debbie Frantzen and The Prepared Pantry.

The material herein is published by The Prepared Pantry for the private use of individuals and may not be used for commercial purposes without the express consent of the publisher. The information contained herein is believed accurate but the publisher makes no warranties, express or implied, and the recipient is using this information at his or her own risk.

For permission to use any material from any part of this book including subsequent chapters for commercial purposes, contact the publisher at:

**[The Prepared Pantry](#)**

[www.preparedpantry.com](http://www.preparedpantry.com)

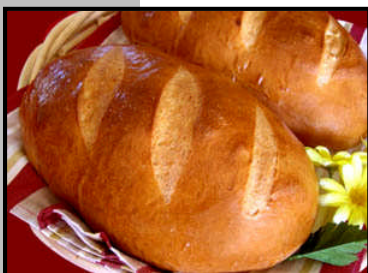
3847 E 38 N

Rigby, ID 83442

1-208-745-7892

# "WONDERFUL!!!"

*"... well designed and informative"*



## **How to Bake** Your Complete Reference Book

There is nothing like this in your library. It is not a cookbook—though it contains wonderful recipes. It is a reference book. It has everything that you need to know to bake. Keep it in your kitchen library and refer to it often. It will make you a better baker.

In this book, you will find eight chapters:

- *Flour—the Basic Ingredient and How to Use it for the Best Baked Goods*
- *The Wonderful World of Eggs*
- *How to Make Bread and Pastries with Yeast*
- *The Secrets of Using Chemical Leaveners—Baking Powder and Baking Soda*
- *Fresh from the Dairy—Dairy Products and How to Use Them*
- *Rich Baked Goods—Butter, Shortening, and Oil in your Kitchen*
- *How Sweet it is—How to Use the Family of Sweeteners*
- *Chocolate! How to Make the Best Desserts*

Each chapter is designed in three parts. The first part teaches the principles of baking. The second portion, discusses practices--how you apply the principles. The third part presents recipes that employ the principles and practices.

If you want to know when to use baking powder and when to use soda, if you want to now how to make high-domed muffins or cheesecakes that don't crack, if you want to know if you can store your pancake batter overnight—this is the book for you.



# How to Bake

Your Complete Reference Book



## Preface

First we did the lessons, the baking lessons that we have on our site, [www.PreparedPantry.com](http://www.PreparedPantry.com). Gratefully, they were received well. (Over 99% of respondents to our survey said that they found the lessons valuable.) But there were those who wanted changes. Repeatedly, folks said that they wanted to print them out, to have them handy in the kitchen or to share with children and grandchildren. We hadn't planned on that. With hypertext links, the lessons weren't formatted well for printing. The lessons were short, intended for one sitting. So we decided to change that, to write an accompanying text. But projects tend to grow. We didn't just reformat the lessons and include the recipes. Soon we were adding new material, updating information, and including had-to-have new recipes. The result is this reference book.

We hope that you enjoy this book and that it becomes a valuable reference in your baking.

This book is intended to be printed on your computer at home. Bind the pages in a three-ring binder or other cover and keep this book as a reference in your kitchen. We think you will use it often. Feel free to print extra copies for family and friends. While this is copyright protected material, you may use it for personal, private use and not for commercial purposes.

We invite you to use our free library at [www.PreparedPantry.com](http://www.PreparedPantry.com) where you will find more information like this, recipes, and more free downloads. Keep in touch with us with our free newsletters and online magazines. We really want to help you bake.

We wish you the very best

Dennis and Merri Ann Weaver and Company  
Rigby, Idaho

## Introduction

My mother gave me a cook book for my eighth birthday. Maybe it was an unusual present for a boy that helped his dad in the garage and milked cows. But it started a love affair with cooking.

I spent many an hour in that old country kitchen. Some of it was just talking with my mother. Much of it was trying to cook something. Sometimes it was helping her. I suspect that much of my philosophy of life was formed in a big square kitchen with a green vinyl floor.

My mother wasn't far removed from her pioneer stock. She had an innovative, make-do attitude. She was basic in her cooking. She had a lot to do and a family to feed and wasn't likely to get too fancy. It carried over into my cooking. We ate foods in season and put food by for winter. On many an afternoon, the counters were lined with peaches or pears in Mason jars, cooling, waiting to be stacked in the ceiling. High brown cabinets on the closed porch that doubled as a pantry. My mother was neat, orderly, ambitious. I hope some of my habits mirror hers.

I grew up, went to college, and found my way to Alaska. I worked in a kitchen on the North Slope, an assistant baker, feeding construction hands and roughnecks working in the oil field. Food was king there, the major diversion in a bleak landscape. I baked, washed dishes, and fed steaks to the night crew. I learned professional tricks, techniques that I didn't learn in my mother's square kitchen.

I drifted away to the corporate world. I was fortunate to meet Merri Ann, we married, and had kids. I drifted again, this time to Minnesota and grad school. In Minnesota I found wonderful restaurants and the bakeries of the big cities. I fell in love with the little ethnic shops off the West Bank where you could get fried bananas and chicken mole, where you didn't understand the hurried conversations between the owner and his staff. Life was expanding as was my exposure to foods that I would never see in my little home town.

I was cooking for pleasure, often for relief, and slugging out a career in the city. But I was working the long hours in corporate America and not spending enough time with my family. It wasn't the life that we wanted and we revolted to the country, to Idaho and a town of 3,000.

We started The Prepared Pantry—Merri Ann and I and a good, wonderful friend from Minnesota, Cy Laurent. Debbie Frantzen, our married daughter, soon joined us. Her boundless energy, technical abilities, and artistic talents proved invaluable. She's still our webmaster and photographer and she seems to be able to fill in almost anywhere.

No one should underestimate the time and the toil of a business start-up. But we were where we wanted to be and working with food, baking with passion. We spent the first year developing products--baking mixes—baking the same thing over and over and over again until we could do no better. Then we would send them around the country from

sea level to 8,700 feet and get others to bake them. Finally we felt like we were ready to sell them.

Sales always come slowly at first. We advertised and that only helped a little. Then we started a newsletter. We discovered a sea of kindred spirits hungry to learn about baking. We loved our newsletters and judging from the tide of subscribers, had found a vein of people that loved to bake and wanted to learn more. We kept working at our newsletters and got better. The business finally gained momentum and grew rapidly.

A strange thing happened along the way; we discovered that we loved to help people bake. We were no longer in the baking business; we were in the people business. We were now passionate about helping people to bake. We wrote baking guides and watched thousands download them. It didn't matter if they bought. If we helped enough people, they would buy, we believed. We weren't wrong.

Now we get a flood of inquires and emails, sometimes someone with a discovery and we get to share their excitement, sometimes just to say "hi". We struggle to keep up but that's okay. No matter how big we get, we never want to forget—we're in the people business.

# **How to Bake:**

## *Your Complete Reference Book*

### ***Book Contents***

#### **Chapter 1**

*Flour—the Basic Ingredient and How to Use it for the Best Baked Goods*

#### **Chapter 2**

*The Wonderful World of Eggs*

#### **Chapter 3**

*How to Make Bread and Pastries with Yeast*

#### **Chapter 4**

*The Secrets of Using Chemical Leaveners—Baking Powder and Baking Soda*

#### **Chapter 5**

*Fresh from the Dairy—Dairy Products and How to Use Them*

#### **Chapter 6**

*Rich Baked Goods--Butter, Shortening, and Oil in your Kitchen*

#### **Chapter 7**

*How Sweet it is—How to Use the Family of Sweeteners*

#### **Chapter 8**

*Chocolate! How to Make the Best Desserts*



# Chapter 1



***Flour—the Basic Ingredient and How to Use it for  
the Best Baked Goods***

## Chapter 1

### *Flour—the Basic Ingredient and How to Use it for the Best Baked Goods*

Types of Wheat .....	3
Components of the Wheat Kernel .....	4
Flour Types.....	4
The Role of Gluten.....	4
The White Flours.....	5
Bleached or Unbleached?.....	5
Bromated or Unbromated? .....	6
Bread, All-Purpose, Self-Rising, Pastry, or Cake Flour? .....	6
So what flour should I buy?.....	6
Whole Wheat Flour .....	7
Other Flours .....	8
Cornmeal.....	8
Rye flour.....	8
Oats.....	8
Buckwheat flour.....	8
Potato flour.....	9
Chewy or Tender—How do we Control the Texture .....	9
How Much Does That Flour Weigh? .....	9
Flour Blends .....	10
Other Blend Additives.....	10
Conditioners .....	10
Potato Flour.....	11
Storing Your Flour .....	11
Recipes: Applying What You Learned.....	12
Sweet Buttermilk Cornbread.....	12
Texas Chili Corn Bread .....	14
European Soft Peasant Bread .....	16
Easy Sourdough Bread .....	18
100% Whole Wheat Bread Recipe .....	21
California Golden Raisin Muffins .....	23
American Rye Bread Recipe .....	25
Deli Rye Bread Recipe .....	27
Creamy Ricotta and Sausage Calzone Recipe.....	29
How to Make Pitas .....	31

Copyright 2006, The Prepared Pantry. All rights reserved.

The material herein is published by The Prepared Pantry for the private use of individuals and may not be used for commercial purposes without the express consent of the publisher. The information contained herein is believed accurate but the publisher makes no warranties, express or implied, and the recipient is using this information at his or her own risk.

## *Types of Wheat*

To understand baking, you must understand flour. It helps to know a little about flour, so we'll begin this chapter with a short discussion about wheat.

Wheat has three characteristics by which it is classified: its hardness—hard or soft, its color—red or white, and its growing season—winter or spring. These characteristics determine the properties of the wheat and the flour from which it is derived.



Hardness refers to the protein content of the kernel. A hard wheat has a high protein content and the proteins in wheat are what forms the gluten in bread dough that gives bread its chewiness. A flour made from hard wheat is referred to as a strong wheat. Flours made from hard wheat are ideal for bread making. Soft flours, made from soft wheat, are more suitable for cakes, cookies, and muffins where tenderness, not chewiness, is important.

Red wheat has a red pigment in the coat of the kernels. This red pigment has a slight bitter taste but red wheat usually is high in protein and makes a wonderfully structured bread. White wheat tends to be sweeter, less bitter, but with less protein. White wheat has a higher mineral content (which is noted in the flour specification as the ash content). Though it has a lower protein content, white wheat is used for bread making, especially for artisan and European-type breads.

Wheat is grown either in the winter or spring. Winter wheat is planted in the fall, it sprouts, grows for a short period, and then becomes dormant through the winter months. In the spring, it begins growing again. Spring wheat is planted in the spring. Spring wheat is usually higher in protein than winter wheat.

In the United States, there are five primary types of wheat grown: hard red winter wheat, hard red spring wheat, soft red winter wheat, hard white wheat, and soft white wheat.

Flour mills produce flour to certain specifications with designated tolerances. They are reliant on the availability of wheat types for stock. The larger producers do a marvelous job of producing flours that meet particular specifications reflecting their access to wheat stocks. Consistency of specification is essential for the commercial bakery and should be important to the home baker.

I grew up in the rural West where hard red winter wheat was common and of pioneer, farmer stock. Home made bread was the norm. Whole wheat bread tended to be full, hearty loaves but slightly bitter. We masked that bitterness with lots of butter and honey or jam. It was not until I understood wheat and flour that I understood where that bitterness came from. Today, I temper that with a flour blend made with some white

wheat and a higher ash content. Later in this chapter, we'll tell you how to remove some of that bitterness by soaking the wheat flour.

## Components of the Wheat Kernel

There are three major components to the wheat kernel: the bran, the endosperm, and the germ. The bran consists of the protective outer covering, the hull of the kernel. Most of the fiber is in the bran. The germ is the embryonic portion of the kernel and is high in protein, minerals, and sugars. The endosperm is the starchy inner portion that provides the food for the growing germ much as an egg white does in an egg.

In the milling process, the kernels are ground into powder. To make white flour, the powder is sifted to remove most of the bran particles. Whole wheat flour contains bran. (In many operations, the bran is removed and then added back for whole wheat flour.) With the removal of the bran, some flavor and nutritional content is lost. By law, in the United States, white flours must be enriched with vitamins and minerals to approximate the nutritional value of whole wheat flour.

## *Flour Types*

How many different kinds of flour are there? We just opened a commercial flour catalog and counted 28. These were flours that were available from one mill for the Western United States. At last count, we had 16 on hand for our test kitchen.

Matching the flour to the product that you are baking is one of the keys to successful baking. While the commercial baker has access to dozens of specialized flours, we can do quite well with just a few in our kitchens.

With those few, you can match the flour to the product you are baking and create your own blends for the effect that you want.



## The Role of Gluten

Before we begin to examine types of flour, let's understand gluten. Gluten is made of the proteins found in wheat flour and gives bread its structure, strength, and texture. Without these marvelous little proteins, bread would not be bread. It also explains why it is so hard to make bread from rice, potato, rye, or oat flour and why wheat flour has to be added to these to make bread—only wheat has enough protein to make bread. The gluten makes the bread.

Gluten is developed in the dough when the proteins absorb water and are pulled and stretched in the kneading process. When water is mixed with flour, the protein in the flour absorbs moisture. When dough is worked by mixing or kneading, two types of protein come together into strands—tiny ropes of gluten. As the yeast produces gases in the dough, mostly carbon dioxide, these strands trap the gas bubbles and the dough expands. When we put the bread in the oven, the gluten strands coagulate or solidify much as the protein in eggs solidifies as the egg cooks.

A high protein content is necessary for great bread and a low protein content is required for the tender crumb we love in cakes. During baking, this protein coagulates just as the proteins in an egg coagulate in the heat of a frying pan. It's this coagulated protein that gives bread its chewiness. In a cake, we don't want chewiness so we use a low protein content flour. Furthermore, we use a shortening (commercial shortening, butter, margarine, or oil) to lubricate and shorten the gluten strands. (Hence the descriptive name "shortening".)

You can see how much protein is in flour by comparing ingredient labels. Bread flours will have as much as 14% protein. All-purpose flour is usually in the eight to ten percent range and cake flour is less than that.

A typical bread flour (this one happens to be a General Mills flour) has 12% protein, 75% carbohydrates, one percent fat, less than one percent ash, and 14% moisture. (If exposed to air, the moisture content will change and affect the baker's formulation.)

## **The White Flours**

By far, the western world consumes more white flour than any other. We can buy bleached or unbleached, bread, all-purpose, self-rising, cake, and pastry. We can buy flour made with soft Southern wheat or hard winter wheat. They are all different, each with an intended purpose. The choice of flour will make a profound difference in most baked goods.

### **Bleached or Unbleached?**

Should you use bleached or unbleached flour? Chlorine is the common bleaching agent used to whiten flour (though some millers use benzoyl peroxide). Many store breads use bleached flour to obtain the whiteness that we associate with commercial white bread. While the FDA has approved the use of chlorine in flour, you may prefer to avoid the additives and use flour that has not been bleached.

Chlorine tends to damage the proteins in flour and therefore weaken the gluten structure in bread.

The natural tone of unbleached wheat flour is cream-colored. If you don't mind the ivory or cream color of products made with unbleached flour, by all means use that. The only bleached flour that we use is bleached cake flour when we want to obtain the pure white texture we prefer in white cakes. In yellow cakes or chocolate cakes, we use unbleached pastry flour. If you switch from bleached to unbleached flour in your bread recipes, be aware that the two flours may exhibit different performance characteristics and you may need to make minor changes in the recipe.



## **Bromated or Unbromated?**

In your grocery store, you may find either bromated flour or flour that has not been bromated. Bread flours have to age or oxidize before they perform well. The time and expense of natural oxidation is not practical in commercial operations and the results are not often uniform. So the industry has explored means of speeding the process along and using bromates is one of them. The FDA has ruled bromates to be safe and legal (though California outlawed bromates in 1991 as a possible carcinogen and most of Europe will not allow bromates). If you are not comfortable with bromates, look for flour that has been treated with ascorbic acid (Vitamin C) or other chemicals instead of bromates.

## **Bread, All-Purpose, Self-Rising, Pastry, or Cake Flour?**

Dominant on grocery store shelves are bread flours, all-purpose flours, and cake and pastry flours. Bread flours have a high protein content--10% to 14%--necessary to give bread the chewy texture and open "crumb" appearance that we cherish in our breads. (We'll talk about how protein works in just a moment.) Cake and pastry flours have a low protein content to create the soft, crumbly, melt-in-your-mouth texture that we prefer in our desserts.

All-purpose flour is a compromise between the protein content in bread flours and the protein in pastry flours. All-purpose flours make acceptable bread and pastries but more specialized products are more reliable performers in either spectrum. That's why you will rarely see all-purpose flour in a commercial bakery.

Self-rising flours have salt and leaveners added. Because we cannot control the amount or type of leavener used or the amount of salt in the flour, we rarely use self-rising flour. Some bakers use self-rising flour for their favorite biscuits.

Cake flour is almost always bleached; pastry flours are usually unbleached. Don't hesitate to use unbleached pastry flour for cakes. Unbleached pastry flours make wonderful cakes but white cakes will be ivory, rather than white, in color. Of course, with a yellow or chocolate cake, it will not make a difference.

## **So what flour should I buy?**

Buy flours for their intended uses—bread flour for breads and pastry flours for pastries plus all-purpose flours for gravies and other general uses. Keep in mind that most recipes—except bread recipes--were developed with all-purpose flour since that is what is common in nearly all kitchens. You may wish to use all-purpose flour for a new recipe and then switch to a specialty flour after you become familiar with the recipe.

We recommend that you try different brands—there is a surprising difference in performance between brands--and then stick with what works for you. In our experience, name brands tend to consistently hold to a specification where less expensive brands tend to vary from season to season and sometimes, even lot to lot. If you really want to broaden your selection, make friends with a baker since he or she has available a vast array of flours each with its own specification. Buy a bag or two of flour from your baker and try it. Flour is inexpensive and your baker will be able to supply you with a detailed specification so that you can see what you are getting.

## Whole Wheat Flour

The wheat kernel is composed of three parts: the bran which forms the hard outer coating of the kernel, the smaller germ which is the embryonic portion of the kernel as the yolk is to an egg, and the starchy endosperm. In the milling of white flour, the bran is cracked from the kernel and discarded and most of the germ is removed leaving the endosperm.

In whole wheat flour, both the bran and the germ are left with the flour. Since the germ has a high fat content and fat can go rancid, whole wheat flours are much more likely to spoil. Also, since the flour is composed of the entire wheat kernel, whole wheat flour is not enriched with vitamin additives as white flour is. (The federal government specifies the addition of vitamins to white flour. See the nutritional comparison of enriched white flour to whole wheat flour in this lesson.) Whole wheat flour can be purchased in either a fine ground or coarse ground texture.

Most but not all of the “brown” breads produced commercially are made from a blend of white bread flour and fine ground whole wheat with about 40% of the flour content being whole wheat. The white flour tempers the whole wheat providing a slightly milder taste without the bitterness that whole wheat sometimes carries. The white flour also creates a stronger gluten structure since bread flour typically has a higher protein content than whole wheat alone. Additionally, the bran in whole wheat has sharp edges that cut gluten strands as it is kneaded.

<b>Comparison of Whole Wheat and White Breads</b>		
(Based on a one ounce slice of each)		
	100% whole wheat	100% white
Calories	70	76
Fat	1.2	1.1
Sodium	181	146
Carbohydrates	12.9	13.9
Protein	2.7	2.4
Dietary Fiber	1.5	0.5
<b>% of US Recommended Daily Allowance</b>		
Protein	4.2	3.7
Vitamin A	trace	trace
Vitamin C	trace	trace
Thiamin	6.7	8.7
Riboflavin	3.5	5.3
Niacin	5.4	6.4
Calcium	2	3.6
Iron	5.5	4.5
Vitamin B-6	2.5	0.5
Pantothenic Acid	2.3	1
Folacin	4	2.5
Phosphorous	7.4	3.1
Magnesium	6.5	1.5
Zinc	3.2	1.2
Copper	5	2

**Graham flour** is whole wheat flour. One day in the office we had a stirring debate as to just what graham flour was—a whole wheat flour with extra bran, whole wheat flour from soft wheat, or a more coarsely ground whole wheat. We contacted Technical Services at General Mills. They quoted chapter and verse. FDA's Code of Federal Regulations allows any whole wheat flour to be called graham flour. So it depends on the miller; read the package carefully to see just what you are getting.

## Other Flours

**Cornmeal**, like wheat flour, can be purchased with or without the germ and in a fine or a coarse ground form. For cornmeal with the germ removed, look for the term “degerminated” on the label. Degerminated cornmeal keeps longer--since the fatty germ is removed--but is not as nutritionally complete as cornmeal with the germ.

The word “meal” refers to products that are not as finely ground as flour. Both cornmeal and corn flour are available. Polenta is usually coarsely ground.



**Rye flour** is used extensively in pumpernickel and rye breads. It can be purchased in light rye, medium rye, and dark rye flours. White rye is especially prized by the bakers of artisan loaves and creates a mild, uniquely-flavored bread with a taste that is described as being sourdough-like.

Because rye proteins do not form the gluten strands necessary to create structure, bread made with rye flour alone is heavy and dense. Accordingly, when making breads with rye flour, add two to three times as much high protein content bread flour as rye flour. Often extra wheat gluten is added.

The flavor most of us associate with rye bread comes from the caraway seeds in the bread. If your family says they don't like rye bread, make it without the caraway seeds. They will probably find this bread very good. At the end of this lesson, you will find a recipe calling for rye flour and no caraway seeds.

**Oats** are used in baking in various forms: rolled, quick, steel cut, and flour. (Steel cut oats are quick oats that are not flattened.) Oat bran can also be purchased. Oat products are most generally used with chemically leavened products like scones and muffins. Rolled oats added to yeasted bread make for a wonderful chewy texture and moistness.

**Buckwheat flour** is often used in pancakes and sometimes in breads. Buckwheat is not really a grain but a seed. Because there are no proteins to form gluten, buckwheat adds little structure to the baked product. It is most commonly used in pancakes but is sometimes added to breads.

**Potato flour** is an important component in the baker's arsenal. Unlike wheat flour, it is hygroscopic—that is, it attracts water instead of dries out—so that the staling process in breads is retarded or slowed. One tablespoon of potato flour to two cups of wheat flour will extend the life of your bread and keep it moist. We use potato flours extensively in our breads.

## Chewy or Tender—How do we Control the Texture

How is it that we can use flour to make both a tender cake and firm chewy French bread? The gluten makes the difference. In a cake, we want little gluten development. In a chewy bread, we want a high percentage of well-developed gluten. We can control this texture in our baked goods by changing four conditions:

1. **Selection of flours:** Cake flours are “weak” or “soft” and have a low protein content, probably around 8%. Bread flours and high-gluten flours are “strong” and usually have a protein content of 12 to 14%.
2. **Amount of shortening:** Any fat is referred to as a shortening because it shortens the gluten strands. It does so by lubricating the fibers so they cannot stick together. The more shortening in the dough, the more tender and less chewy the product will be.
3. **Amount of liquid:** Gluten must have liquid to absorb and expand. If dough does not have enough liquid, the gluten will not fully form and the product will not be tender. That's why we put a minimal amount of water in pie crusts.
4. **Mixing methods:** Generally, the more a batter or dough is mixed, the more the gluten develops. Tender muffins use low-protein flour and are mixed only until the moisture is absorbed while breads are kneaded for a relatively long time.

## How Much Does That Flour Weigh?

For consistent results, we always weigh flour. It's very difficult to get consistent weights using a measuring cup. (We've tried by measuring series of ten cups and weighing each. As close as we can get is plus or minus ten percent.) So, we convert the flour called for in a recipe to ounces before beginning.

The following table can be used for converting cups of flour to ounces of flour so that you can weigh it with your scale. Different flours have different weights for the same volume.

Flour Conversion Table							
For Converting Cups to Ounces							
	Cups	1/4	1/3	1/2	2/3	3/4	1
Bread Flour	Ounces	1.19	1.57	2.38	3.17	3.56	4.75
All Purpose Flour		1.06	1.40	2.13	2.83	3.19	4.25
Cake Flour		1.00	1.32	2.00	2.67	3.00	4.00
Whole Wheat Flour		1.13	1.49	2.25	3.00	3.38	4.50
Rye Flour		1.00	1.32	2.00	2.67	3.00	4.00
Example: If the recipe calls for 1 1/2 cups of bread flour, add 2.38 (1/2 cup) and 4.75 (one cup) to get 7.13 ounces.							

Once you find a flour that works well for you (and a conversion ratio that works), stick with it. While there is some variation in flour from season to season (and from batch to batch), there is less variation than between brands.

## Flour Blends

A common way of controlling texture is by blending flours. A baker may wish a little softer flour for a hearth bread or pizza crust and choose to obtain that result by mixing two different flours. Or a baker may choose to make a bread more rustic or with more fiber by adding a whole grain flour to a white flour.

Here are some common blends:

- Whole wheat breads are commonly made with 40% to 60% whole wheat flour with the remaining flour being high protein bread flour. Because whole wheat flour is often lower in protein than high protein bread flours and because the bran in whole wheat flour can damage proteins, many bakers add wheat gluten to the blend to make it more comparable to their favorite bread flours.
- Rye breads are made with a combination of wheat and rye flours and often gluten is added. The rye content should not exceed 40% of the total.
- Hearth breads are often made with a combination of high protein bread flours and all-purpose flour. Though designated with a numerical system not used in the US, most European flours are softer than our high protein bread flours and a flour blend often approximates these European flours.
- Pizzas and calzones are often made with a softer flour to make a more tender crust than those made with bread flour alone. You can create a softer crust by adding all-purpose flour, whole wheat flour, or rye flour. We like 10% to 15% rye flour in our pizza dough. A dark rye makes a more rustic crust while a white rye makes a more refined crust.
- Peasant breads are usually made with blends, blends of high protein bread flour and whole grain flours, either whole grain rye or wheat.
- Cornmeal is commonly added to wheat flour for cornbreads. Occasionally cornmeal is added to flours for peasant breads or Sally Lunn bread.

## Other Blend Additives

### Conditioners

Dough conditioner (or dough enhancer) is indispensable to the baking of great breads. Use a good, commercial grade conditioner for all of your yeast baking--pastries and breads. It creates an enhanced environment for the growth of yeast helping to make your breads and pastries more uniform and lighter. It also strengthens the gluten



structure in the dough to create a better crumb to your loaves. Some dough conditioners also retard staling and help your bread stay fresher longer.

Experiment to find the dough conditioner that works best with your baking. Start with one that is concentrated so that you are adding as little as possible to your recipe. A good dough conditioner will call for as little as one-half teaspoon per loaf.

## **Potato Flour**

Potato flour is used by professional bakers to improve breads and pastries by making them moister and retarding staling. Potato flour is hygroscopic, that is, it attracts moisture rather than drying out and keeps your breads moister longer. Add it to your flour when mixing, about one tablespoon per loaf. More can be added for flavor if you prefer. Though you won't taste it in small amounts, potato flour has a slight, almost sourdough-like flavor in greater concentrations.



## **Storing Your Flour**

Keep your flour tightly covered so that it neither dries out nor absorbs moisture and store it in a cool location. Some millers state that if tightly covered and in a cool location, white flours will last indefinitely. We prefer to use all white flours within two years.

Because whole wheat still has the fatty germ included, it will not store as well. As with all fats, storage temperature and oxygen greatly affect shelf life. In an airtight container at a cool temperature, whole wheat flours will last a year. Unfortunately, when buying whole wheat flours at the store, we don't know how long those flours have been on the shelf or in a warehouse unless we can find a milling date. Buy from a reputable, high-volume grocer. Consider asking the manager how old his or her whole wheat flours may be.

## *Recipes: Applying What You Learned*

The following recipes were chosen to give you the opportunity to make some very good baked goods while working with different types of flour. You'll work with different wheat flours, rye flour, blends, and cornmeal. These are some of our favorite recipes and think they will become yours also.

### **Sweet Buttermilk Cornbread**

I love cornbread—all kinds of cornbread. I'm always looking for more cornbread ideas and Debbie and Merri Ann are always proclaiming, "No more cornbread recipes." Still you ought to visit our website and check out our cornbread recipes.

This recipe calls for cornmeal soaked overnight in buttermilk and is an excellent opportunity to experiment with different grinds of cornmeal. This is Yankee cornbread, sweetened with honey and brown sugar. We think you will love it.



We classify cornbreads as two types: Rich cornbreads made without flour that use eggs to bind the bread and temper the cornmeal and more bread-like cornbreads with a high flour content. Most of the latter cornbreads have about equal amounts of cornmeal and flour. This recipe belongs in that group. What makes this skillet cornbread recipe different is the overnight soaking of cornmeal to plump the grains of corn.

We invite you to try different grinds of cornmeal in this recipe. We like it with a coarser grind. If you can find some cornmeal with the germ in it, by all means try that.

### **Sweet Buttermilk Cornbread Recipe**

#### Ingredients

- 1 1/2 cups cornmeal
- 2 cups buttermilk
- 1 1/2 cups all-purpose flour
- 1 teaspoon salt
- 1/2 teaspoon baking soda
- 1 tablespoon baking powder

3 large eggs  
1/2 cup brown sugar  
2 tablespoons honey  
3 tablespoons melted butter  
1 16-ounce whole kernel corn, drained

Directions

1. The night before, mix the cornmeal and buttermilk together in a medium bowl. Let it sit overnight at room temperature.
2. Preheat the oven to 350 degrees. In another bowl, mix the flour, salt, baking soda, and baking powder together.
3. In a third bowl, whisk the eggs and then add the sugar. Stir until combined and syrupy. Add the honey, melted butter, and corn and mix well.
4. Add the wet mixture to the cornmeal and buttermilk mixture. Add the dry ingredients one-third at a time and mix until moistened. The batter should be pourable like a cake batter. Because different grinds of cornmeal absorb moisture differently and because the drained corn may carry different moisture levels, you may need to adjust the batter slightly with additional milk or flour.
5. On the stovetop, melt two tablespoons of vegetable shortening in an oven-proof 11 to 12-inch skillet until very hot. Pour the batter into the pan. Place the pan in the oven and bake for 35 minutes or until the top is browned and firm and springy. (This is a moist cornbread and needs to be well-cooked.) Cool in the pan.

## Texas Chili Corn Bread

I couldn't help myself; I had to include this recipe. I love thick eggy cornbread, cornbread with so many eggs it's almost like an omelet. And I love the flavors of the Southwest. This recipe has it all--chilies, red bell pepper, and garlic but feel free to experiment.

While the first cornbread recipe had a balance of flour and cornmeal, this type of cornbread relies on the eggs and has no flour. It is best as a skillet cornbread.



*By the way, there is a free download on the website, "The Wonderful World of Cornbread," with this and a pocketful of cornbread recipes.*

### Texas Chili Cornbread Recipe

#### Ingredients

1 cup yellow cornmeal  
1 teaspoon baking powder  
1 teaspoon sugar  
1/2 teaspoon salt  
3 large eggs  
1 cup milk  
1/2 red bell pepper, chopped and diced  
1/2 medium sized onion, chopped and diced  
1/4 teaspoon garlic powder  
1 4-oz can diced green chiles, drained (less if you prefer a less spicy bread)  
1 cup corn kernels--fresh, frozen, or canned  
1 1/2 cups grated cheese, cheddar or jack

#### Directions

Preheat the oven to 425 degrees.

1. Grease a ten-inch skillet and place it on the middle shelf in the oven.
2. In a large bowl, stir together the cornmeal, baking powder, sugar, and salt. In a medium bowl, whisk the eggs then stir in the rest of the ingredients, reserving 1/2 cup of the grated cheese.

3. Form a well in the dry ingredients and pour the wet ingredients into the dry ingredients. Mix with a spatula until well combined.
4. Carefully remove the hot pan from the oven and immediately pour the batter into the pan. Sprinkle the remaining cheese on top and return to the oven.
5. Let the cornbread bake for 20 minutes or until a toothpick inserted in the center of the pan comes out clean. The top will be a rich, golden brown. Let cool for ten minutes before unmolding.



## European Soft Peasant Bread

Sometimes we take the easy way out. We love hearth breads—the texture, the heft, even how they look. Somewhere along the way, we learned that we can make an easy “mock” hearth bread with a nine-inch pie pan. The pan makes forming the loaf easy and holds the loaf in shape resulting in a taller loaf than if baked on a flat sheet. Because it was easy to do, we even designed our Irish Potato Wheat and White Bread mixes to be baked in pie pans.



European peasant bread is usually made with whole flours, often coarse flours, but they have a goodness and charm about them that make them endearing. The challenge is to work with these flours, to make a bread that is refined enough that it is pleasant to the pallet. This variation gives you a chance to explore whole wheat flours and dark rye flour. In combination, they make a great hearty bread. In this bread, you will soak part of the flour overnight to soften the bran and temper the bread.

This is a whole grain recipe but by soaking some of the flour overnight, the bran is softened and absorbs moisture resulting in a softer bread than many peasant breads. The recipe makes two large loaves.

***Baker's notes:*** This recipe calls for a soft crust. This bread can properly be made as an artisan bread with a hard, chewy crust. To do so, follow the baking directions for *Easy Sourdough Bread* which follows.

This bread can also be made in loaf pans for sandwich breads. Form the loaves and bake the bread at 350 degrees for about 25 minutes or until done.

If you would like to make similar loaves from a mix, you can do so with our Irish Potato Wheat Bread mixes. The Irish Potato Wheat Bread has some white bread flour to temper the whole wheat and give it more structure and is a richer bread with an ample addition of buttermilk.

### Ingredients

- 1 cup whole wheat flour
- 1 1/2 cup dark rye flour
- 2 1/3 cups water at room temperature
- 1 seven gram packet of instant yeast (or two teaspoons)
- 2 cups graham flour

1/2 tablespoon salt  
1/4 cup brown sugar  
4 tablespoons melted and slightly cooled butter  
2 cups more or less whole wheat flour

coarsely ground whole wheat flour or graham flour for dusting

#### Directions

1. The night before, mix the one cup of whole wheat flour, the rye flour, and the water together until combined. Cover and let sit at room temperature until the next day.
2. The next day, move the flour and water mixture to the bowl of your stand-type mixer. Add the yeast and combine using the dough hook. Add the graham flour, salt, and sugar. Add the butter on top of the dry ingredients and then begin mixing with your dough hook attachment. Add portions of the two cups whole wheat flour until the dough forms a ball. Continue kneading with the machine, adding more flour as needed to get the right consistency. The dough should be soft when you poke it with your finger. The dough ball should knead for about five minutes at medium speed or until the wheat gluten is well-developed. Remove the dough to a greased bowl, turn once, and cover with plastic wrap. Let rise until doubled.
3. Grease two nine-inch pie pans with shortening and sprinkle them with cornmeal, graham flour, or semolina flour. Set aside. After the dough has risen, divide it in two with a knife. Form a ball by pulling the dough around the center and tucking the seams together on the bottom thus gently stretching the surface of the dough. Pinch the seams together to keep them from opening as the loaf expands. Place the seam side down on the prepared pie pan and repeat with the second loaf. Cover lightly with greased plastic wrap and set aside to rise until doubled. Because these are whole grain loaves with rye flour, it may take longer for them to rise, maybe two hours. Let them rise until they are soft and puffy. While the bread is still rising, preheat the oven to 350 degrees.
4. When the bread has risen, lightly dust the tops of the loaves with graham flour. When the bread has risen and just before placing the loaves in the oven, take a very sharp knife or razor and score the tops by making several quick slashes at a 45 degree angle and not more than 1/4-inch deep. The slashes can be made in a cross or square pattern as shown. (Slashes allow steam to escape without splitting the loaves.) Immediately place the loaves on the center rack of the oven leaving as much room for the air to circulate around the loaves as possible. Bake for 40 minutes or until the bread is done and well browned. If you are using an insta-read thermometer, the bread should register 195 to 200 degrees when done. Remove the loaves from the pans to cool on wire racks. Let the bread cool before slicing.

## Easy Sourdough Bread

Sourdough simply uses wild yeast in place of commercial yeast to leaven the bread. It relies on the wild yeasts that are in the air all around us and cultures those yeasts in a warm, wet environment created with water, flour, and sometimes other components.

When creating a sourdough starter, we always felt like we were on an expedition trying to trap invisible yeastie beasties with our flour and water concoctions. Because we couldn't see the beasties, we were never sure what we had captured.

While usually successful, we never felt like we were in control. Maybe that is the way sourdough bread should feel, a symbiosis with nature.



But there is an easier way: use commercial yeast in the starter. I know, that's heresy to the sourdough bread zealot but we only care about the bread. Using commercial yeast is easier, it's the alcohol from the long cool fermentation that creates the sourdough-like flavor, and the wild yeasts will eventually take over the starter anyway. Because it's easy, it's no big deal if you abandon your starter after a few weeks; you can readily start another when you're back in the mood or have the time.

Using this recipe for sourdough bread, a small amount of yeast is used in the starter. As the starter is used and refreshed with new feedings of flour and water, wild yeasts are introduced and cultivated.

Here is the recipe:

### **For the starter:**

1 cup warm water (about 110 degrees)  
1/4 teaspoon yeast  
1 cup high gluten unbleached flour.

Mix the starter in a glass or steel bowl, cover with plastic wrap, and set it aside at room temperature until it is doubled and bubbly, maybe 4 to 6 hours.

### **For the sponge:**

A sponge is a pre-ferment, a wet mixture of flour and yeast that acts as an incubation chamber to grow yeast at the desired rate. It is added to the dough.

1 cup of the starter  
3/4 cup warm water  
2 cups flour

Mix the one cup starter with the flour and water, cover, and set aside to ferment until it has tripled in volume. At room temperature, it will take four to eight hours. You can put it in a cool place--about fifty degrees--and let it perk all night. (In the winter, your garage may be just right.) You can also put it in the refrigerator overnight. At temperatures of forty degrees, the yeast will be inactive but the friendly bacteria will still be working and enhance the sour flavor of the bread. If you retard the growth with lower temperatures ("retard" is the correct term for slowing the growth of the yeast), simply bring the sponge to room temperature and let it expand to three times its original volume before proceeding.

### **For the dough:**

All of the sponge  
1 1/2 cups flour (more or less)  
2 teaspoons salt

Mix the salt with the flour. Knead the combination into the sponge by hand until you have a smooth, elastic, slightly sticky dough, adding more flour as needed. Put the dough in an oiled bowl and let it rise again until doubled, about an hour.

*Bakers note:* Notice that the salt is not added until the last stage. Salt in the sponge would inhibit yeast growth.

### **Form the loaves:**

Though you can make this bread in pans, it works best as a large freestanding round or oval loaf or two smaller loaves. Place a clean cotton cloth in a bowl or basket in which to hold the loaf. Lightly dust the interior of the bowl with flour. Place each formed loaf upside down in a bowl on top of the dusted flour. Cover the loaves with plastic and let them rise again until doubled. This rising will probably take less than an hour.



*Bakers note:* You want a light dusting of flour on the cloth to be transferred to the bread, not a heavy caking. Softly sifting flour from a strainer is the easiest way to achieve an even coating.

If you choose to bake the bread in pans, omit this step. Instead, let the dough rise in a greased bowl covered with plastic until doubled. Form the loaves for pans, place the loaves in greased pans, and let rise until well-expanded and puffy. Bake at 350 degrees until done, about 30 minutes.

### **To bake crusty bread:**

To form the thick, chewy crust that is typical of artisan breads, follow these instructions: Place a large, shallow, metal pan in the oven on the lowest shelf. You will pour hot

water in this pan to create steam in the oven. (High heat is hard on pans so don't use one of your better pans and don't use a glass or ceramic pan which might shatter.) An old sheet pan is ideal. Fill a spray bottle with water. You will use this to spray water into the oven to create even more steam.

Preheat the oven to 425 degrees. When the oven is hot and the bread is fully risen and is soft and puffy--being very careful not to burn yourself with the rising steam and with a mittened hand—turn your head away and pour two or three cups of very hot water in the pan in the oven. Quickly close the oven door to capture the steam. With spray bottle in hand, open the door and quickly spray the oven walls to create more steam and close the door. The oven is now ready for the loaves.

Work quickly to get the bread in the oven before the steam subsides. Gently invert the loaf or loaves onto a slightly greased non-insulated baking sheet on which a little cornmeal has been dusted. With your sharpest knife, quickly make two or three slashes 1/4-inch deep across the top of each loaf. This will vent the steam in the bread and allow the bread to expand properly. Immediately, put the bread in the steamy oven. After a few moments, open the door and spray the walls again to recharge the steam. Do this twice more during the first fifteen minutes of baking. This steamy environment will create the chewy crust prized in artisan breads.

Let the bread bake at 425 degrees for fifteen minutes in the hot steamy oven then reduce the temperature to 375 degrees and bake for a total of 35 to 40 minutes. Check on the bread ten minutes before the baking should be complete. If the top is browning too quickly, tent the loaf with aluminum foil for the remainder of the baking to keep it from burning. The bread is done when the crust turns a dark golden brown and the internal temperature reaches 210 degrees. It is important that the bread is well-baked to drive moisture from the loaf. If the bread is under baked, the excess moisture will migrate to the crust and you will no longer have the dry chewy crust of a great artisan loaf.

This sourdough bread is to die for. The prolonged rising gives the yeast plenty of time to convert the starch to sugars and the friendly bacteria a chance to impart their nut-like flavors.

## 100% Whole Wheat Bread Recipe

Whole wheat, especially red wheat, often has a bitter aftertaste and bread made entirely from whole wheat flour can be dry and crumbly. This bread is not. It is made with 100% whole wheat flour but it is light and soft. In this recipe, you will refrigerate the dough overnight to give it a long fermentation time. This is an excellent opportunity to get to know whole wheat flours.



The key to really great 100% whole wheat bread is to extract the best flavors from the whole wheat and temper the harsh tones that sometimes accompany whole wheat flour. Good whole wheat bread has an almost nutty taste without that bitter aftertaste. A long fermentation gives the yeast a chance to produce its own flavors and convert the starch to sugar. By refrigerating the dough overnight, you can make excellent 100% whole wheat bread. It's no more work than other recipes; you just mix the dough the day before.

*Bakers note: This bread should be very light and fluffy, not dense. The secret of making it so is to make sure that the dough rises fully both in the first rise and in the pans. The dough will fill two 5 x 9-inch loaf pans and should be very soft and puffy before baking. If you let it over-rise, you may see a blister or two in the dough. Poke the blisters with the point of a knife and hurry the bread into the hot oven.*

## 100% Whole Wheat Bread Recipe

### Ingredients

5 to 6 cups fine-ground whole wheat flour  
1 seven gram packet of instant yeast (or two teaspoons)  
2 cups water  
1/2 tablespoon salt  
1 large egg  
1/3 cup brown sugar  
4 tablespoons melted and slightly cooled butter

### Directions

1. Place about three cups of the flour in the bowl of your stand-type mixer. Add the yeast. Carefully measure 2 cups room temperature (80 degrees) water. The



water should feel cool to the touch. Mix the water with the flour with a dough hook for 30 seconds or until the yeast is dissolved and the ingredients begin to combine.

2. Add the salt, egg, sugar, and butter and continue mixing. Add most of the remaining flour and continue mixing at a medium speed for at least four minutes adding more flour as needed to reach a soft dough consistency. (It is important that the dough be mixed for at least four minutes to develop the gluten.) The dough should clear the sides of the bowl but will be soft, not firm, to the touch.
3. Once the dough is mixed, place it in a large greased bowl, turning once to coat both sides, and cover with plastic wrap. Refrigerate overnight or for up to three days.
4. On the day that you would like to bake your bread, remove the dough from the refrigerator and let it warm to room temperature--about three hours. The dough should rise to nearly double in size.
5. Once the dough has risen, form the loaves. Coat your hands with flour and gently form a loaf by pulling the dough around itself to create a slightly stretched skin. You may need to coat your hands several times if the dough is sticky. If necessary, pinch the seams together on the bottom of the loaf. Lay the loaf gently in a well-greased loaf pan and cover with plastic wrap. Repeat with the second loaf. Let double again in size, about 1 1/2 hours.
6. Preheat the oven to 350 degrees. Once the dough has doubled (the loaf should be very puffy), place the two loaves on a shelf in the top half of the oven, well-spaced so that air can circulate between the loaves. Bake for thirty minutes or until done. The interior of the loaves should register at least 185 degrees when an insta-read thermometer is inserted through the bottom crust. Remove the bread from the pans and cool on wire racks. Let it cool completely before cutting.

## California Golden Raisin Muffins

The first time that I made these, I gave some to my neighbors. They went nuts over these muffins—and announced far and wide that these were the best muffins that they had ever had. I don't know about that but they are very good, one of our favorite muffins.

We included these muffins in this section because of the flours. The recipe calls for a blend of all-purpose and whole wheat or rye flours. If you choose rye—without any gluten in the rye flour, you'll have an unbelievably tender muffin. If

you use dark rye, you'll have a rustic, fruity muffin. If you choose white rye, it will be a much more refined muffin. (Most of the time, I'll prefer the white.)



The golden raisins, orange, and cinnamon make for a very nice complement of flavors and flavors that seem just right for a sunny morning. We use the giant golden raisins that we sell at The Prepared Pantry; they seem milder, sweeter, and plumper than most.

## California Golden Raisin Muffin Recipe

### Ingredients

- 1 1/4 cups all-purpose flour
- 3/4 cup rye flour, all-purpose flour, or whole wheat flour
- 3 tablespoons brown sugar
- 1/4 teaspoon salt
- 2 teaspoons baking powder
- 1/2 teaspoon baking soda
- 1 teaspoon cinnamon
- 1 tablespoon grated orange peel
- 4 tablespoons cold butter
- 1/2 cup orange juice
- 1/2 cup buttermilk
- 1 teaspoon vanilla
- 2 large eggs
- 1 cup golden raisins
- 1 tablespoons granulated sugar
- 1/4 teaspoon cinnamon

### Directions

Preheat the oven to 425 degrees. Grease 1 regular-sized 12-muffin tin.

1. In a large bowl, stir together the flour, brown sugar, salt, baking powder, baking soda, and cinnamon. Stir in the grated orange peel.
2. Use a pastry knife to cut the butter into the dry ingredients and continue cutting until the mixture is coarse and uniform.
3. In another bowl, stir together the orange juice, buttermilk, vanilla extract, and eggs. Form a well in the dry ingredients and pour in the liquid mixture. Add the raisins. Stir to combine. (Do not over-stir. Some lumps are acceptable.) Mix the granulated sugar and cinnamon together and sprinkle on the tops of the muffins.
4. Spoon the batter into muffin tin. Quickly place the muffins in the oven and reduce the heat to 375 degrees. Let bake for 12 to 15 minutes or until the tops are lightly browned and a toothpick inserted in the center comes out clean. Let the muffins sit for three to five minutes in the pan and then remove them to a rack to cool.

***Baker's note:*** *The initial burst of heat in the hot oven will help the muffins dome. How quickly the muffins bake will depend somewhat on how well your particular oven retains heat.*

## American Rye Bread Recipe

I'm a sucker for this bread; I like the soft, moist texture and almost sourdough flavor of the white rye flour. It is such a light bread—not dark and heavy like most folks associate with rye-- that it is great with meals or sandwiches.

For a more traditional rye bread, you can add caraway seeds and substitute dark rye flour for the white rye. But we think you'll fall in love with the great light taste of white rye.



### Ingredients

2 tablespoons butter, melted  
2 cups white rye flour  
3 cups high protein bread flour  
2 tablespoons wheat gluten  
1 seven gram packet instant yeast  
2 cups water at 105 degrees  
1 1/2 teaspoons salt  
1/2 tablespoon caraway seeds (optional)  
1 tablespoon molasses or molasses crystals  
2 tablespoons melted butter

Note: In place of the flours and gluten, you can substitute our Hi-Country Rye Flour Blend. If you use this flour blend, your dough will include a dough conditioner that will strengthen the gluten structure and enhance yeast growth.

### Directions

1. Melt the butter in the microwave and set it aside to cool. With shortening or butter, grease a large bowl for the dough and 2 large loaf pans (8½ x 4½). If you are going to make hearth loaves, grease a baking sheet and sprinkle it with cornmeal.
2. Measure the flours into a large bowl by whisking the flour so that it not packed and then spooning it into the measure followed by leveling the top with a straightedge. Add the gluten and stir to combine.
3. Put about 1/3 of the flour in the bowl of your stand type mixer equipped with a dough hook. Add the yeast. Add the water at the indicated temperature. With the dough hook, run the machine for thirty seconds to mix the water with the flour to create a slurry. Add the rest of the flour. Add the salt, the optional caraway seeds, the molasses, and the melted butter. Mix at medium speed for about three minutes or until the gluten has formed and the dough is elastic. The dough should be soft but not too sticky. To reach the right consistency, you may need to

dribble a little extra water (maybe one tablespoon) or flour as the dough is kneading. Place the dough in the prepared bowl and cover it to keep the dough from drying while it rises. Let it rise until it doubles.

4. Gently deflate the dough and form two loaves either as free-standing loaves on a baking sheet or sandwich loaves for your bread pans. Cover the loaves and let them rise again until the dough is soft and puffy, about doubled in size.
5. If you are going to make hearth bread with its, chewy, crisp crust, see the direction for baking listed for “EZ Sourdough Bread.” If not, preheat the oven to 350 degrees. Bake the bread for about 35 minutes. The time will vary depending on your loaves, the pans, and your oven. The bread should make a hollow sound when thumped on the bottom. The internal temperature of the loaves should be 190 degrees.
6. Remove the loaves from the pans and let them cool on a wire rack. Cool completely, or nearly so, before slicing.

This rye bread is made with white rye and bread flours with the bread flour providing the required gluten. The bread is moist and light and very mild-flavored. For a taste more reminiscent of commercial rye breads, caraway seeds can be added. This is an excellent opportunity to get to know white rye flour.

## Deli Rye Bread Recipe

We love dark rye bread though we usually make it without the caraway seeds. This deli-style rye is one of our favorite sandwich breads.

Rye flour does not have the proteins required to make gluten and rye recipes must rely on wheat gluten. You can go up to 50% rye in a recipe by adding wheat gluten but we like to keep the rye percentage less than that. This recipe has only 36% rye and with extra gluten added, can make a light, open bread. It can be made either in loaf pans or free-standing.



### Ingredients

- 2 1/2 cups water at 110 degrees
- 1 7-gram packet of instant yeast
- 4 cups high-protein bread flour
- 2 1/4 cups dark rye flour
- 1/4 cup dry buttermilk powder
- 3 tablespoons vegetable oil
- 1/4 cup molasses
- 2 teaspoons salt
- 1/4 cup wheat gluten
- 1 teaspoon conditioner
- 1 tablespoon caraway seeds (optional)

### Directions

1. Grease a large bowl for the dough and 2 large loaf pans (9 x 5). If you are going to make hearth loaves, grease a baking sheet and sprinkle it with cornmeal.
2. Measure the flours into a large bowl by whisking the flour so that it not packed and then spooning it into the measure followed by leveling the top with a straightedge. Add the gluten and stir to combine.
3. Put about 1/3 of the flour in the bowl of your stand type mixer equipped with a dough hook. Add the yeast. Add the water at the indicated temperature. With the dough hook, run the machine for thirty seconds to mix the water with the flour to create a slurry. Add the rest of the flour. Add the salt, the optional caraway seeds, the molasses, and the vegetable oil. Mix at medium speed for about three minutes or until the gluten has formed and the dough is elastic. The dough should be soft but not too sticky. To reach the right consistency, you may need to dribble a little extra water (maybe one tablespoon) or flour as the dough is



kneading. Place the dough in the prepared bowl and cover it to keep the dough from drying while it rises. Let it rise until it doubles.

4. Gently deflate the dough and form two loaves either as free-standing loaves on a baking sheet or sandwich loaves for your bread pans. Cover the loaves and let them rise again until the dough is soft and puffy, about doubled in size.
5. Preheat the oven to 350 degrees. Bake the bread for about 35 minutes. The time will vary depending on your loaves, the pans, and your oven. The bread should make a hollow sound when thumped on the bottom. The internal temperature of the loaves should be 190 degrees.
6. Remove the loaves from the pans and let them cool on a wire rack. Cool completely, or nearly so, before slicing.

## Creamy Ricotta and Sausage Calzone Recipe

This recipe will help you learn about blends. Besides, calzones are so good and so much fun to build and explore that we had to make sure that you knew how to build them. Think of them as a pizza in a shell or “hot pockets”. But since the crust is the showcase, not the toppings as in a pizza, it’s important that you have a really good crust. This recipe will help you get that very good crust and the flour blends will help.



Adding white rye flour to your bread flour will make a softer, less chewy yet classic crust. Adding whole grain rye or whole grain wheat will make a more rustic crust.

Use this recipe as a template for other calzones. Try other calzones with mushrooms, pepperoni, spinach, or more. If you use onions or green peppers, partially cook the veggies before adding to the filling. Meats should always be cooked first.

### *For the crust*

2 2/3 cups bread flour  
1 cup water at 110 degrees  
1 7 gram packet instant yeast  
1/4 cup stone ground whole wheat or rye flour  
2 tablespoons olive oil  
2 teaspoons granulated sugar  
1/2 teaspoons salt  
1 tablespoons baker’s dry milk  
1/2 teaspoon dough conditioner

olive oil

### *For the filling*

3/4 pound mild Italian sausage  
1 small onion, diced  
1/4 cup chopped fresh basil or 1 tablespoon dried  
1 1/4 to 1 1/2 cups grated mozzarella cheese  
1 1/2 to 2 cups whole milk ricotta  
2 tablespoons grated parmesan cheese  
salt and pepper (optional)

### *Directions for the crust*

1. Place about 2/3's of the bread flour in the bowl of your stand-type mixer. Add the water and yeast. Mix with the dough hook for about one minute to hydrate the instant yeast.
2. Add the rest of the bread flour, the whole grain flour, olive oil, the sugar, salt, dry milk, and dough conditioner. Mix for about four minutes at medium speed or until the gluten is formed.
3. Remove the dough to a large greased bowl. Cover and let the dough rise until doubled.

#### *For the filling*

1. Sauté the sausage and onion together until cooked but not over-cooked. (The meat will cook just a bit more in the heat of the oven.) Stir in the basil. Crumble the meat into smaller pieces.

### **Putting the calzone together**

Preheat the oven to 400 degrees.

1. Once the dough has risen, divide it into three equal parts with a sharp knife. Roll out each into a nine-inch round. Avoid any thin spots that might leak.
2. Place 1/3 of the mozzarella on the lower half of each circle. On top of the cheese, place 1/3 of the meat and onion filling. On top of the filling, add 1/3 of the ricotta. Sprinkle each with a portion of the parmesan. Salt and pepper if desired.
3. Fold the top of the calzone crust over the bottom into the traditional half-moon shape. Seal the edges by crimping them with a fork. Use a sharp knife or pizza wheel to trim the crimped edges smoothly.
4. Grease a large baking sheet and dust it with cornmeal or semolina flour. With a pastry brush, brush the crust of each of the calzones with olive oil. Bake the calzones for 15 to 20 minutes or until browned. Remove from the oven and turn to a wire rack. Brush the crust again with olive oil. Serve hot.

***Baker's Notes:*** *In filling the calzones, you don't need to measure the ingredients; just use what looks right. Unless your sausage is well-seasoned, you will probably want to sprinkle the fillings with salt and pepper.*

## How to Make Pitas

We admit—we like to impress people. It's fun to see peoples' faces when they see these pitas: "How did they do that?"

Make these for a Saturday afternoon get-together. Your friends will have no clue how you made these puffy little bread pockets. You can tell them if you want—it's the water in the dough turning to steam in the hot oven that makes the pitas puffy—or you can just let them think that you're magic.

Just as homemade bread is much better than store bread, so are homemade pitas better. And they are really quite easy to make. Once your family has had fresh homemade pitas, you'll never get by with store pitas again.

Homemade pitas are easy to make with just a few ingredients and basic kitchen equipment. To make your pitas, you will need a mister, a rolling pan, and a heavy baking sheet or baking stone.



### Homemade Pita Recipe

#### Ingredients

2 3/4 cups bread flour  
1 7-gram packet of instant yeast  
1 1/4 cups warm (105 degree) water  
2 tablespoons olive oil  
1/2 cup stone ground whole wheat flour  
2 teaspoons salt

#### Directions

1. With your stand type mixer, combine about 2/3's of the white flour, the yeast, and the warm water. Mix with a dough hook for about 30 seconds. (This mixes in and hydrates the yeast.) Add the rest of the flour, the whole wheat flour, and then the olive oil and salt. Knead with the dough hook for about four minutes on medium speed or until the gluten is formed. Add a little more flour or water if needed to get the right consistency. The dough should be a little wetter than bread dough.
2. Remove the dough to a greased bowl and let sit for about an hour or until the dough has doubled in size and is puffy.
3. Place a rack on the lowest shelf in the oven and remove the second rack so that you can reach into the oven with the formed pitas. Place a heavy cooking sheet or baking stone on the rack. Preheat the oven to 475 degrees.

4. Form the dough into 2-inch balls. With a rolling pin, roll the balls flat to a thickness of about 3/8 inch. Let these discs sit on the counter uncovered for ten to fifteen minutes.
5. Spray the disks with water from a mister, so that the tops are just damp. Fold the dough over to trap the moisture and roll out to 3/8 inch thick again. If the disks are out-of-round, that's okay. Let them rest for ten minutes.
6. Place two or three of the flat disks on the hot baking sheet in the oven. Bake for 3 1/2 to 4 minutes. The pitas should be puffy but not browned. Remove the pitas from the oven and let them cool on a wire rack.
7. Let the oven heat recover for five minutes and bake the next two or three pitas. Continue until all are baked.

***Baker's notes:*** *If your pitas do not puff, there is not enough moisture trapped in the dough. They will still taste good and you can split them with the end of knife but they will not have that puffy, hollow interior.*

## Chapter 2



*The Wonderful World of Eggs*



## Chapter 2

### *The Wonderful World of Eggs*

<i>The Wonderful World of Eggs</i> .....	39
Part 1: Eggs and How They Work .....	35
The Mechanics of Eggs .....	35
The Three Parts of the Egg .....	35
Fresh, Safe Eggs .....	36
Part 2: Techniques for Using Eggs .....	37
How to Make Meringue for Pies .....	37
How to Avoid Weeping Meringues .....	39
How to Make Angel Food Cakes .....	40
Consider Pie Weights for that Pre-baked Crust .....	42
How to Make Quiches .....	43
How to Make Soufflés .....	44
How to Make Strata and Baked French Toast .....	44
How to Build a Frittata .....	45
How to Make a Custards .....	46
How to Make Pannekoeken .....	49
Part 3--Recipes: Applying What You Learned .....	51
Royal Lemon Meringue Pie .....	51
“Meringue that Does Not Weep” Recipe .....	52
Easy Oven-Baked Frittata .....	54
Classic Quiche Lorraine .....	55
Cinnamon Ripple Angel Food Cake Recipe .....	56
Spinach, Bacon, and Swiss Quiche .....	57
Easy Baked Omelet .....	58
Chocolate Malt Pudding .....	59
Southern Chess Pie .....	60
Traditional Dutch Pannekoeken .....	62
Apple and Bacon Pannekoeken .....	63

Copyright 2006, The Prepared Pantry. All rights reserved.

The material herein is published by The Prepared Pantry for the private use of individuals and may not be used for commercial purposes without the express consent of the publisher. The information contained herein is believed accurate but the publisher makes no warranties, express or implied, and the recipient is using this information at his or her own risk.

# *The Wonderful World of Eggs*

## **Part 1: Eggs and How They Work**

### **The Mechanics of Eggs**

Eggs are wonderful. They are used in so many products and so many ways. Most of our cakes are not possible without eggs and cookies are very difficult to make without eggs.

We know of nine different functions of eggs in baking:

- ◆ As eggs cook, the protein coagulates and provides structure to the product.
- ◆ Eggs help leaven certain products by trapping air cells in whipped eggs or egg whites. Angel food and chiffon cakes are often entirely leavened with eggs.
- ◆ The fat in the egg yolk shortens gluten strands in batters and dough to tenderize the product.
- ◆ Since eggs are mostly water, they moisten the products to which they are added.
- ◆ Eggs, egg whites, and yolks, are used as washes on bread loaves to give them a glossy finish and hold sesame seeds and other accoutrements in place.
- ◆ Eggs are natural emulsifiers that help make our batters smooth.
- ◆ They add flavor.
- ◆ They add color. Most lemon meringue pie recipes rely entirely on egg yolks for color.
- ◆ They add nutritional value.

### **The Three Parts of the Egg**

The egg is composed of three main parts plus membranes and two white strands called chalazae that hold the yolk to the center of the white.

**The shell** contains the egg. It is fragile and porous. It is important to remember that eggs will absorb flavors and odors through the shell and therefore must be protected from strong smelling substances and unsanitary surfaces. When baking, make sure that your eggs are odor free. A tainted egg will spoil your product.

**The yolk** is high in both fat and protein and is a natural emulsifier. It is rich in vitamins and minerals and contains cholesterol. The color of the yolk varies depending on the diet of the chicken but color is not an indicator of food value or quality.

**The white** is primarily albumin protein. It is clear and soluble before it is cooked. It contains sulfur and becomes odorous when old.

Brown eggs are not more nutritious than white eggs. Blood spots are not a cause for alarm; for baking, you do not need to remove them.

When you add eggs to a batter you add a great deal of water to the product; about 3/4's of the egg by weight is water. The remaining portion is nearly equal parts fat and protein. For those of you using kitchen scales, a large egg weighs 1 2/3 ounce without the shell with the yolk weighing two-thirds of an ounce and the white, one ounce.

## **Fresh, Safe Eggs**

The egg industry is conscientious and regulated and it is very rare to find an inferior or rotten egg in a carton from commercial sources. It is not rare to find broken or cracked shells. When you open a carton and find a cracked egg, discard it since a crack creates an easy avenue for bacteria to enter.

Eggs are a potential source of salmonella contamination. The American Egg Board estimates that only one in 20,000 eggs is contaminated. Still, it is recommended that you do not use raw eggs in your food and that egg products be cooked to 160 degrees. Always wash your hands after handling eggs and sanitize any work surfaces where raw eggs may have been used.

Always buy eggs that are graded A or AA. You can determine the quality of the eggs from your refrigerator just as an inspector does. Open an egg onto a flat surface. If the egg is compact with a plump yolk, it is fresh. If the chalazae, the white strands in the egg white, are prominent, the egg is fresh.

Eggs kept in the coldest part of the refrigerator keep up to five weeks though we plan on using our eggs within two weeks. Fresh eggs make for more stable egg white foams. Eggs become more alkaline as they age and may have a minor affect on the function of chemical leaveners.

Because the shells are porous, eggs will lose moisture over time. Eggs packaged for consumers are given a mineral oil bath to help seal the shells, reduce the moisture loss, and protect the egg from odors. Do not wash your eggs since doing so will remove the protective mineral oil covering.

Many recipes call for eggs at room temperature. Rather than leaving your eggs on the counter to warm, simply place them in a bowl of warm water for a few minutes.

## ***Part 2: Techniques for Using Eggs***

### **How to Make Meringue for Pies**

There are just a few easy steps to making delectable and attractive meringue toppings for pie. In this section, you will top an unusual lemon pie. What makes it unusual? Both cream and orange juice are added to the filling. Of course, you can top any cream pie the same way.

Meringues can be dreamy smooth, sweet, and melt-in-your-mouth. They are simple to make—just follow a few steps.



- 1. Bring the eggs to room temperature.** Egg whites whip better at moderate temperatures. Instead of leaving the eggs on the counter (where they are invariably forgotten and sit out for too long) immerse only the eggs that you will use in warm (not hot) water for five minutes.
- 2. Make sure that the bowls and beaters are immaculately clean.** Any fat will reduce the egg white volume. Use stainless or glass bowls, not plastic since oil may be impregnated into the surfaces of plastic bowls.
- 3. Separate the whites from the eggs.** It is recommended that you use an egg separator so that there is less chance of contaminating your eggs with bacteria on the shell surfaces. An egg separator saves time and captures more of the egg white. You can purchase an egg separator.
- 4. Use the three bowl method.** Let the white slip into your first small bowl. Pour the egg yolk into a second bowl. As you complete each egg, pour the egg white into the third bowl in which you will beat the egg whites. In this way, if you contaminate an egg white with a bit of yolk, you can put that white aside; you have not contaminated the entire batch of egg whites.
- 5. Add 1/2 teaspoon cream of tartar** for every three or four large eggs. Beat the eggs at medium speed until soft peaks form, about one minute. Do not beat past this stage. At a soft peak stage, the tips of the soft peaks will bend over.
- 6. Drizzle the sugar into the egg whites** with the beaters at slow speed. The sugar will now help stabilize the egg whites. We prefer to use superfine sugar since it dissolves easier in the egg whites. Continue at medium speed until stiff peaks form. At this stage, the meringue should be glossy and the tips should stand straight up. Rub a little egg white between your fingers to make sure that the sugar has dissolved.

**7. Gently fold** in the vanilla extract.

**8. Spread the meringue over the pie filling.** Make sure the meringue is pressed against the crust so that it adheres and is less likely to shrink during baking.

**9. Bake the meringue at 350 degrees** for 15 minutes or until golden brown. When baked at higher temperatures, the meringue may not be baked through. (Placing the meringue on a hot filling helps it bake.) Partially baked meringue is more prone to weeping.

## How to Avoid Weeping Meringues

Weeping meringues aren't very pretty. The meringue pulls back from the crust, moisture beads on the topping, and a clear liquid forms below the crust. It doesn't hurt the pie but it's not presentable.

Most weeping seems to be caused by one of two conditions, either the sugar isn't completely dissolved or the egg whites are not fully cooked.

Here are our suggestions:

- 1. Use superfine sugar.** Superfine sugar dissolves quickly and easily and we recommend it for meringues.
- 2. Spread the meringue to the crust.** If the meringue is attached to the crust, there is less chance of shrinkage when baking.
- 3. Make sure the meringue is fully cooked.** Instead of baking the pie in a hot oven, say 400 degrees, turn the temperature down to 350 or even 325. In a cooler oven, the heat will better penetrate and cook the topping before browning.
- 4. Get full volume from your whites.** Heat penetrates light, airy meringue better than a more dense meringue. It is difficult to get full volume with plastic bowls because fat molecules are often trapped in the plastic surface.
- 5. Place the topping on the filling while hot.** The heat from the filling will help cook the meringue.

All of these suggestions will help. In our experience, none is foolproof.

Consider the recipe later in the chapter for a meringue that does not weep. It is a little more work but is often worth the time.



## How to Make Angel Food Cakes

Angel food cakes are really easy if you follow a few principles. Once you master these basic principles, you'll be making perfect angel food cakes. In this lesson, we'll introduce you to these principles and provide you with several recipes to practice with.

Angel food cakes seem so much like summer, light and heavenly and never too filling. With a little whipped cream, they showcase the fruits of summer so well—from strawberries to fresh peaches.



Here we'll show you how to employ these principles and share a recipe that is nearly foolproof. Once you understand these basic principles, you can make delectable angel food and chiffon cakes from chocolate mocha to orange chiffon.

Angel food cakes are quick and easy to make. Consider an angel food cake the next time that guests are about to arrive. With their tender, melt-in-your-mouth goodness, they are always a favorite, always impressive, and save time for the other things you need to do. And you'll feel good about serving these to your family and friends—angel food cakes are always low fat, nearly fat free.

**For perfect angel food cakes, keep the following principles and practices in mind:**

**1) Get the right pan.** You will need a tube pan with a removable bottom. (Most recipes call for a ten-inch tube pan.) To make an angel food cake, you never grease the pan so it would be very difficult to remove the cake without the removable bottom of the tube pan.



**2) Beat the egg whites right.** The main ingredient in angel food cakes is the egg whites. They are beaten to a foam to provide the leavening; usually there is no baking powder called for in the recipe.

a) **Make sure that no grease or fat touches the egg whites.** Just a tiny bit of fat interferes with the foam formation. Make sure that the pan, the beaters, the bowl, and any other utensils are clean, dry, and grease free.

b) **Separate the whites from the yolks while the eggs are cold.** The eggs are thicker and easier to separate while cold.

- c) **Separate the eggs one at a time into a cup.** If you get a bit of yolk in the white, set it aside. That white will fail to perform and if you mix it with the other whites, the whole batch will fail. Continue with a clean cup. After each egg white is successfully separated, pour it into the bowl that will be used for beating.
- d) **Whip the whites until glossy peaks form.** Start at medium speed with your hand-held mixer. As the foam begins to develop, increase the speed. Fold in ingredients as called for in the recipe. Do not over whip. If the egg whites are beaten too long, they will become dry and gritty and will ruin the cake.
- 3) Add the sugar after the whites have begun to hold their shape.** If you add the sugar too soon, the whites will be soft and sticky. Add the sugar in a slow stream, not all at once.
- 4) Fold the other ingredients gently into the egg whites.** Use a spatula and gently reach to the bottom of the bowl and lift the egg whites through the mixture in an up and down, folding motion. Do not over mix. The other ingredients need to be uniformly dispersed but over mixing will drive the entrained air from the mixture and cause the cake to lose volume.
- 5) Bake immediately.** If the batter sits in the pan, it will lose air and volume.
- 6) After baking, turn the cake upside down to cool.** Gravity will help the cake maintain its volume. Most tube pans have little legs that will hold the cake above the counter. If your pan doesn't, invert the pan over a narrow necked bottle to hold the cake up.

There you have it. It looks like a lot to keep in mind but the process is really quite quick and simple.

## Consider Pie Weights for that Pre-baked Crust

Pie crusts are made with water or milk and baked in a hot oven. In a hot oven, the liquid turns to steam and bubbles form in the crust. Where the bubbles collapse, the pie filling leaks through the crust. One way to avoid blisters is to prick the crust with the tines of a fork to vent the steam but often, this is only partially effective. There is a better way—pie weights.



You don't have to buy expensive weights—beans or rice will do. Line the shell with aluminum foil and then place the beans or rice in the shell to hold the crust down. Because the beans or rice absorbs heat, you will need to increase the baking time, sometimes up to twice as long. (The crust in the picture took 20 minutes at 450 degrees. Baking times will vary with weights.)

## How to Make Quiches

Quiches are a custard made with eggs and milk or cream and loaded with cheeses or meat or vegetables to create an elegant main dish. They are no more difficult than making a custard pie. Here we present seven principles and two recipes for great quiches.



Making a quiche is not difficult. Just follow a few simple principles to make a great quiche. Once you are comfortable building quiches, you can experiment and be creative—adding almost anything to a quiche that you would to an omelet.

Just keep these principles in mind:

**1. Make a good crust.** We're talking about a pre-baked crust. It doesn't have to be pretty and certainly not perfect. The trick is to avoid the bubbles; bubbles break and let the filling ooze through. Use [pie weights](#) to hold the crust down. Or, if you prefer, prick the dough before baking, the steam that causes bubbles will escape through the pricked holes. (We've never been able to get those little holes to work as well as pie weights.)

If you are not comfortable making pie pastry, purchase a ready-made crust or use puff pastry from the grocery store.

**2. Use quality ingredients.** Your quiche is no better than what you put in it. Use fresh eggs and vegetables and quality cheeses.

**3. Chop the ingredients finely.** Coarsely cut ingredients make it very difficult to obtain attractive slices.

**4. Get enough eggs.** It's the eggs that coagulate when baked to create a firm, clean quiche. The ratio of eggs to liquid has to be high enough. Make certain that there are at least 2 eggs for every one cup of liquid.

**5. Cook it right.** Bake it at 325 degrees. Higher temperatures increase the risk of over-cooking and curdling.

**6. Cover the edges with foil.** To get the quiche baked properly often requires enough time that the edges of the crust over-brown. Half way through the baking, cover the edges with foil so that you won't over-brown the crusts.

**7. Get it cooked.** The center of the quiche has to reach at least 160 degrees for the protein in the eggs to coagulate. But a simple test is to simply slip a knife blade into the

center of the quiche. If cooked, it should come out clean. Your knife test is more important than the number of minutes in the recipe. A properly cooked quiche will display a sharp, clean knife cut when sliced.

## **How to Make Soufflés**

Soufflés can be truly gorgeous, almost magical as they mushroom up in the oven into a light airy dish. And even if you're a first-timer and your soufflé doesn't look quite right, it'll taste great. But there are some tricks to making them come out right.

Soufflés are made in two parts, whipped egg whites and a base made with the other ingredients including such things as a cheese sauce or chocolate. Since the base holds the flavor, make the flavor intense because it will be diluted with the addition of the egg whites.

Beat the egg whites properly. It's the air trapped in the egg whites that causes the dramatic expansion of the soufflé in the oven. You want the egg white to remain elastic. Beat the egg whites just until soft peaks form, add the sugar if the recipe calls for it, and then beat until stiff peaks form. Cream of tartar will help the egg whites develop.

Fold the egg whites into the base carefully. Stir about a cup of the egg whites into the base to lighten the base then gradually fold in the remaining egg whites. Use a spatula to cut through the whites and gently lift the base through the foam in an up and down motion only until the two parts are combined.

## **How to Make Strata and Baked French Toast**

A strata is basically a savory bread pudding. Most are made by layering bread cubes in a baking dish and then pouring an egg mixture over it. The mixture soaks through the bread and sets up in baking as custard does. Most recipes call for cheese and spices.

### **Baked French Toast**

Baked French toast is a cousin to a strata. It's made with whole slices of bread layered in a baking pan instead of bread cubes. Baked French toast can be savory or sweet.

## How to Build a Frittata

Do you have a favorite omelet recipe? You can build a great frittata with the same ingredients that you would use in an omelet. Here's a step-by-step guide:

- 1. Sauté the vegetables until soft.** As an alternative, you can steam the vegetables in the microwave until they are tender.
- 2. Turn the broiler on.**
- 3. Beat the eggs,** pepper and salt together. Put a tablespoon of oil in a heavy, oven-proof skillet and place the skillet on medium heat. Pour the egg mixture into the pan and scatter your vegetables and/or cooked meats on top. Turn the heat to low and cook until the frittata is golden brown on the bottom and the egg is beginning to set, approximately 7 minutes.
- 4. If necessary, oven-proof the skillet handle** by wrapping it in aluminum foil. Place frittata under the broiler and cook until it is almost firm.
- 5. Add any cheese** to the top and again put the frittata under the broiler until it is completely set and the cheese is melted. Slide your frittata onto a plate and serve.



## How to Make Custards

Most puddings and cream pie fillings are thickened either with starch or eggs. Any liquid thickened or set with eggs is called a custard. It is our intention in this chapter to examine how custards work and how to make them.

There are two types of custards: stirred and baked. Stirred custards are cooked on the stovetop, stirred as they cook, and remain pourable. Many puddings and pastry creams are stirred custards. Baked custards are made of sugar, whole eggs, and liquids and are set in the oven. Pies such as pumpkin or chess, some desserts, and baked puddings are classified as baked custards. Cheesecakes and quiches are also baked custards.

Many custards have added starch to help set the liquid and to reduce separation or weeping. For our purposes, if the primary agent for thickening or setting a dessert is eggs, we will treat it as a custard.

How does a custard work? As the egg protein in the custard heats, these proteins set and the mixture becomes thick. Egg whites, without the addition of other ingredients, begin to set at 145 degrees; egg yolks at 155 degrees. When other ingredients are added such as sugar and starch, the temperatures at which setting begins is higher. There is a fairly narrow range of temperatures that are acceptable for making a custard. The liquid must be cooked long enough for the eggs to set but should not exceed 185 degrees. Above 185 degrees, the proteins become toughened as coagulation completes. At this point, the custard tends to curdle and after setting, weep as the liquids drain from the toughened protein. Later in this section, we will discuss methods for cooking custards to the right temperature.

### Stirred Custard

Stirred custards include pastry cream, pie fillings, and sauces. Cooking temperatures are variable depending on the starches and other ingredients called for in the recipe. Cooking times are not difficult since the custard must be stirred nearly constantly and the baker is overseeing the cooking and can remove the pan from the heat when the desired thickness is obtained.

Stirred custards remain pourable. Many bakers strain the custard before use to remove any cooked egg particles and ensure smoothness. Plastic wrap is often placed against the surface before refrigerating so that a “skin” does not form.

Pastry cream is a starch-aided custard. Because of the starch content, it can be brought to a boil without toughening the egg proteins and should be brought to a boil for the starch to function properly.

Crème anglaise is a thin custard sauce made without starch. Accordingly, it should not be cooked beyond 175 degrees.

Lemon curd is thick and intensely flavored using only lemon juice and the eggs for liquid. It is used as a filling for cakes and as a spread.



Lemon pie filling is another custard. Because acid interferes with the swelling of starch particles and their ability to thicken, lemon pie filling is thickened before the lemon juice is added.

### **Baked Custard**

Most baked puddings are a mixture of eggs, sugar, liquid, and usually some other ingredient. (A baked rice pudding is a custard with rice added; a bread pudding is a custard with bread added.)

A good baked custard has a clean, sharp edge when cut. The amount of egg in the custard determines its firmness. A baked dessert that is going to be unmolded requires more egg than a softer, spooned pudding. Egg whites rather than whole eggs are rarely used in custards. Egg yolks provide a richer, smoother texture. Some custards such as pumpkin pie or cheesecakes may call for cornstarch or flour as an additional stabilizer to the eggs.

A typical ratio of eggs, sugar, and milk in a firmly baked custard is one large egg for every 1/4 to 1/3 cup milk and 1 1/2 to 2 tablespoons sugar for each egg. Use these ratios as guidelines. The addition of starch, flour or cornstarch, may reduce the need for eggs as will the desire for a softer custard rather than firmly baked custard suitable for a mold. (Softer custards may have up to twice as much milk per egg.) Sugar is even more variable and may be different because of tastes or the presence of other sweeteners such as raisins or sweetened condensed milk.

The following mixing and baking procedure is typical of baked custards. Using this procedure and the ratios above, you can create or modify your own desserts.

1. Combine the eggs, sugar, salt, and flavorings in a mixing bowl. Stir until the sugar is dissolved but do not whip. (It is desirable to avoid foam.)
2. Scald the milk over low heat stirring regularly. Heating the milk before adding it will help cook the eggs evenly and will reduce baking time.
3. Gradually pour the milk into the egg mixture, stirring while pouring. Gently pour the custard into the baking pan or cups. If the custard is to be unmolded, grease the molds with butter. For a smooth surface, gently skim any bubble from the top.
4. Place a baking pan or cups in a larger baking pan. Place the baking pan on the oven rack. Fill the outer pan with hot water until the water level is approximately equal with the level of the dessert. The water in the pan helps bake the custard evenly without a tough outer layer that has been baked beyond 185 degrees. A cloth can be added to the bottom of the baking pan to insulate the dessert from the heat on the bottom.
5. Bake at 325 degrees to avoid over-baking. Typical baking time is about 45 minutes but will vary on the recipe, the baking pans, the initial heat of the custard, and the heat of the hot water used as an outer bath. To test for doneness, insert a sharp knife into the custard about two inches from the center. It should come out clean. The very center of the custard may not be quite set but

- will continue to cook after removal from the oven. The custard should be removed from the water bath immediately so that it does not continue to cook.
6. Cool the custard and refrigerate it. Often, plastic wrap is pressed against the custard surface to avoid the forming of a “skin” on the top of the dessert.

**Baker's notes:**

A water bath is usually not necessary when starch is part of the recipe. Bread puddings are usually not baked in a water bath. Neither are pies since it is desirable to bake the crust thoroughly and the pie crust insulates the custard from the heat of the pan.

## How to Make Pannekoeken

We debated adding pannekoeken to this chapter. But pannekoeken is so good, so much fun, and so easy that we couldn't resist. And because it is an egg-rich batter with little flour, we inserted it in this chapter.



We think of pannekoeken most often for breakfast but it seems to fit in just right for brunch (especially with guests), lunch, a late supper.

And if you can make pancakes, you can make pannekoeken. In fact, there is less prep time than with pancakes—mix the batter and stick it in the oven. (In our test kitchen with the ingredients sitting on the counter, we were 2 1/2 minutes to the oven.) They are great without toppings and sublime with toppings.

Here are the steps to making easy pannekoeken:

1. Place one-half cube of butter in a pannekoeken (Dutch Baby) pan or an ovenproof skillet with rounded sides. (You can make a fine pannekoeken with an ovenproof skillet; it's a little easier with a pannekoeken pan. You can purchase one on our site.)
2. Pannekoeken puffs up in a hot oven. Preheat your oven to 400 or 425 degrees depending on the recipe. Put the rack in the center, not the top, shelf. When you turn the oven on, place the pan with the butter in the oven. When the oven reaches 250 degrees the butter should be melted. Remove the pan from the oven.
3. Whisk the eggs and the salt in a medium bowl. Add the milk. Whisk in the flour until nearly smooth. (A whisk makes mixing easier than a spoon.) Your batter is now ready.
4. Pour the batter into the pan. Cover with toppings if desired. Bake. Serve hot.

Pannekoeken makes an excellent canvas for your imagination. When we lived in Minnesota there was a chain of pannekoeken restaurants. They served these Dutch pancakes with all types of toppings, some cooked into the batter but often used as toppings after the pancake is baked.

Apples are the classic complement to pannekoeken. They can be cooked in the batter, sautéed, made into a compote, or simply sliced thinly and used as a topping. But meats, cheeses, and vegetables work also, especially for a dinner or lunch dish. When made with meats or vegetables, leave them as they are or drizzle them with a white sauce, a cheese sauce, or syrup.

Here are some suggestions to get you started.

- Traditional Pannekoeken
- Apple and Bacon Pannekoeken

- Sausage, pears, and dried cherries
- Sautéed apples in brown sugar and cinnamon
- Apples and sausage
- Blueberries and cottage cheese
- Bananas and pecans
- Peaches and honey raisin sauce

Let your imagination reign. You will find recipes for the first two suggestions at the end of this chapter.

### ***Part 3: Recipes--Applying What You Learned***

The following recipes were chosen to give you the opportunity to make some very good baked goods while working with eggs. With these recipes, you'll make meringues, frittata, omelets, quiches, and custards.

#### **Royal Lemon Meringue Pie**

A cool, tart lemon meringue pie on a hot summer day is so refreshing. There are lots of lemon meringue pie recipes but a royal lemon pie is a cut above. It's made with cream instead of water and the lemon juice is tempered with a touch of orange juice so it is just a touch sweeter and not quite as tart. We think you will love it.

This recipe was designed for a nine-inch deep-dish pie and the meringue is piled high with five egg whites--not three or four.



#### **Royal Lemon Meringue Pie Recipe**

##### Ingredients

1 nine-inch deep-dish pie shell

4 teaspoons lemon zest  
1 cup lemon juice  
1/2 cup orange juice  
1 cups granulated sugar  
dash of salt

1/3 cup cornstarch  
1 cup whipping cream  
3 large eggs, whisked  
5 large egg yolks

1/4 cup butter

5 large egg whites  
1/2 teaspoon cream of tartar  
1/2 cup granulated sugar, preferably superfine  
1 teaspoon vanilla extract

### Directions

1. Bake the pie shell at 450 degrees for about ten minutes or until it just starts to turn brown on the edges. It will help the pie shell keep its shape during baking if you line the shell with aluminum foil and then place beans, rice, or pie shell weights in the shell to hold the crust down.
2. Grate the zest from one large lemon or two small lemons. Avoid the white, pithy part of the peel for it is bitter. Add the zest to a saucepan with the lemon juice, orange juice, sugar, and salt. Stir and heat until it just starts to boil.
3. While the filling is beginning to heat, mix the cornstarch with the whipping cream. Add the eggs and egg yolks and mix until smooth.
4. Drizzle the hot lemon mixture into the egg mixture while stirring constantly. Return the combined mixture to the stove and heat until it thickens and starts to boil. Add the butter and stir until melted. Scrape the filling into the pie shell.
5. Preheat the oven to 350 degrees.
6. In a medium metal or ceramic bowl, beat the egg whites and cream of tartar together. When soft peaks are formed, drizzle in the sugar while beating. Continue beating until stiff peaks are formed. Fold in the vanilla.
7. With a spatula, spread the meringue topping on the filling. Press the topping against the crust so that the meringue will adhere to the crust during baking.
8. Bake for 15 minutes at 350 degrees or until the top is a golden brown. Let cool for an hour on the counter and then two hours in the refrigerator.

## **“Meringue that Does Not Weep” Recipe**

4 large egg whites  
1/2 teaspoon cream of tartar  
6 tablespoons sugar, preferably superfine  
1 tablespoon cornstarch  
1/2 cup water  
1 teaspoon vanilla extract

### Directions

1. In a medium metal or ceramic bowl, beat the egg whites and cream of tartar together. When soft peaks are formed, drizzle in the sugar while beating. Continue beating until stiff peaks are formed.
2. In a saucepan, dissolve the cornstarch in water. Heat and stir until it is bubbling and thickened. Drizzle the hot syrup into the egg whites while beating slowly with the electric mixer. Add the vanilla. Continue beating until the egg whites are at full volume and stiff peaks are formed.
3. With a spatula, spread the meringue topping on the filling. Press the topping against the crust so that the meringue will adhere to the crust during baking.
4. Bake for 15 minutes at 350 degrees or until the top is a golden brown.

Let cool for an hour on the counter and then two hours in the refrigerator.

**Baker's notes:** Why does this work? The cornstarch acts as a stabilizer; the hot syrup facilitates the cooking of the egg whites.



## Easy Oven-Baked Frittata

Frittatas are easy; this one is even easier. Remember this recipe when you need a great dinner dish in a hurry. Serve it with your favorite bread and a garden salad.

### Ingredients

1 cup of diced vegetables (onions, green peppers, etc.)  
6 eggs  
dash of pepper  
1/8 teaspoon salt  
2 tablespoons grated parmesan cheese  
1 cup shredded cheddar, mozzarella or other cheese

### Directions

Preheat the oven to 350 degrees

1. Sauté the vegetables until soft. Alternately, you can steam the vegetables in the microwave until they are tender.
2. Beat the eggs, pepper, salt, and parmesan cheese together. Put a tablespoon of oil in a heavy, oven-proof skillet. Pour the egg mixture into the pan and scatter the vegetables on top.
3. Bake for 15 minutes or until a knife inserted in the center comes out clean. Immediately sprinkle the remaining cheese on the top and let it melt.
4. Slide your frittata onto a plate and serve.

## Classic Quiche Lorraine

Quiches are made with a custard filling—eggs and milk or cream—and loaded with cheeses or meat or vegetables to create an elegant main dish. They are simple to make, at least no more difficult than making a pie.

A Quiche Lorraine is the classic bacon and Swiss cheese filling. It originated in the Lorraine region of what is now northeastern France. Originally it had no cheese, simply custard flavored with bacon. Today, most Quiche Lorraine recipes call for just a touch of nutmeg. The recipe that follows is a little less rich than many because it uses milk instead of cream in the filling.



### Classic Quiche Lorraine Recipe

#### Ingredients

1 single crust pie shell  
6 large slices of bacon, about 6 ounces  
4 eggs, beaten  
1 tablespoon all-purpose flour  
1 1/2 cups milk  
dash of pepper  
1/8 teaspoon salt  
1/4 teaspoon nutmeg  
1 1/2 cups grated Swiss cheese, about 6 ounces

#### Directions

Preheat the oven to 325 degrees

1. Bake the pie shell at 450 degrees for about ten minutes or until it just starts to turn brown on the edges. Do not prick the pie shell with a fork. It will help the pie shell keep its shape during baking if you line the shell with aluminum foil and then place beans, rice, or pie shell weights in the shell to hold the crust down.
2. While the pie shell is baking, cook the bacon in the microwave oven until crisp. Cut the bacon into small chunks.
3. In a medium bowl, mix the eggs and flour together. Add the remaining ingredients, including the bacon. Pour the mixture into the hot pie shell.
4. Bake for 40 to 45 minutes or until a knife inserted in the center comes out clean. If the shell starts to brown too quickly, cover the edges with aluminum foil.

## Cinnamon Ripple Angel Food Cake Recipe

### Ingredients

1 1/2 cups egg whites (about 12 to 14 large eggs)  
1 cup plus one tablespoons sifted cake flour  
1 1/2 cup sugar divided  
1/4 teaspoons salt  
3/4 teaspoon cream of tartar  
1 teaspoon vanilla extract  
3 to 4 teaspoons ground cinnamon

### Directions

Preheat the oven to 350 degrees (after step 1).

1. Separate the eggs before heating the oven (see tips), adding the whites to a liquid measuring cup until you have 1 1/2 cups. It will take about 12 large eggs.
2. Sift the flour before measuring. If you do not have a sifter, use a whisk to fluff the flour before measuring. Add about half the sugar to the flour and sift again.
3. Beat the egg whites in a large bowl, adding the salt and the cream of tartar to the whites as soon as they become foamy. Continue beating. As soft peaks begin to form, add the remaining sugar and extracts. Beat until peaks form.
4. Using a spatula, gently fold the flour and sugar mixture into the egg white foam with "over and up" motions. Be sure to scrape the bottom of the bowl or the flour mixture will sink. Mix only until the flour is moistened. Working the batter longer tends to drive the air bubbles from the foam and reduces the cake's volume.
5. Scrape the batter into a ten-inch tube pan in three or four layers. Sprinkle the cinnamon through a fine sieve onto the batter between layers. Bake immediately. Bake for 45 minutes or until the cake is done.
6. When the cake is removed from the oven, immediately invert the tube pan on the counter. Many tube pans have legs for this purpose. If the tube pan does not have legs, invert the pan over a narrow-necked bottle inserted into the tube.

## Spinach, Bacon, and Swiss Quiche

A spinach quiche recipe is the second most popular quiche recipe on the internet—and no wonder; it is very good. This one has Swiss cheese and bacon added along with a touch of tarragon.

### Spinach, Bacon, and Swiss Quiche Recipe

#### Ingredients

1 nine-inch deep-dish pie shell  
4 large slices of bacon  
4 eggs, beaten  
2 large egg yolks  
1 tablespoon all-purpose flour  
2 cups half and half  
dash of pepper  
1/2 teaspoon salt  
1/8 teaspoon nutmeg  
1/2 teaspoon dry tarragon  
1 1/2 cups grated Swiss cheese, about 6 ounces  
3/4 cup spinach, partially cooked and finely chopped



#### Directions

Preheat the oven to 325 degrees

1. Bake the pie shell at 450 degrees for about ten minutes or until it just starts to turn brown on the edges. It will help the pie shell keep its shape during baking if you line the shell with aluminum foil and then place beans, rice, or pie shell weights in the shell to hold the crust down.
2. Cook the spinach until nearly tender. Remove any stems. The spinach should be finely chopped.
3. While the pie shell is baking, cook the bacon in the microwave oven until crisp. Cut the bacon into small bits.
4. In a medium bowl, mix the eggs, yolks, and flour together. Add the remaining ingredients, including the bacon and chopped spinach. Pour the mixture into the hot pie shell.
5. Bake for 50 minutes or until a knife inserted in the center comes out clean. If the shell starts to brown too quickly, cover the edges with aluminum foil.

## Easy Baked Omelet

This recipe is dedicated to all of the klutzes among us who often mutilate our omelets while trying to fold them or for the distracted among us that need to just stick a baking dish in the oven and forget it until the timer goes off.

And it's easy. Notice that there are only two steps to this recipe. Prep time is less than ten minutes.

This is a puffy omelet recipe. It will mushroom in the oven and then fall back as it cools. Still, it is a lighter omelet than what is fixed on the stovetop.



Use this basic cheese omelet recipe or add meat and veggies to create any omelet you desire. (If you add veggies, consider sautéing them or partially cooking them in the microwave before adding them to the egg mixture.)

### Ingredients:

1/3 cup flour  
1/2 tsp. baking powder  
1/8 tsp. salt  
dash pepper  
1 1/2 cups milk  
8 eggs  
1 1/2 cup shredded cheddar or other cheese

### Directions:

Preheat oven to 350 degrees.

1. Mix the dry ingredients in a bowl. Add enough milk to make a paste and then add the remaining milk a little at time, stirring after each addition, until you have a smooth mixture. Add the eggs and cheese.
2. Grease a 9-inch pie pan with butter. Pour the omelet mixture into the pie pan and bake for 40-45 minutes or until the omelet starts to brown and a knife inserted in the center comes out clean.

### Variations:

Add herbs, spices, sautéed vegetables, ham, or other meats or vegetables as desired to this recipe as you would for stovetop omelets.

## Chocolate Malt Pudding

This works as both a soft pudding and an excellent pastry cream. It is a stirred custard pudding but with the addition of cornstarch, it meets the definition for pastry cream. See the section in this chapter for making custards for more information on making custards.

And remember those chocolate malts that we used to enjoy at the corner drug store? This old-fashioned pudding will remind you of those days. It is much, much better than those box pudding mixes from the store.

### Ingredients:

2 tablespoons cornstarch  
1/3 cup malted milk powder (we use Carnation brand usually found in the hot drink section of the grocery store)  
1/2 cup sugar  
2 1/2 cups milk  
1 large egg  
2 large egg yolks  
3/4 cup milk chocolate chips  
2 tablespoons butter  
1 teaspoon vanilla

### Directions:

1. Combine the cornstarch, malted milk powder, half of the sugar with 1/2 cup of the milk. Stir to dissolve the sugar. Add the egg and egg yolks and whisk until smooth.
2. In a heavy saucepan, cook the remaining 2 cups of milk and the remaining sugar until it boils for several minutes.
3. Slowly pour the egg mixture into the hot milk while whisking the mixture to keep it smooth. Cook until bubbles rise through the liquid and it just starts to boil. Remove from the heat.
4. Melt the chocolate chips and the butter in the microwave. Stir the melted chocolate into the hot pudding. Add the vanilla.
5. Pour the pudding into serving dishes or a casserole dish. Cover the pudding surface with waxed paper placed directly on the pudding. Let cool for one hour and then place in the refrigerator to chill.

## Southern Chess Pie

A chess pie is an old Southern pie type--like cream pies--that has been around for nearly a century. They are baked as smooth custard pies or loaded with almost anything. We looked at dozens of recipes and found chess pies with nuts, raisins, pineapple, peaches, blueberries, and chocolate. We'll give you a basic recipe and you can experiment forever.

Chess pies are usually spiked with something tart—vinegar, lemons, or bourbon. Most have dairy—buttermilk, cream, or milk—though some are labeled “transparent” with little dairy. Some have cornmeal, corn flour, or cornstarch.



We started experimenting with composites of what we found trying to stick with principles, not recipes. We ended up with the following recipe that we found very good. Instead of having a touch of tartness from lemon or vinegar, this is butterscotch flavored with brown sugar and butter. (We didn't care for the traditional lemon or vinegar with this pie.)

### Southern Chess Pie Recipe

#### Ingredients

- 1 nine-inch pie shell
- 4 large eggs, whisked
- 1 cup brown sugar
- 1/2 tablespoon vanilla extract
- 1/4 teaspoon ground nutmeg (optional)
- 1/2 cup butter
- 1 cup heavy cream
- 1/4 cup brown sugar
- 2 tablespoons fine ground cornmeal
- 1/4 teaspoon salt

#### Directions

1. Bake the pie shell at 450 degrees for about ten minutes or until it just starts to turn brown on the edges. It will help the pie shell keep its shape during baking if you line the shell with aluminum foil and then place beans, rice, or pie shell



- weights in the shell to hold the crust down. If you do so, the weights will act as heat sinks and you will need to bake the shell longer.
2. Whip the eggs and brown sugar together until the sugar dissolved. Add the vanilla extract and optional nutmeg.
  3. In a saucepan, melt the butter. Stir in the cream, 1/4-cup brown sugar, cornmeal, and salt. Heat, stirring constantly, until it thickens and just starts to bubble.
  4. Dribble the hot cream mixture into the egg mixture while stirring constantly. Whisk the mixture until it is smooth. Pour the filling into the pie shell.
  5. Bake the pie for 40 to 45 minutes at 325 degrees or until it tests done when the blade of a knife is inserted in the filling one inch from the center.

Let cool on a wire rack and then refrigerate.

Serve with ice cream or whipped cream.

Baker's notes:

1. This pie was made with brown sugar. It can also be made with honey crystals or molasses crystals for some interesting renditions.
2. Feel at liberty to experiment. Many chess pies are light in color while this one is caramel-colored from the brown sugar and egg yolks. For a lighter-colored pie, substitute granulated sugar for the brown sugar and four egg whites plus two large eggs for the eggs. The pie will then be more vanilla flavored. The pie made with honey crystals will be lighter colored also and honey and vanilla is a wonderful combination. Molasses crystals will make a more traditional pie.
3. Any fine-ground cornmeal will work or even corn flour. We used corn masa mix and it worked perfectly.

## Traditional Dutch Pannekoeken

This is the basic pannekoeken. It is designed for an 11 to 12-inch Dutch baby pan or a skillet with rounded sides. This is a five ingredient-five step recipe that really goes together quickly.

### Ingredients

1/4 cup butter  
3 large eggs  
1/8 teaspoon salt  
3/4 cup milk  
3/4 cup all-purpose flour



### Directions

1. Place the butter in a Dutch Baby pan or an ovenproof skillet with rounded sides.
2. Preheat your oven to 400 degrees. Put the rack in the center, not the top, shelf. When you turn the oven on, place the pan with the butter in the oven. When the oven reaches 250 degrees the butter should be melted. Remove the pan from the oven.
3. Whisk the eggs and the salt in a medium bowl. Add the milk. Whisk in the flour until nearly smooth. Your batter is now ready.
4. Pour the batter into the pan.
5. Bake for 20 to 25 minutes or until the top starts to turn golden brown. Serve hot with your favorite syrup.

## Apple and Bacon Pannekoeken

This is a traditional pannekoeken with ingredients added. You can use this as template for other pannekoeken recipes.

### Ingredients

6 ounces of bacon fried crisply  
1 apple, peeled and cored  
1/2 red bell pepper (optional)  
1/4 cup butter  
3 large eggs  
1/8 teaspoon salt  
3/4 cup milk  
3/4 cup all-purpose flour



### Directions

1. Snip the bacon into 3/4-inch pieces. Slice the apple thinly. Dice the red pepper and steam it in the microwave for a minute to make the dices crisp-tender.
2. Place the butter in a Dutch Baby pan or an ovenproof skillet with rounded sides.
3. Preheat your oven to 400 degrees. Put the rack in the center, not the top, shelf. When you turn the oven on, place the pan with the butter in the oven. When the oven reaches 250 degrees the butter should be melted. Remove the pan from the oven.
4. Whisk the eggs and the salt in a medium bowl. Add the milk. Whisk in the flour until nearly smooth. Your batter is now ready.
5. Pour the batter into the pan. Sprinkle the toppings over the batter.
6. Bake for 20 to 25 minutes or until the top starts to turn golden brown. Serve hot with maple syrup.

# Chapter 3



*Yeast and How it Works*

## Chapter 3

### *Yeast and How it Works*

Yeast and How it Works .....	64
Part 1: Yeast and How it Works.....	66
Creating the Right Environment for Yeast .....	67
Part 2: Using Yeast to Make Great Breads.....	69
How Long Should My Bread Rise?.....	69
Why do We Need to Knead? .....	69
Does it Matter What Flour I Use? .....	70
The Secrets of Great Breads.....	71
Is Brown Bread Better? .....	73
High Altitude Breads .....	74
Part 3--Recipes: Applying What You Learned .....	75
Using Yeast Successfully: Hamburger or Sandwich Buns .....	75
Retarding the Growth of Yeast: Italian Herbed Focaccia .....	78
Adding Cheese to Your Bread: Cheesy Dinner Rolls and Loaves .....	81
Dilly Cheese Bread .....	82
Adding Grains to Your Bread: Hi-Country Seven Grain Bread Recipe .....	84
Adding Vegetables to Your Bread: Summer Zucchini and Carrot Bread.....	86
Using Cornmeal in Your Bread: Southern Cornbread (Yeast).....	88
Creating a Sourdough Starter with Yeast: Easy Sourdough Bread .....	90
Bonus: How to Bake Bread on the Grill .....	94



Copyright 2005, The Prepared Pantry. All rights reserved.

The material herein is published by The Prepared Pantry for the private use of individuals and may not be used for commercial purposes without the express consent of the publisher. The information contained herein is believed accurate but the publisher makes no warranties, express or implied, and the recipient is using this information at his or her own risk.

## ***Yeast and How it Works***

This chapter is in three parts. The first part is about principles--you will learn about yeast and how it works. The second part is about techniques, how to use yeast generally in the making of great breads. In the third part, you will learn to use yeast in particular recipes and applications.

### **Part 1: Yeast and How it Works**

Did you ever wonder why flour tastes like sawdust but a French or Italian bread made with that same flour and little else has a pleasant, sweet taste? It's the yeast.

Yeast is the magic ingredient of the baking world. While the rest of our ingredients are inanimate, yeast is alive and bakers have learned to cultivate yeast as a living thing in their bread and pastry doughs. In this chapter, we will explore the different types of yeast and learn to cultivate yeast in different ways to create different products.

Our grandparents used--and many commercial bakers still use--fresh yeast rather than the dry yeast that we buy in the store. Fresh yeast performs marvelously well but is fragile, must be kept refrigerated, and used right away--hardly the conditions of today's carefree baking.

The yeast that we buy is granular. Each little grain is a manufactured ball of starch or dextrose containing many yeast cells. When these grains are dissolved, the yeast is released into the dough.

The yeast on the grocers' shelves typically comes in two forms: either instant active dry yeast or active dry yeast. The difference is in how the yeast cells hydrate or absorb water. Instant active dry yeast does not have to be hydrated in water prior to mixing as active dry yeast does.

Active yeast is mixed in water, the particles are dissolved, and the yeast is allowed to grow until the mixture becomes foamy. Then it is added to the flour. The cells of instant dry yeast are porous to absorb water and can be put directly in the flour without waiting for the yeast to hydrate.

And yes, yeast is alive. It is neither plant nor animal but a fungus. We add it to the flour in its dormant state and create a growing culture with moisture and the proper temperature. Under the right conditions, the yeast multiplies rapidly and a loaf of bread, when it is ready to go into the oven, may contain millions of live yeast cells.

So how do we nurture these little creatures? Like most other living organisms, they require three conditions for growth: moisture, food, and a hospitable environment. In such an environment, yeast will grow rapidly. Yeast feeds on sugar or converts the starch in the flour to sugar for food. (Without the capability to convert starch to sugar for food, yeast would not thrive in sugar free breads such as French bread.) As the yeast

cells feed, they expel carbon dioxide and alcohol (ethanol). The carbon dioxide gas rises through the bread dough and is captured by the gluten structure in the dough to form gas pockets. The alcohol is evaporated in baking.

The alcohol and other excretions impart a “yeasty” flavor to the dough. Master bread bakers manipulate the ratio of these two byproducts, carbon dioxide and alcohol—usually with temperature and acidity—to control the rise time and the flavors in the breads. In this chapter, you will learn to do the same.

Bread wouldn't be bread without yeast and yeast can't work without sugars. Since yeast is alive, it needs food for fuel, in this case, simple sugars. But flour is mostly starch and table sugar (sucrose) is too complex for the yeast to digest before the sugar is broken down in the biological and chemical actions of the fermentation process. Amylase and invertase, enzymes present in the flour or created by the yeast, break down the starch molecules into sugars. While some of these simple sugar molecules become food for the yeast; others create the sweet flavor we find in a fine bread—even a French bread where there is no sugar added.

Generally, a long, slow fermentation makes for bread with better flavor, texture, and moisture retention. Many fine breads call for “retarding” or slowing down the growth of the yeast with refrigeration. If dough is refrigerated, the yeast grows more slowly. As long as the dough is above 40 degrees, fermentation still takes place but at a slower rate. As the temperature of the dough approaches 40 degrees, the yeast growth slows and stops. When the dough is warmed and the growth of the yeast takes off, there is plenty of sugar present for the yeast and an excess of sugar to sweeten the bread.

## Creating the Right Environment for Yeast

As a baker, you need to know how to create the right environment for the yeast to work in. Let's look at the factors that you need to understand and control to create wonderful breads:

- **Moisture:** You must create a moist environment to dissolve the yeast granules, to hydrate the yeast cells, and to create the right environment for growth. Most of the time, you will want your bread dough as moist as you can handle without being sticky. A bread dough that is too dry will take a long time to rise because the yeast will not multiply as rapidly and because the dry dough is stronger and more difficult to lift. Especially with a bread machine, it is important to measure the amount of water carefully with an accurate measuring cup.
- **Acidity:** Yeast prefers a slightly acidic environment. Our grandmothers discovered they could create that with a tablespoon or two of lemon juice. We recommend that you do the same with a dough conditioner. (A dough conditioner has other conditioning roles.) Try several conditioners until you find the one that works best for you.
- **Saltiness:** Salt impedes the growth of yeast and slows down the rise. Measure salt carefully. An extra half teaspoon of salt will significantly increase the time it takes the dough to rise. Conversely, you can speed up yeast growth with sugar.



- **Temperature:** Yeast is very sensitive to temperature and temperature is a major factor in how fast yeast multiplies. As we discussed earlier, yeast is dormant and will not grow at 40 degrees and grows only slowly at 55 degrees. Yeast dies instantly at 140 degrees. (We recommend not using water warmer than 120 degrees to avoid accidentally killing the yeast.) Between 78 degrees and 80 degrees is an ideal environment for yeast growth.

A thermometer has been called the baker's secret weapon. In all breads, it is very useful to be able to measure the temperature of (1) the water used for mixing, (2) the dough, and (3) the bread as it comes from the oven. If you do not already have one, we recommend that you purchase a good insta-read thermometer either from The Prepared Pantry or elsewhere.

Always add water at the temperature called for in the recipe or the directions for the bread machine. In using a bread machine especially, the exact water temperature is critical to a uniform outcome. In all of our development work, we always chill or warm the water to within one degree of the target. The flour and other ingredients should be at room temperature. Remember, unless we want to retard the growth of the yeast to create more alcohol in the dough, the objective is to create a dough at 78 to 80 degrees. At higher temperatures, the dough may rise too quickly creating a crumbly texture to the bread. At less, the bread will rise more slowly with a higher alcohol content. (A retarded dough with more alcohol has marvelous, complex flavors.)

Bread is baked when the internal temperature is between 190 degrees and 210 degrees. Hard crusty breads must reach 210 degrees to drive enough moisture from the bread to preserve the crust. We recommend that you use your insta-read thermometer to tell when the bread is properly baked.

Understanding yeast and how it works is an essential lesson for the bread baker. Controlling the environment in which the yeast grows is the first step to spectacular bread. You are now equipped to control the moisture, the temperature, and the acidity and saltiness of the bread culture you create.

## *Part 2: Using Yeast to Make Great Breads*

### **How Long Should My Bread Rise?**

It depends. The best way to tell if the dough has risen enough is not by time—though it helps to set the timer so you don't forget about your dough—but by look and feel. It will look soft and bloated. When you touch the dough, it will be soft and your finger will leave an indentation when lightly pressed against the dough. If it is not ripe, the dough will tend to slowly spring back.

If you want light, fluffy bread, the dough should rise until it is puffy. The more gas incorporated in the dough, the lighter it will be. Of course, if too much gas is captured in the dough, it may collapse. The trick is to let the dough rise until you get just to the edge of collapsing and then bake it. In most cases, that means that the dough will double—or more—in volume. With a free-standing loaf, since the pan can't support the loaf, you cannot let the bread rise as much.

How long should it take? A lean, moist dough in a warm kitchen will probably rise in 45 minutes or less. A firmer dough with less moisture will take longer to rise. Yeast is very sensitive to temperature; even a few degrees less in the kitchen can extend the rise time significantly. A change of 17 degrees will cut the rise time in half.

It doesn't hurt to let dough rise slowly. Bread that has risen slowly has a different flavor than fast risers, a more acidic flavor—hence the sourdough flavors in slow rising breads. Conversely, bread that has risen too quickly is not as flavorful and tends to have a crumbly texture.

While lean breads are deliberately retarded to enhance the flavors, rich doughs or doughs with ample sweeteners or flavors will gain little with an extend rise since the flavors and sugars tend to mask the natural flavors of the yeast.

### **Why do We Need to Knead?**

Bread dough needs to be elastic in order to capture the gases created by the yeast, stretch as bubbles form in the dough, expand, and rise. Without that elasticity, bread would not have the open texture we enjoy nor would bread be chewy. But what creates that elasticity?

The endosperm of the wheat contains two important proteins, glutenin and gliadin. When wheat flour is mixed with water, these two proteins link with the water molecules and crosslink with each other as they are physically manipulated by kneading. It takes a certain amount of physical manipulation to bring these molecules into contact and create strong links. As the kneading continues and these molecules create stronger bonds, gluten is formed. It is gluten that gives the dough elasticity.

If you watch the dough being mixed with the bread hook in your stationary mixer, you will see changes occur in the dough as the kneading takes place. First the dough will stick to the sides of the bowl. As the bonds become stronger and the dough more elastic, it pulls away from the sides into a drier ball. The sides should become clean. Within four or five minutes at medium speed, the dough will change even more and become elastic as the gluten is completely formed. After you have watched this process a few times, you will be able to recognize the changes in the dough as the gluten forms. If you pinch a portion of the dough and stretch it, it should pull to a thin layer before it breaks. Without that elasticity, bread isn't good bread.

## Does it Matter What Flour I Use?

As we just explained, gluten is a substance made up of the proteins found in wheat flour that gives bread its structure, strength, and texture. Since all wheat flour (but not oat, barley, rye, or rice flours) contain the proteins to form gluten, how is it then that we can use flour to make both a tender cake and firm chewy French bread? The gluten makes the difference. In a cake, we want little gluten development. In a chewy bread, we want a high percentage of well-developed gluten. We can control this texture in our baked goods by changing four conditions:

- **Selection of flours:** Cake flours are “weak” or “soft” and have a low protein content, probably around 8%. Bread flours and high-gluten flours are “strong” and usually have a protein content of 12 to 14%.
- **Amount of shortening:** Any fat is referred to as a shortening because it shortens the gluten strands. It does so by lubricating the fibers so they cannot stick together. The more shortening in the dough, the more tender and less chewy the product will be.
- **Amount of liquid:** Gluten must have liquid to absorb and expand. If dough does not have enough liquid, the gluten will not fully form and the product will not be tender. That's why we put a minimal amount of water in pie crusts.
- **Mixing methods:** Generally, the more a batter or dough is mixed, the more the gluten develops. Tender muffins use low-protein flour and are mixed only until the moisture is absorbed while breads are kneaded for a relatively long time.

## The Secrets of Great Breads

Often we field questions about making great bread. Great bread is a matter of using the right ingredients and the right techniques—there's no single secret that will make perfect bread. But really great bread is readily attainable. We've compiled our list of what goes into great bread.

1. The right flour.
2. An understanding of yeast.
3. A good dough conditioner.
4. A baker's thermometer



Now this isn't everything that goes into great bread but the baker that is armed with these four tools is likely to be baking great bread.

We have stated before that a thermometer is the baker's secret weapon. Recently we stated that if there is a secret ingredient, it's the flour. So we put the right flour on the top of our list. Most commercial bread bakers are going to use flours with 10% to 14% protein--bread flour. (Many pizza doughs and artisan breads are made with flours or flour blends in the 10% range. Chewy breads are made with flours in the 12% to 14% range.)

Commercial bakers have access to dozens of different flours. If you want really good bread, buy a good quality bread flour--even if you have to make a deal with a local baker.

If you buy your flour at the grocery store be aware that all flours are not equal. They will have different protein contents and other characteristics. Name brands are likely to do a better job of holding to a specification and will provide more consistent results.

You can get an idea of the protein content from the nutrition label. Divide the grams of protein by the grams in the serving size to get the approximate percentage of protein in the flour (subject to rounding error).

Yeast is a living organism. The gases expelled by the growing yeast are what leavens the bread. The skilled baker recognizes that with the dough, he or she is culturing a living organism and that the yeast must be growing in the right culture to create the gases to make light airy bread. The right culture is primarily a function of moisture, temperature, and pH or the acidity level.

Dough conditioner alters the pH of the dough (among other things) so that it enhances the growth of the yeast and it makes the dough more extensible. All else being equal, dough conditioner can make a good bread great.

You can buy dough conditioner (or dough enhancer as it is sometimes called) in some grocery stores or you can get our dough conditioner. Ours is a commercial dough conditioner that we have found to be very good.

We would not think of making bread without a thermometer. We use it to measure water temperature. (When we use our bread machines, we measure the water temperature to exactly 80 degrees—not one degree off. When we make bread in our stand-type mixer or by hand, we use water between 100 degrees and 110 degrees.) We nearly always measure the temperature of the bread when it comes from the oven. And you can use a thermometer to measure the temperature of the dough to make sure that you have the right temperature for your yeast to grow in. You can buy an insta-read thermometer at most department stores and we offer a larger-face baker's thermometer on our site.

## Is Brown Bread Better?

Brown (or whole wheat) bread is touted as the healthy choice. Does it deserve its acclaim? You be the judge. The following table compares the nutritional content of a one-ounce slice of white bread versus a one-ounce slice of wheat bread.

In our opinion, the meaningful difference lies in the different levels of dietary fiber. Dietary fiber slows digestion so that the starches convert to blood sugar more slowly. The higher glycemic level of white bread can be mitigated by adding slower-to-digest foods to your meal.

The table to the right shows a higher sodium content for whole wheat bread. This dependant on the recipe used and will vary considerably from bread to bread.

Incidentally, unbleached white flour is better for you than bleached. (All of our breads are made with unbleached flour.)

Comparison of Whole Wheat and White Breads		
(Based on a one ounce slice of each)		
	100% whole wheat	100% white
Calories	70	76
Fat	1.2	1.1
Sodium	181	146
Carbohydrates	12.9	13.9
Protein	2.7	2.4
Dietary Fiber	1.5	0.5
% of US Recommended Daily Allowance		
Protein	4.2	3.7
Vitamin A	trace	trace
Vitamin C	trace	trace
Thiamin	6.7	8.7
Riboflavin	3.5	5.3
Niacin	5.4	6.4
Calcium	2	3.6
Iron	5.5	4.5
Vitamin B-6	2.5	0.5
Pantothenic Acid	2.3	1
Folacin	4	2.5
Phosphorous	7.4	3.1
Magnesium	6.5	1.5
Zinc	3.2	1.2
Copper	5	2

Both white and wheat breads are healthy additions to most diets when eaten in moderation.

## High Altitude Breads

Can you make bread and buns in the mountains?

We got a call from a baker in California, “I can make great bread in L.A. but at my cabin in Montana, it doesn’t turn out so well.”

We would like to help. This summer, you might find yourself at a cabin or in an RV high in the mountains. That doesn’t mean you can’t enjoy great bread.



The trick is realizing that you are working with living creatures and giving them the culture that they need to thrive in—a warm, moist environment. In a healthy culture, yeast organisms feed on the sugars and starches in the dough, multiply rapidly, and expel carbon dioxide gases that make the dough rise regardless of altitude. If the dough is not moist enough, it will take much longer for the dough to rise. Yeast organisms are very sensitive to temperature. If the dough is too cool, the yeast organisms do not multiply as rapidly and produce less gas.

Yeast products are not as sensitive to altitude as chemically leavened products although with less air pressure and all else being equal, dough may rise faster. But all else is rarely equal. Higher altitudes are likely to be drier and the recipe that you used at sea level may require more liquid. In a humid location, unsealed flour absorbs moisture; in a dry climate, that same flour dries out. If you add the same amount of water to flour in both locations, the dough in the humid climate will be much moister.

Our California friend in her Montana cabin may find her kitchen much cooler than in L.A. In the cooler cabin, the bread will take longer to rise. At higher altitudes, your kitchen may be cooler than it is at home. A few degrees difference in temperature will make a substantial difference in the time it takes your dough to rise. Compensate by taking advantage of the warmest spot in the kitchen.

We have worked with yeasted breads while camping with scouts at almost 11,000 feet in the Rockies. It worked but we had to move a tent to the warmest spot we could find, banking the tent into the sun, to get enough temperature for the dough to fully rise.

There are some other tricks that you can deploy to help that yeast along at higher altitudes. A little extra sugar will feed the yeast and speed growth. An extra teaspoon per loaf will do and probably won’t make a noticeable difference in your recipe. Salt retards yeast growth. If you cut the amount of salt in a recipe by 1/2 teaspoon per loaf, you will speed the yeast along.



## *Part 3--Recipes: Applying What You Learned*

### **Using Yeast Successfully: Hamburger or Sandwich Buns**

Yeast is treated the same way when making hamburger buns as for bread loaves. Even if you have never made bread before, this is a good exercise to tackle.

You can make hamburger buns or sandwich rolls from any mix or recipe. This is a little richer than most with milk instead of water. It makes a soft, delectable roll that your family will find irresistible. Be warned though: Once you've served burgers on fresh-baked buns, your family will never let you use store buns again.



### **American Hamburger Buns**

#### Ingredients

5 1/2 cups plus of high gluten bread flour, divided  
1 seven-gram packet instant yeast or two teaspoons  
2 tablespoons sugar  
1 tablespoon salt  
1 teaspoon dough conditioner  
2 cups milk  
1 egg, warmed to room temperature  
4 tablespoons butter, melted and slightly cooled

Note: Warm the egg to room temperature by placing the unbroken egg in a cup of warm water for ten minutes.



#### Directions

1. Place about one cup of flour in the bowl of your stand-type mixer equipped with a dough hook. Heat the milk in the microwave to 105 degrees. Add the yeast and

milk to the flour. Mix with the dough hook for 30 seconds or until the yeast is dissolved and the ingredients begin to combine.

2. Add the rest of the 5 1/2 cups of flour, the sugar, salt, dough conditioner, melted butter, and egg and continue mixing at a medium speed for at least four minutes. (It is important that the dough be mixed for at least four minutes to develop the gluten.) The dough should clear the sides of the bowl but stick to the bottom. The dough should be soft but just dry enough that it can be handled without being too sticky. If you feel that the dough is too moist, add one or two tablespoons of additional flour. (With our flour and kitchen conditions, we need to add four additional tablespoons of flour to get the right consistency.) Once the dough is mixed, move the dough to a large greased bowl, turn once to coat both sides, and cover with plastic wrap. Let stand until the dough is doubled and very puffy. Depending on how warm your kitchen is, that may take an hour to an hour and one-half.

3. Grease two large (or one large and one small) baking sheets and sprinkle the sheets with cornmeal. Once the dough has risen, deflate it and divide the dough into eighteen equal pieces with a sharp knife (or scale the pieces at 3 ounces each on your kitchen scales). Form smooth round balls by pulling the dough around the center and pinching the seams together on the bottom of the roll. Place them on the greased sheet allowing room for them to expand.



(We place them in three rows of four buns on a 12-inch by 19-inch baking sheet.)

4. Gently press the balls into flat discs with your hand. The dough will tend to spring back. Allow the dough to relax a few moments and then press again. You may need to repeat the process again until you have discs that are 3 1/2 to 4 inches in diameter and 1/2 to 3/4-inches thick.
5. If you would like, lightly dust the tops with flour (we use a strainer to distribute the flour). Cover the rolls lightly with plastic and allow to rise until doubled and puffy--about an hour. Let them rise completely for soft, light buns.
6. If you prefer, you can top your rolls with sesame seeds or poppy seeds. To do so, instead of dusting the tops with flour, mix one egg with one tablespoon water in a cup. Whisk well. After the rolls have risen and just



before baking, gently brush the egg wash on the rolls with a pastry brush. Sprinkle the seeds onto the tops of the rolls; the egg wash will hold them in place.

7. In an oven preheated to 375 degrees, bake the rolls for 15 to 20 minutes or until the tops are a rich golden brown and the interior of the bun is 190 degrees. If you are baking both sheets at once, switch the top sheet with the bottom sheet half way through the baking so that the buns will bake evenly. Immediately remove the rolls to a wire rack to cool.

## Retarding the Growth of Yeast: Italian Herbed Focaccia

This is a fun project.

To develop the best in yeast flavors in this bread, the dough is refrigerated overnight. Mix the dough, stick it in the refrigerator, and bake it the next day. The cooler dough, both as the dough cools in the refrigerator and as it gradually warms the next day, develops marvelous flavors. (The yeast is practically dormant once the dough reaches the forty degrees of your refrigerator and can therefore remain refrigerated for several days.)

### Italian Herbed Focaccia

This recipe makes a wonderful focaccia with an open crumb, well-developed flavors, and a crusty exterior. It is great as an appetizer, with pasta, or split for sandwiches. You can also use this bread for bread sticks or a pizza crust.

For the best results, store the dough overnight or up to three days in the refrigerator. If you don't want to tackle the steamy oven as described in the recipe, you can bake this bread without the steam. Without the steam, the bread will not be crusty.



#### Ingredients

3 cups plus of high gluten bread flour, divided  
1 teaspoon instant yeast  
1 1/4 cups water  
1 tablespoon sugar  
1/2 teaspoons salt  
1/2 teaspoon dough conditioner  
2 tablespoons olive oil

1/3 cup good quality olive oil  
1 tablespoon basil  
1/2 teaspoon oregano flakes  
1/8 teaspoon garlic powder

coarse salt  
2-3 tablespoons parmesan cheese



## Directions

1. Place about one cup of flour in the bowl of your stand-type mixer equipped with a dough hook. Add the yeast and water. The water should be at 80 degrees or just cool to the touch. Mix with the dough hook for 30 seconds or until the yeast is dissolved and the ingredients begin to combine.
2. Add the rest of the three cups of flour, the sugar, salt, dough conditioner, and two tablespoons olive oil and continue mixing at a medium speed for at least four minutes. (It is important that the dough be mixed for at least four minutes to develop the gluten.) The dough should clear the sides of the bowl but stick to the bottom. Dough for ciabatta and focaccia should be slightly wetter than most breads. Water absorption may vary with your flour and conditions in your kitchen. If you feel that the dough is too moist, add one or two tablespoons of additional flour. (With our flour and kitchen conditions, we need to add two additional tablespoons of flour to get the right consistency.) Once the dough is mixed, move the dough to a large greased bowl, turn once to coat both sides, and cover with plastic wrap. Refrigerate overnight or up to three days.
3. On the day that you are going to bake your bread, measure 1/3 cup olive oil. Stir in the basil, oregano, and garlic powder. Set aside to steep.
4. Remove the dough from the refrigerator and let it come to room temperature for about three hours. The dough should rise to nearly double in this time. Once it has risen, coat your hands with flour and lightly dust a work area on the countertop. Holding the dough in your hands, allow the weight of the dough to stretch out the dough until it is about one inch thick. Lay it on the dusted countertop and fold the ends over itself like you would a letter. Lightly dust the top with flour and cover with plastic wrap. Let double again in size, about one hour.
5. Prepare a 15-inch pizza pan or a baking sheet by greasing the surface and dusting it with cornmeal. Once the dough has doubled, move it to the prepared pan. Using your fingertips, dimple and spread the dough as shown, spooning the oil and herb mixture over the dough as you spread it. The oil should run down into the dimples and some may get under the dough. If the dough is too stiff to spread, allow it to rest a few minutes before resuming. The dough does not have to cover the entire pan. Once the dough is spread to cover most of the pan, sprinkle with coarse salt, cover again loosely with plastic wrap, and let rise until doubled--about one hour.
6. Preheat the oven to 425 degrees. Place a large, flat metal pan on the bottom rack of the oven to be used to hold water and with which to create steam and



condition the crust. (Since high heat may distort the pan, the pan should not be expensive—an old baking sheet is perfect.) Do not use a glass or ceramic pan.

7. Immediately before placing the bread in the oven, mist the sides of the oven with water using a spray mister and then pour two cups of very hot water into the steam pan. Be very careful—steam can burn badly. To avoid rising steam, pour the water in without holding your hand directly over the pan. Wear a glove and turn your face away from the escaping steam both when you pour the water into the hot pan and later when you open the oven.
  8. Immediately place the bread in the hot oven and quickly close the door to retain the steam. Turn the heat down to 400 degrees and bake for fifteen minutes opening the oven after about five and ten minutes to mist the walls again. Continue baking at 350 degrees for another 10 minutes or until the crust is golden brown and the bread tests done. The interior of the bread should reach 210 degrees. Immediately remove the bread from the pan to cool on a wire rack. Sprinkle with parmesan cheese while the bread is still hot. Unused focaccia should be stored in a paper bag at room temperature.
-

## Adding Cheese to Your Bread: Cheesy Dinner Rolls and Loaves

Everyone loves cheesy bread and rolls. We know of three ways to make cheesy bread:

1. Add cheese to the ingredients so that the cheese is mixed in as the dough is formed.
2. Add grated cheese to the finished dough. Barely knead the cheese into the dough to create a marbled effect.
3. Roll cheese or a cheese mixture into the dough jelly-roll fashion.



(Imagine cinnamon raisin bread with cheese instead of raisins and cinnamon.) In the bonus section at the end of this chapter, you will see how to do this.

All three of these techniques are simple. The first, integrating the cheese into the dough, must be done carefully. Since the cheese is integral with the dough, the cheese fat acts as a shortening and reduces the gluten strands and, with the weight of the cheese, makes for a slower rise. Still, if you don't overload the dough, you can mix cheese into the dough.

The following pointers will help make that loaf of bread or batch of rolls a booming success.

- Try 1/2 cup grated cheese for every one cup of flour in the recipe. Remember, if you get too much cheese in the dough, you'll overwhelm the yeast and the dough will not rise properly.
- For the best flavor, use a sharp cheese. Sharp cheddar works well but any sharp cheese will work.
- Since you're trying to maximize the cheese flavor, there's no reason to add other fats to the mix to bog down the yeast. If the recipe calls for butter or oil, leave it out—there's more room for cheese.
- If you want to give the rolls a little extra zip, add 1/4 teaspoon white pepper or 1/2 teaspoon ground dry mustard to the ingredients. No one will ever know that it's there and you'll accent the flavor.
- The cheese will slow down the rise. Be patient. If it takes twice as long to rise, that's okay. Let it get nice and puffy.



- The cheese may increase the baking time by five minutes. The lactose in the cheese will accentuate the browning of the rolls. Let the rolls get to a rich golden brown color or use your thermometer. The internal temperature should be at least 190 degrees.

## Dilly Cheese Bread

This is a great cheddar bread with the cheese incorporated into the dough. This recipe includes sharp cheddar and parmesan. There is a limit to how much cheese you can add to bread dough before you weigh it down. When there is too much cheese, it takes much longer to rise. It can still make a fine bread but it takes patience. (There is a point where the cheese will just overcome the ability of the yeast.) This bread will still rise quickly.

The recipe calls for dill weed. Feel free to substitute basil or the herb of your choice. The two tablespoons dill weed in this recipe results in a mildly dilly bread. If you want more dill flavor, try three or even four tablespoons of dill.

The white pepper adds just a little bite that accents the cheese. Freshly ground black pepper also works. Dry mustard or paprika is sometimes added for the same purpose.

You may need to adjust the moisture used in this bread. It's easy to add a little more flour; a little more difficult to dribble in a bit of water. Because it is easier to add flour than water, start your dough a bit on the wet side and add flour as needed.

### Ingredients

2 cups fine ground whole wheat flour  
2 tablespoons granulated sugar  
1 seven-gram packet of instant yeast  
2 cups warm whole milk, 110 degrees (see note)  
3 to 3 1/2 cups white bread flour  
2 tablespoons dill weed  
1 1/2 cups grated sharp cheddar cheese  
1 cup grated parmesan cheese  
1 tablespoons melted butter  
1/4 teaspoon white pepper  
1/2 tablespoon salt

***Baker's Notes:*** This is best made with high-heat dry milk. (The high heat dry milk will produce a dough with a better gluten structure.) Use 1 3/4 cup plus 2 tablespoons warm water along with 1/3 cup dry milk. Increase the melted butter to two tablespoons.

*This can also be made with skim milk. If using skim milk, increase the butter to two tablespoons. If using low fat milk, increase the butter to 1 1/2 tablespoons.*

### Directions

1. Place the whole wheat bread flour, sugar, and yeast in the bowl of your stand-type mixer. Add the warm milk and beat with a dough hook until it is partially mixed. The purpose of this mixing is to hydrate the yeast.
  2. Add most of the bread flour to the bowl. Add the dill, the cheese, melted butter, white pepper, and salt. Knead with the dough hook at medium speed for four minutes, adding flour to reach the right consistency. A softer dough rises more quickly than does a firm dough so do not add too much flour.
  3. Set the dough in a greased bowl, turn once, and cover. Set the bowl in a warm place and allow it to double in size.
  4. Grease two large loaf pans. Form two loaves, cover them, and let them rise until doubled and puffy.
  5. Bake at 375 degrees for 25 minutes or until done. The internal temperature should be 190 to 200 degrees. The lactose in the cheese will caramelize and make a very bronze crust, a darker crust than most breads.
  6. Remove the bread from the pans and let the bread cool on a wire rack.
-

## Adding Grains to Your Bread: Hi-Country Seven Grain Bread Recipe

Adding a cereal mix or cracked wheat makes great bread. You can add cereal to most recipes. Because different grain mixes and different grain sizes absorb water differently, be prepared to adjust the water to flour ratio in your recipe.

This recipe uses our seven grain cereal mix. You can certainly use other cereals. (With our flours and cereal, in our kitchen, this is exactly the right water to flour ratio.)



### Ingredients

3/4 cup seven grain cereal or other cereal or cracked wheat

1 1/2 cups hot water

6 tablespoons butter

3 cups good quality bread flour

3 cups whole wheat flour

2 tablespoons wheat gluten

1 teaspoon dough conditioner

(or use 6 cups plus 2 tablespoons Hi-Country Flour Blend in place of the flours, gluten, and dough conditioner)

1/4 cup granulated sugar

2 teaspoons salt

1/4 cup baker's high heat dry milk

1 7 gram packet of instant yeast

1 cup warm water at 105 to 110 degrees

### Directions

1. Mix the cereal with the 1 1/2 cups hot water. Set aside for two hours to absorb the water and soften.
2. Melt the butter in the microwave and set it aside to cool. With shortening or butter, grease a large bowl for the dough and 2 large loaf pans (9 x 5-inch). If you are going to make hearth loaves, grease a baking sheet and sprinkle it with cornmeal.
3. Measure the flours into a large bowl by whisking the flour so that it's not packed and then spooning it into the measuring cup followed by leveling the top with a straightedge. Add the gluten and conditioner and stir to combine. Stir in the sugar, salt, and dry milk.

4. Put about 1/3 of the flour mixture in the bowl of your stand type mixer equipped with a dough hook. Add the yeast. Add the 1 cup water at the indicated temperature. With the dough hook, run the machine for thirty seconds to mix the water with the flour to create a slurry. Add cereal and water mixture and the rest of the flour mixture. (The cereal and water mixture should be 105 to 110 degrees. If it has cooled beyond that, reheat it in the microwave.) Add the melted butter.
  5. Mix at medium speed for about four minutes or until the gluten has formed and the dough is elastic. The dough should be soft but not too sticky. To reach the right consistency, you may need to dribble a little extra water (maybe one tablespoon) or flour as the dough is kneading. Place the dough in the prepared bowl and cover it to keep the dough from drying while it rises. Let it rise until it doubles.
  6. Gently deflate the dough and form two loaves either as free-standing loaves on a baking sheet or sandwich loaves for your bread pans. Cover the loaves and let them rise again until the dough is soft and puffy, about doubled in size.
  7. If you are going to make hearth bread with its, chewy, crisp crust, see the direction for baking listed for "EZ Sourdough Bread" in the last section of this chapter. If not, preheat the oven to 350 degrees. Bake the bread for about 35 minutes. The time will vary depending on your loaves, the pans, and your oven. The bread should make a hollow sound when thumped on the bottom. The internal temperature of the loaves should be 190 degrees.
  8. Remove the loaves from the pans and let them cool on a wire rack. Cool completely, or nearly so, before slicing.
-

## **Adding Vegetables to Your Bread: Summer Zucchini and Carrot Bread**

When the first vegetables of the summer are on, we like to add vegetables to our breads. You'll find that you can use many of the vegetables from the garden in your baking—adding color, flavor, and nutrition to your baking.

Any time that you add vegetables to your bread, be prepared to adjust the amount of flour that you use.

Vegetables will add moisture to your bread and how they are grated or pureed along with the type of vegetables, will determine the

moisture added. But it's easy to add a little more flour; a little more difficult to dribble in a bit of water. Because it is easier to add flour than water, start your dough a bit on the wet side and add flour as needed.



### **Summer Zucchini and Carrot Bread**

Here is a wonderful bread recipe for all that zucchini squash that seems to overwhelm us each summer. Some fresh carrots are added for color and nutrition. Unlike the quick bread recipes for zucchini squash, this is a yeasted recipe.

This is not a sweet bread recipe and so it makes wonderful sandwiches and toast. We like it with peach and apricot jam.

Because zucchini has such a high moisture content, salt is used to draw some of the moisture from the squash.

#### Ingredients

- 3 cups coarsely grated zucchini squash
- 1 tablespoon salt
- 2 cups coarsely grated carrots
- 3 1/2 cups white bread flour
- 3 tablespoons granulated sugar
- 1 seven-gram packet of instant yeast
- 1 1/4 cup warm water, 110 degrees
- 2 cups fine ground whole wheat flour
- 1/2 tablespoon salt
- 2 tablespoons melted butter
- 1 teaspoon cinnamon

### Directions

1. Grate the zucchini. Place the zucchini in a colander over the sink and stir in the salt. The salt will draw water from the zucchini. Grate the carrots and set them aside.
  2. Place the white bread flour, sugar, and yeast in the bowl of your stand-type mixer. Add the warm water and beat with a dough hook until it is partially mixed. The purpose of this mix is to hydrate the yeast.
  3. Squeeze the water from the zucchini. Add the vegetables to the mixer bowl along with the whole wheat flour, the rest of the salt, the butter, and the cinnamon. Knead with the dough hook at medium speed for four minutes. You will likely need to adjust the moisture level either by adding flour or water. Start out a little on the dry side as the kneading tends to wring water from the zucchini. Set the dough in a greased bowl, turn once, and cover. Set the bowl in a warm place and allow it to double in size.
  4. Grease two large loaf pans. Form two loaves, cover them, and let them rise until doubled and puffy.
  5. Bake at 375 degrees for 25 minutes or until done. The internal temperature should be at 190 to 200 degrees. If this bread is under baked, with all the vegetables, it will tend to be soggy. Remove and let the bread cool on a wire rack.
-

## Using Cornmeal in Your Bread: Southern Cornbread (Yeast)

We find cornmeal in bread recipes from time to time and love the crunchy goodness that it adds. Hearty peasant, artisan, and whole grain breads have cornmeal added. Anadama bread has cornmeal in it and is one of our favorite breads for morning toast. Though not popular, there are cornbreads made with yeast. (They deserve to be popular.)

### Southern Cornbread (Yeast)

A yeasted cornbread is different. Because the kneading develops the gluten, it is more bread-like and less crumbly than traditional cornbread. Oh, and this bread makes great Thanksgiving dressing.



#### Ingredients

- 1 (7 gram) package active dry yeast
- 1 cups warm water (100 to 110 degrees)
- 4 1/3 cups all-purpose or bread flour (more or less)
- 1 teaspoon salt
- 1 2/3 cup cornmeal
- 4 tablespoons melted butter
- 1/4 cup honey
- 2 large eggs
- 1 can whole kernel corn, drained
- 2 tablespoons cornmeal
- 1 egg for egg wash (optional)

#### Directions

1. In the bowl of a stand-type mixer, dissolve the yeast in the warm water.
2. Add half of the flour and mix with a dough hook. Add the salt, cornmeal, butter, honey, two eggs, and drained corn and continue mixing.
3. While continuing to mix, add the flour needed to bring the dough to a bread-dough type consistency. The amount of flour needed will vary largely on how well drained the corn was.
4. Knead as you would for other yeast breads and then remove the dough to a greased bowl. Turn once to oil both sides. Cover with plastic wrap and let rise until doubled.
5. Once doubled, divide the dough into two equal parts for two loaves. Form the loaves. If you are going to make free standing artisan loaves, grease a baking sheet and sprinkle the sheet with part of the remaining cornmeal. Place the loaves on the sheet. If you are making sandwich loaves, grease the baking pans



- well—the bread tends to stick to the pans--and sprinkle cornmeal in the pans. Let the bread rise until doubled again.
6. Preheat the oven to 375 degrees. If you choose, just before baking, whisk the remaining egg with one tablespoon water and brush the egg wash on the loaf. Sprinkle the loaf with cornmeal. Bake the bread for about 30 minutes or until the bread is golden brown and tests done. Remove the bread from the pans and cool on racks. Freeze any extra bread or save the bread for croutons.

## Creating a Sourdough Starter with Yeast: Easy Sourdough Bread

This recipe illustrates several bread practices. First, it demonstrates how we can jump start a sourdough starter with yeast. Second, it demonstrates how to use a preferment to create those subtle alcohol-induced flavors found in sourdough bread. Third, it shows how you can make a crusty bread in your oven at home.

There's a reason why this is the last recipe in this chapter. This is the graduating exercise. While there is nothing in this recipe that is difficult or complex, there are multiple steps and procedures. If you take it a step at a time, you won't find it hard. If you have never made yeasted bread before, we suggest that you start with one of the other recipes. If you are fairly confident with dough and have made bread several times, go for it. We think you will make marvelous bread. In fact, this bread can be so good that it will transform you into a legend in your hometown.

### Easy Sourdough Bread

Sourdough simply uses wild yeast in place of commercial yeast to leaven the bread. It relies on the wild yeasts that are in the air all around us and cultures those yeasts in a warm, wet environment created with water, flour, and sometimes other components.



When creating a sourdough starter, we always felt like we were on an expedition trying to trap invisible yeastie beasties with our flour and water concoctions. Because we couldn't see the beasties, we were never sure what we had captured.

While usually successful, we never felt like we were in control. Maybe that is the way sourdough bread should feel, a symbiosis with nature.

But there is an easier way: use commercial yeast in the starter. I know, that's heresy to the sourdough bread zealot but we only care about the bread. Using commercial yeast is easier, it's the alcohol from the long cool fermentation that creates the sourdough-like flavor, and the wild yeasts will eventually take over the starter anyway. Because it's easy, it's no big deal if you abandon your starter after a few weeks; you can readily start another when you're back in the mood or have the time.

Using this recipe for sourdough bread, a small amount of yeast is used in the starter. As the starter is used and refreshed with new feedings of flour and water, wild yeasts are introduced and cultivated.

Here is the recipe:

For the starter:

1 cup warm water (about 110 degrees)  
1/4 teaspoon yeast  
1 cup high gluten unbleached flour.

Mix the starter in a glass or steel bowl, cover with plastic wrap, and set it aside at room temperature until it is doubled and bubbly, maybe 4 to 6 hours.

For the sponge:

A sponge is a pre-ferment, a wet mixture of flour and yeast that acts as an incubation chamber to grow yeast at the desired rate. It is added to the dough.

1 cup of the starter  
3/4 cup warm water  
2 cups flour

Mix the one cup starter with the flour and water, cover, and set aside to ferment until it has tripled in volume. At room temperature, it will take four to eight hours. You can put it in a cool place--about fifty degrees--and let it perk all night. (In the winter, your garage may be just right.) You can also put it in the refrigerator overnight. At temperatures of forty degrees, the yeast will be inactive but the friendly bacteria will still be working and enhance the sour flavor of the bread. If you retard the growth with lower temperatures ("retard" is the correct term for slowing the growth of the yeast), simply bring the sponge to room temperature and let it expand to three times its original volume before proceeding.

For the dough:

All of the sponge  
1 1/2 cups flour (more or less)  
2 teaspoons salt

Mix the salt with the flour. Knead the combination into the sponge by hand until you have a smooth, elastic, slightly sticky dough, adding more flour as needed. Put the dough in an oiled bowl and let it rise again until doubled, about an hour.

*Bakers note:* Notice that the salt is not added until the last stage. Salt in the sponge would inhibit yeast growth.

Form the loaves:

Though you can make this bread in pans,



it works best as a large freestanding round or oval loaf or two smaller loaves. Place a clean cotton cloth in a bowl or basket in which to hold the loaf. Lightly dust the interior of the bowl with flour. Place each formed loaf upside down in a bowl on top of the dusted flour. Cover the loaves with plastic and let them rise again until doubled. This rising will probably take less than an hour.

*Bakers note:* You want a light dusting of flour on the cloth to be transferred to the bread, not a heavy caking. Softly sifting flour from a strainer is the easiest way to achieve an even coating.

If you choose to bake the bread in pans, omit this step. Instead, let the dough rise in a greased bowl covered with plastic until doubled. Form the loaves for pans, place the loaves in greased pans, and let rise until well-expanded and puffy. Bake at 350 degrees until done, about 30 minutes.

#### To bake crusty bread:

To form the thick, chewy crust that is typical of artisan breads, follow these instructions: Place a large, shallow, metal pan in the oven on the lowest shelf. You will pour hot water in this pan to create steam in the oven. (High heat is hard on pans so don't use one of your better pans and don't use a glass or ceramic pan which might shatter.) An old sheet pan is ideal. Fill a spray bottle with water. You will use this to spray water into the oven to create even more steam.

Preheat the oven to 425 degrees. When the oven is hot and the bread is fully risen and is soft and puffy--being very careful not to burn yourself with the rising steam and with a mittened hand—turn your head away and pour two or three cups of very hot water in the pan in the oven. Quickly close the oven door to capture the steam. With spray bottle in hand, open the door and quickly spray the oven walls to create more steam and close the door. The oven is now ready for the loaves.

Work quickly to get the bread in the oven before the steam subsides. Gently invert the loaf or loaves onto a slightly greased non-insulated baking sheet on which a little cornmeal has been dusted. With your sharpest knife, quickly make two or three slashes 1/4-inch deep across the top of each loaf. This will vent the steam in the bread and allow the bread to expand properly. Immediately, put the bread in the steamy oven. After a few moments, open the door and spray the walls again to recharge the steam. Do this twice more during the first fifteen minutes of baking. This steamy environment will create the chewy crust prized in artisan breads.

Let the bread bake at 425 degrees for fifteen minutes in the hot steamy oven then reduce the temperature to 375 degrees and bake for a total of 35 to 40 minutes. Check on the bread ten minutes before the baking should be complete. If the top is browning too quickly, tent the loaf with aluminum foil for the remainder of the baking to keep it from burning. The bread is done when the crust turns a dark golden brown and the internal temperature reaches 210 degrees. It is important that the bread is well-baked to drive moisture from the loaf. If the bread is under baked, the excess moisture will migrate to the crust and you will no longer have the dry chewy crust of a great artisan loaf.

This sourdough bread is to die for. The prolonged rising gives the yeast plenty of time to convert the starch to sugars and the friendly bacteria a chance to impart their nut-like flavors.

Storing your crusty bread:

Unused crusty bread should be stored in a paper bag at room temperature. If the bread is stored in a plastic bag, the crust will become soft.

---

## Bonus: How to Bake Bread on the Grill

One of the slickest tricks we know is baking bread on the grill. Once you get to know your grill, it's easy—like baking your favorite recipe in the oven.

We can think of all kinds of reasons to use the grill. You can enjoy fresh baked bread while camping, or at the cabin, or at the next family reunion. Sometimes, it's just nice to get out of the kitchen, enjoy the spring air, and bake outside. (Watch the neighbors turn their noses upwind when the smell of fresh baked bread wafts over the fence.) And in the summertime, you don't have to heat up the kitchen to bake. Finally, if there is ever an extended emergency when the power is off, you may have the only fresh bread in town.



You can bake nearly anything with a covered grill. (If your grill doesn't have a cover, improvise with a large inverted pot.) The heat rises and circulates in the covered area just as it does in your oven. The heat source can be charcoal, gas, or even wood. We prefer gas because it is easier to control and does not impart a smoked taste to the bread. Since it is hottest near the flames, elevate the bread even if you have to improvise. In our grill, there is a secondary shelf for baking potatoes and such. (See picture.)

For this demonstration, we used Old-Fashioned White Bread mixes though any mix or recipe will do. We mixed according to package directions. After it had risen, we formed one batch into oval country loaves, one into hamburger buns, and another into dinner rolls.

The trick to grilling bread perfectly is controlling temperature and time. If your grill comes equipped with a thermometer, you've got it made (though ambient temperatures and winds may impact how well your grill retains heat). If you have a thermometer, just heat to the temperature designated on the package or in the recipe. If not, guess. After a few loaves you'll have it perfect and we bet that the first batch off the grill will be just fine.

Rolls and buns will probably bake in 15 to 20 minutes and loaves will take 20 to 30 minutes depending on size and temperature. An occasional peek to see how your bread is doing as it nears completion is okay.

We made twelve giant-sized hamburger buns, just the ticket for that quarter-pounder. (With our Old-Fashioned White bread mix, the buns scaled out at 4 ounces each.) Form the buns as you would dinner rolls then press them flat several times until they look like those in the picture to the left. (The dusting that you can see on the pan is cornmeal.) Cover and let rise.

Just before baking, we washed the buns with an egg white wash (one egg white plus one tablespoon of water). We then sprinkled them with sesame seeds. On our grill, we baked them with the heat turned about two-thirds open for about 18 minutes.

For the dinner rolls, we used a 8 1/2 x 15-inch pan and made 20 rolls scaled at 2.5 ounces each.

We made two country style loaves from one mix. If you look closely you'll see that we forgot to slash the tops to release the steam and consequently ended up with a split on the side of the loaf. Don't do as we did—score two or three quarter-inch deep slashes on the top of the loaf just as you begin baking.



Here are a few more hints to help you along the way:

- Bake the bread before the burgers. The bread can cool while you cook the rest of the food. Burning grease in the bottom of the grill makes the temperature harder to control and the soot can stain the bread.
- If you are letting your bread rise outside where the temperature may be less than indoors or where breezes may swirl around the bread, consider using a large food-grade plastic bag as a greenhouse. Simply slip the bread dough--pan and all--inside the bag, inflate it slightly, and close it. If the day is cool, set the bag and the bread in a sunny warm place to capture a little solar energy.
- Grills tend to not circulate the hot air as well as ovens. To keep the bottom of the bread from burning, place one pan beneath the other. The second pan will tend to insulate the bottom of the bread and keep it from burning. Sometimes place a wire rack between the pans for even more insulation.
- If your bread is baking faster on one side than the other, turn the pan 180 degrees part way through the baking cycle.
- The tendency is to burn the bottom of the bread. Place the bread as far away from the flames as you can even if it means elevating the bread.





# Chapter 4



## *The Secrets of Using Chemical Leaveners Baking Powder and Baking Soda*

## Chapter 4

### *The Secrets of Using Chemical Leaveners* *Baking Powder and Baking Soda*

The Secrets of Using Chemical Leaveners .....	97
Part 1: Chemical Leaveners and How They Work .....	98
Baking Soda .....	98
Baking Powder .....	99
Cream of Tartar .....	99
Other Leaveners .....	100
Part 2: Using Chemical Leaveners .....	101
The Muffin Method .....	101
The Creaming Method .....	102
The Biscuit Method .....	103
Part 3: Learning to Bake with Leaveners .....	104
How to Bake Quick Breads .....	104
How to Bake Muffins .....	107
How to Make Biscuits .....	109
How to Make Scones .....	111
How to Make Cornbread .....	113
Part 4--Recipes: Applying What You Learned .....	115
The Muffin Method--Blueberry Corn Muffins .....	115
Toppings for Your Muffins .....	118
The Creaming Method--New England Hermits .....	121
The Biscuit Method--Frosted Lemon Poppy Seed Scones .....	123
Cheddar and Bacon Cornbread .....	125
Sweet and Savory—Explore a New World of Biscuits! .....	127
Easiest Buttermilk Biscuits .....	128
Cranberry Nut Biscuits .....	129
Cheddar Cheese Biscuits .....	130

Copyright 2005, The Prepared Pantry. All rights reserved.

The material herein is published by The Prepared Pantry for the private use of individuals and may not be used for commercial purposes without the express consent of the publisher. The information contained herein is believed accurate but the publisher makes no warranties, express or implied, and the recipient is using this information at his or her own risk.

# The Secrets of Using Chemical Leaveners

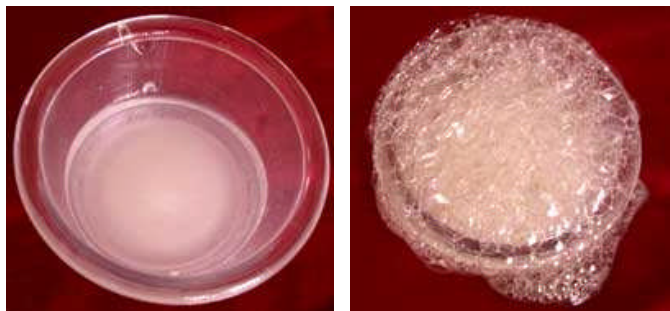
The objective of this chapter is to help you understand how chemical leaveners work, not just baking powder and baking soda but cream of tartar and other leaveners. We also need to know the mixing methods associated with these leaveners. The first part of this chapter addresses the leaveners and how they work. The second part of the chapter addresses mixing methods with recipes associated with each method.

## Part 1: Chemical Leaveners and How They Work

With yeast as an organic leavener, tiny organisms create carbon dioxide to lift the dough. With the chemical leaveners--baking powder, baking soda, and cream of tartar—powerful chemical reactions create carbon dioxide to lift the batter. In this chapter, you will learn how those chemical reactions occur and how they leaven our baked goods.

### Baking Soda

Baking soda is a powerful alkaline used primarily to leaven cookies, muffins, and cakes. Because it is alkaline, it reacts with acids in a batter as soon as it is mixed causing bubbling and a thickening of the batter and does not require the heat of the oven to start the leavening process.



To understand how baking soda works, try this experiment. (Actually, try this with the kids or grandkids and teach them about chemical reactions.) Put a little baking soda in a cup. Add a little water. As shown in the first picture, there are no bubbles. Now add a little lemon juice to the water and soda mixture. Immediately, you will have a chemical reaction with gas bubbles fizzing out of the cup.

Carbon dioxide bubbles are formed as soon as the alkaline leavener comes in contact with the acid in the batter. To protect these fragile gas bubbles, do not stir the batter any more than is necessary. Unless the batter is very thin, it will hold the gas bubbles for some time and will not need to be baked immediately. In very thin batters, such as pancake batters--especially as they are stirred--the gas bubbles may collapse and the batter may need to be rejuvenated with more baking soda.

Generally, only recipes containing an acid call for baking soda. If there is no acid in the batter, there is no chemical reaction. Buttermilk, juices, unalkalized cocoa (Dutch cocoa has been alkalinized and is not acidic), and molasses are common acids used to react with soda. The reaction of the alkaline baking soda with an acidic batter has two effects: it creates the carbon dioxide bubbles that leaven the batter and it neutralizes the acid in

the batter. Neutralizing the acid changes the taste—buttermilk, for example, no longer has its characteristic acidic tang.

Typically, recipes use 1/4 teaspoon baking soda for each cup of flour. Very heavy batters or very acidic ones may use more. Occasionally drop cookies call for more baking soda but that is to allow the cookie to brown more easily since a batter with a lower pH will brown quicker.

In the practice recipe, New England Hermits, buttermilk is used as an acid to react with baking soda. The baking soda neutralizes the buttermilk and the acidic buttermilk flavor is not apparent. The recipe calls for one teaspoon of baking soda for 3 1/2 cups of flour.

## **Baking Powder**

While baking soda is alkaline, baking powder is a mixture of an alkaline baking soda and acids designed to create a neutral compound. It therefore reacts with itself using the moisture of the batter as a catalyst. Like baking soda, this reaction creates carbon dioxide bubbles. It is designed so that it will not appreciably alter the pH of the batter or leave an aftertaste as baking soda will.

The baking powder generally used in the kitchen is double-acting: it reacts at room temperature in the presence of moisture and again in the oven in the presence of heat. The result is the extra lifting power necessary to make a cake light and airy.

Different brands of baking powder will react differently depending on the acid-alkaline mixture used. A slow acting baking powder will have little reaction to moisture alone but will react rapidly when heated. A fast acting baking powder will react significantly as soon as it is mixed with water.

Again, try an experiment. Add cool water to baking powder. If you get only a few bubbles, you have a slow acting baking soda. Now put your baking powder solution in the microwave. As it heats up, you will see a very rapid expansion of bubbles.

(Incidentally, with the baking powders that we experimented with, we got some reaction with a very strong acid like lemon juice but not nearly the reaction that we found with baking soda.)

Often a weakly acidic recipe will call for both baking soda and baking powder. The baking soda will react with the acid in the batter but the reaction will not be strong enough and is bolstered with the extra baking powder.

## **Cream of Tartar**

Cream of tartar is a by-product of the wine-making industry and is derived from tartaric acid. As an acid, it is the counterpart to baking soda and when the two are combined in the presence of water, they create a chemical reaction which produces carbon dioxide. Therefore, most recipes that call for cream of tartar also call for baking soda. In some

recipes, cream of tartar is used to increase the acidity in the batter to preserve the tang of buttermilk or the taste of an acidic juice used in conjunction with baking soda.

## **Other Leaveners**

There are other chemical leaveners, though they are rarely used in today's kitchens. In addition, mechanical means are used for leavening. Creaming butter and sugar together entrains air in the batter. Steam is used to lift products. Egg whites are whipped to capture tiny air pockets and thereby lighten products.

## Part 2: Using Chemical Leaveners

In this section, we will learn about three mixing methods using chemical leaveners.

- **The Muffin Method**
- **The Creaming or Cake Method**
- **The Biscuit Method**

Muffins, quick breads, and cakes are mixed with either the muffin method or the creaming method. In the creaming method, we cream the fat (butter or shortening) with the sugar until light and then add the other ingredients. In the muffin method, we mix the liquids and the dry ingredients separately and then stir them together until just combined. While the recipe will specify one method or the other, there is no reason why you can't use the other and see which you like best. The biscuit method is used primarily for biscuits, scones, and some desserts. Many cookies use the creaming method.



If you master these three mixing methods, you will be prepared for nearly all recipes using chemical leaveners.

In Part 3, we will learn about making specific products with illustrative recipes.

### The Muffin Method

The muffin method is used for making muffins, quick breads, and some cakes. It is quick and easy. Mix the dry ingredients together. Mix the wet ingredients together including the eggs then add the wet mixture to the dry mixture with a spatula and you're ready to bake. (Don't even break out your electric mixer—in fact, don't use the electric mixer. Stir the two mixtures together with a spatula only until combined—not lump free—so that the gluten in the flour will not be developed.) If the recipe calls for butter or shortening, either substitute vegetable oil or melt the butter and add it to the liquids. (In our opinion, it is better to use oil or melted butter than melted shortening.)

One advantage of the muffin method is that both the dry and the wet ingredients can be mixed the night before. Store the wet ingredients in the refrigerator and then add them to the dry ingredients in the morning and you're ready to bake. You'll save time on that busy morning.

### *Steps in the Muffin Method*

1. Whisk all the wet ingredients together including the eggs and oil or melted butter.
2. Whisk the dry ingredients together.
3. Add the wet ingredients to the dry ingredients. Stir with a spatula until just moistened.
4. Place in tins and bake immediately as set forth in the recipe.

## **The Creaming Method**

The creaming method is the other major mixing method used in many muffin, cookie, and cake recipes. With this method, the sugar is creamed into the fat (butter, margarine, cream cheese, or shortening) to help aerate the batter. These little pockets expand with steam in the hot oven and with the leaveners, lift the muffin, cookie, or cake.

The creaming method is easy to master and opens a wide array of recipes for you to bake. This method works best with an electric beater or mixer while the muffin method works best by hand. The creaming method has two advantages: The sugar and fat are well-dispersed in the batter and the entrained air tends to make for a light, fine crumb in the muffins. The creaming method makes for light, airy muffins though maybe not as tender as the muffin method.

In the creaming method, place the butter or shortening in the mixing bowl of your electric mixture. Add the sugar, spices, and salt and cream the mixture together with the paddle attachment of the mixer. (Of course, recipes that call for oil instead of butter or shortening cannot be creamed unless you substitute butter or shortening.) The objective is to drive the sharp sugar crystals through the butter or shortening creating tiny voids of air in the mixture. This entrained air will help the muffins rise.

### *Steps in the Creaming Method*

1. With the paddle attachment of an electric mixer, cream together the butter or shortening and sugars, spices, and salt until light.
2. Add the eggs one at a time, creaming after each.
3. Add the liquid ingredients and stir them in. Do not over-stir or you may reduce the entrained air in the creamed mixture.
4. Mix the flour and leavenings together and then add them to the creamed mixture. Mix until just combined.
5. Place in tins and bake immediately as set forth in the recipe.



## The Biscuit Method

The biscuit method is used in most scone and biscuit recipes plus many dessert and pastry recipes. It is sometimes called the pastry method because it incorporates the same technique as for mixing pie dough. (There are some biscuit recipes that call for using the creaming method but those biscuits turn out to be more cake-like.)

With this method, the butter or shortening is cut into the flour mixture with a pastry knife and then the liquids are mixed in just until combined. In the heat of the oven, the butter melts, the water in the butter creates steam, and the product rises into flaky layers.



You will need a pastry blender (sometimes called a pastry knife) or food processor to mix this. (Many recipes indicate that you may cut the butter in to the flour with two knives. Maybe I lack dexterity but I have trouble doing so.)

If there are keys to success with the biscuit method, they are: cut the butter in thoroughly—the mixture should look granular with no large particles—and use very cold butter. The butter should not melt before the dough reaches the oven.

### *Steps in the Biscuit Method*

1. Measure the dry ingredients into a medium-sized bowl. Whisk them thoroughly to evenly disperse the ingredients.
2. Cut in the shortening, margarine, or butter with a pastry blender until the mixture is granular with particles no larger than kernels of grain.
3. Combine the liquid ingredients in another bowl.
4. Add the liquids to the dry ingredients. Stir the mixture together with a fork until the dough begins to agglomerate.
5. Remove the dough to a counter lightly dusted with flour. Knead it by patting the dough flat and folding it in half. Turn it ninety degrees and repeat the process. Continue doing this for a couple dozen times until the mixture is kneaded together. Do not over knead.
6. Cut the scones or biscuits to shape and bake.

## Part 3: Learning to Bake with Leaveners

So far in this chapter, we have examined the chemical leaveners and how they work. In part two, we reviewed the major mixing methods that are used with chemical leaveners. Now in this part, we will learn how to make particular types of products using chemical leaveners and the methods we learned in Part 2. Finally, in this part, we will examine recipes that illustrate these methods.

### How to Bake Quick Breads

It's no wonder quick breads are so popular. They are easy, fast—as the name implies, nearly foolproof, versatile, and oh, so good. We commonly know them as sweetened loaves with fruit or nuts, somewhere between yeast breads and cakes in texture and sweetness. They are leavened with baking powder and baking soda. Banana bread and date nut bread are typical though some books list recipes for savory varieties.

Quick breads have less sugar and less fat than cakes. The nuts often found in quick breads add to the fat content. The fruit adds to the moisture as well as the flavor. Because quick breads tend to be drier than cakes, they are often spread with butter, cream cheese, or jam. Peanut butter is one of our favorite toppings.

Quick breads tend to be more dense and moist than muffins though the batter for quick breads can be baked in muffin tins. Generally, muffin batter is thinner than quick bread batter.

Quick breads are wonderfully versatile, appropriate whenever the richness of a cake is undesirable. They are often served at breakfast and brunch, for snacks, and they finish a meal well in place of a sweeter dessert. When used for a dessert, they can be topped with ice cream or a syrup. Slices can be toasted or dipped in eggs and made as French toast. They make great sandwiches—though a bit fragile unless “stuck” together with cream cheese or peanut butter. Try a fruit filled quick bread topped with shavings of ham or turkey.

There are two methods for mixing quick breads: the creaming method and the muffin method, both of which were covered in the previous part of this chapter. If you need to review those methods, you can do so there. In review, with the creaming method, sugar and fat (butter, margarine, or shortening) are beat together to entrain air in the mixture and provide added lift to the batter. With the muffin method, the liquids are combined in one bowl, the dry ingredients in another, and then the two are mixed together. The creaming method tends to make a more cake-like bread.

### *Pointers for Success with Quick Breads*

1. Do not over mix. Over mixing will develop the gluten and make the bread tough instead of tender.
2. Choose low gluten flour, either pastry or all-purpose flour. Bread flour will make a tough loaf.
3. Do not scoop the flour. Sift or whisk the flour to make it light and fluffy, not packed, then spoon it into the measuring cup.
4. The creaming method produces a more cake-like product and is well-suited for those recipes that have a high fat or sugar content. Consider the creaming method for those recipes that call for more than four tablespoons of butter per loaf.
5. Bake soon after mixing before the effect of the leavenings begins to dissipate.
6. If you use dry milk in your recipe, add it to liquid ingredients so that it can be stirred and thoroughly dissolved.
7. Commercial muffins tend to be very high in fat and sugar—more like a tea cake than a bread. Your quick bread should be more bread-like and not as rich as commercial muffins.
8. Grease pans well and consider dusting the pans with flour as well. (If you use butter, always dust your pans to absorb the water in the butter.) With the high sugar content, the loaves tend to stick in the pans. Non-stick pans are helpful.
9. Breads are easier to remove from the pan if they set for five or ten minutes before removing the bread.
10. Test for doneness by inserting a toothpick into a crack in the center of the loaf. If the bread is done, the toothpick should come out clean.
11. Quick breads are best if they are tightly wrapped and stored in the refrigerator overnight. After the bread has completely cooled, wrap it tightly in plastic or foil. As the bread chills, both the flavor and the moisture permeate the bread. The bread can be stored in the refrigerator for five to seven days.
12. Quick breads can also be frozen. Place the wrapped breads in freezer-grade plastic bags and freeze them for up to three months. When ready to use, thaw the loaves in the refrigerator while still wrapped.

### *Troubleshooting Tips for Quick Breads*

1. **Cracked top:** A cracked top is desirable and not a fault.
2. **Tunnels and voids:** Tunnels and voids in the bread are a symptom of over mixing. Mix only until the dry ingredients are moistened. Some lumps may remain.
3. **Tough texture:** A tough texture instead of a tender texture is another symptom of over mixing. Occasionally, too high of baking temperature will cause toughness.
4. **Soggy texture:** If the batter is left for too long before baking, it may be soggy or sunk in the middle. If there is too much liquid or not enough leavening, the bread may be soggy.

5. **Coarse, crumbly texture:** The bread should be moist and dense. Too much fat or too much leavening will cause the bread to be crumbly.
6. **Bitter, soapy aftertaste:** Too much baking soda or baking powder will create an aftertaste.
7. **Too thick or too brown of a crust:** A tough thick crust may be caused by having your oven temperature too high or too much sugar in the recipe.
8. **Greasy crumb:** Too much fat will create a greasy texture.
9. **Crisp edges:** Too much fat or too much fat and sugar will create crisp edges.

## How to Bake Muffins

Muffins are a mainstay around our house. They are as nourishing as they are good to eat. They are quicker and easier to make than cookies and usually contain much less sugar and fat. We usually eat them for breakfast but like them with any meal. (For Easter, we served cranberry nut muffins with a ham dinner.) They work well for snacks and desserts as well. Extras can be frozen and heated in the microwave for hot muffins anytime.

As with quick breads, muffins can be made with the two major makeup methods: the muffin method and the creaming method. As you recall, in the muffin method, the liquids and the dry ingredients are mixed separately and then stirred together until just combined. In the creaming method, you cream the butter and sugar together. Review these methods found earlier in the chapter if need be.

### *Pointers for Success with Muffins*

To make perfect muffins, employ the techniques outlined here along with the techniques described in the mixing methods:

1. In preparation, grease the muffin tins. We like the spray oils from an aerosol can to reach the corners of the tins. Be sure to cover the top edges where the muffins will flow when baking. (You can use paper liners but since the batter adheres slightly to the paper, you will have slightly less volume to the muffins.)
2. Set the oven to preheat. Temperature is one of the secrets to those nicely domed muffins that you find in the better bake shops. Commercial ovens use precise heat settings and timers. In the kitchen, we can approximate those results by:
  - a. Making sure that the oven is completely heated before baking. We like to let the oven sit at full temperature for at least ten minutes before baking so that the heat is well-absorbed into the structure of the oven.
  - b. Closing the door as quickly as possible to keep the heat trapped.
  - c. Setting the temperature at a higher initial setting and lowering the temperature later. The higher heat creates a burst of steam that lifts the batter.
  - d. Placing the muffins in the upper third of the oven where it tends to be hotter and the heat more constant.
3. Always measure flour precisely using a scale if you have one. Muffin recipes are sensitive to the ratio of flour to liquid. Too much flour and the muffin will not rise properly and will be dry. Too little flour and the muffin will flow over the edges of the muffin cup rather than dome nicely. If you need to fine tune your favorite recipe, change the flour by a tablespoon or two.
4. To make cake-like muffins, use a lower protein flour—cake or pastry flour. Higher protein all purpose or bread flours will make a muffin that is chewier and more bread-like.

5. If you are using fruit in your muffins, fold them in gently at the end of your mixing with a minimum number of folds. Fruit crushes easily in the thick batter and the juice will stain the batter.
6. Fill the muffin tins with a large spoon or ice cream scoop. Make sure that the muffin tins are evenly filled so that they bake evenly. Most recipes direct that the muffin tins be filled 2/3's full to allow room for expansion. If your batter is at the right consistency, you can fill the tins for a nice dome on the muffins. (Our mixes are designed for full tins.)
7. Bake the muffins until they are a light golden brown. The muffin top should spring back when gently pressed with the finger and a toothpick inserted in the center should come out clean. Over-baked muffins will be dry and tough. Under baked muffins may be moist and heavy.
8. It is easy to tear apart hot muffins trying to lift them from the tins. Instead, let the muffins sit for a few minutes and you should be able to easily lift them out intact. Place them on wire racks to continue cooling.
9. Muffins are best served hot and do not keep well beyond the first day. Freeze any extras.

## How to Make Biscuits

I grew up in the West. My mother made biscuits often but always for breakfast. (Though occasionally she made “Pigs in a Blanket” by folding sausage and cheese into the biscuit dough before baking. We’ll share the recipe later in this chapter.) Then I went to the South for two years. Those good people made an art of biscuits and served them for dinner and lunch as well as breakfast. I fell in love with the South and most things Southern, including those tall, light biscuits. In this section, we’ll teach you how to make your own tall, light biscuits.



Here are the basic steps to making those great biscuits.

1. Preheat the oven to 425 degrees. It is important that you have a hot oven. The hot oven creates a burst of steam that helps lift the biscuits. Oil a baking sheet.
2. Measure the flour by scooping some into a bowl and then spooning the flour into the measuring cup. If you measure packed flour by scooping, you will have too much.
3. Add the leavening, sugar, salt, and any other dry ingredients to the flour and stir in those ingredients.
4. Cut the cold butter into chunks. The butter should be rock-hard. If you are using shortening, it will mix better if chilled before use. Slice the cold butter or shortening into the flour mixture using a pastry knife. Work the butter into the flour mixture until you have a coarse, grainy mixture.
5. Make a well in the middle of the flour and pour the buttermilk or other liquids into the flour mixture. Stir until just moistened. Remove the dough to the counter and work it until it just comes together. As you work the dough, fold it over itself. Those layers will help make light, layered biscuits. Do not over work the dough. Work quickly so that the butter does not melt. You should see bits of still firm butter in the dough. Those will create pockets and buttery layers in the biscuits.
6. Pat or roll the dough to a thickness of 3/4 inch. You cannot have tall biscuits without thick dough. The biscuits will rise to about twice the height in baking.
7. Cut the biscuits to shape. Place them side-by-side on the prepared baking sheet. With the biscuits side-by-side, they will tend to raise more rather than spread.
8. Bake for 12 to 14 minutes or until the biscuits just begin to brown. Do not over bake them or they will tend to be dry. Remove the biscuits from the baking sheet and place them on a wire rack to cool.

### *Pointers for Success with Biscuits*

1. Use a low protein flour. We prefer unbleached pastry flour.



2. Don't over mix the dough. Over-mixing the dough will develop the gluten and make a chewy rather than flakey biscuits.
3. Roll the dough to a uniform thickness so that they will bake evenly.
4. Space the cuts as close together as possible. Reworked scraps will not be as tender as the first cut biscuits since the dough has been worked more. Consider cutting squares or triangles so that you have fewer scraps. If you do so, use a ruler for uniform biscuits. If you use a round cutter, don't twist the cutter as you cut out the biscuits; press the cutter straight down.
5. Make the biscuits of uniform size and shape so that they will bake uniformly. Protruding bits of dough can be pushed back in with a wet finger.
6. Use a greased or parchment paper-lined baking sheet.
7. If you want crusty biscuits, place them about 1/2-inch apart. If you want soft-sided biscuits, place them closer and break them apart after baking.
8. For browner biscuits, brush the tops with butter or milk. Do not over bake your biscuits.
9. For taller biscuits, bake as quickly as possible after forming. That is especially important if you are using baking soda and buttermilk for part of the leavening.
10. Cool the biscuits on wire racks.

## How to Make Scones

Ah, there's nothing like a tender, steaming scone in the morning. (Pronounced "skawn" like "fawn" or "scone" like "tone" –Webster says either is okay.) They're quick, they're easy, and with a few tips, they are absolutely delectable.

Most scones are made using the biscuit method of mixing.

Scones are among the easiest and quickest of breads. Once you get the ingredients assembled, most recipes only require fifteen minutes of prep time and another fifteen minutes or so of baking time. A mix is even quicker.



But there are some keys to making those flakey, tender scones that you've been dreaming about.

### *Pointers for Success with Scones*

1. Use the right flour. Use a soft, low protein flour—we use a quality pastry flour. You want soft, tender scones and too much protein leads to too much gluten which makes your scones chewy.
2. Keep your ingredients cold. Temperature is critical to buttery, flakey scones. Start with very cold butter—it should chip when you cut it into chunks and your liquids should be ice cold. Before you start, measure your milk or water and put it in the freezer for ten minutes. Consider chilling your mixing bowl before mixing.

Why do your ingredients need to be cold? The objective is to keep the butter a solid and not let it melt into a liquid. If your dough is kept cold, it will have little bits of dispersed butter. In the heat of the oven, that butter melts into the dough but leaves pockets and layers in the scones.

Work with the dough quickly to keep it cool.

3. Don't work your dough too much. Kneading converts the protein to gluten. Mix only until the ingredients come together into a combined mass.
4. Use a folding technique. For flakey, layered scones, use a folding technique. Roll the dough out to about 3/8-inch thick. Fold the dough in half and in half again and again. Roll the dough out to about 3/4-inch thick before cutting the scones.
5. Use a ruler. If you would like nice, neat scones, use a ruler both as a straightedge to cut against and to measure equally-sized scones.

6. Leave the cut edges of the scones alone. Patting the edges with your fingers melds the edges so that the scone will not rise as nicely or have a flakey, layered structure.
7. Don't over-bake your scones. Over-baking for even a minute or two will dry your scones out. As soon as the edges begin to turn brown, remove them from the oven. Immediately, place the scones on a wire rack—the hot pan will continue to dry the scones.

### *More Ideas for Your Scones*

1. Scones can be frozen for up to three months. Reheat them at 300 degrees for 10 to 15 minutes. Probe the inside of the scone to make sure that it is warm.
2. You can bake your dough in a single flattened loaf like a bannock.
3. Scones are best fresh out of the oven. Recipes with more butter keep fresh longer.
4. For the best shape, don't roll your dough thinner than 1/2-inch.
5. Scones will rise to double their unbaked height in the oven. If they are properly cut, they will spread very little so you can place them close together on the baking sheet.
6. You don't need to cut your scones into triangles. You can use a cookie cutter or free-hand cut other shapes. Heart-shaped scones for Mothers Day or Valentines Day are perfect.

## How to Make Cornbread

You can tell that we love cornbread. You can do so much with cornbread. Think of it as an empty easel, adding the flavors and colors that fit your fancy.

It helps to understand the types of cornbread. It's easier to anticipate the finished cornbread or modify a recipe to match family's tastes.

- **Sweetened cornbread:** This is Yankee cornbread, slightly sweet to the taste. Look for one or two tablespoons of sugar in the recipe.
- **Southern cornbread:** This is the classic, traditional cornbread with just a teaspoon or two of sugar (and in some cases, none). Drizzle honey or syrup over this cornbread or serve it with jam.
- **Flourless cornbread:** Flourless cornbread relies on the proteins in eggs to provide structure instead of the starches in flours. Most cornbread recipes have about the same amount of flour as cornmeal.
- **Sweet or savory cornbread:** You can mix sweet or savory additions into your cornbread. In this issue, you will find bacon, cheddar, peppers, and onions as savory additions. Blueberries, apples, nuts, and dried fruit all work well in cornbread.
- **Yeast cornbread:** Yeasted cornbread is chewy and wonderful. The gluten in the bread flour is developed so that it has a texture more like bread than cornmeal. Anadama Bread has a small portion of cornmeal added.

### *Pointers for Success with Cornbread*

Cornbread has been nominated the official American Bread and why not? It's original to the Americas. (Corn originated in the New World.) And Americans certainly have a love affair with cornbread with regions adopting favorite types and a world of variations. Whatever your preference, the following tips and techniques will help you build better cornbread.

1. Always check your cornmeal for rancidity before baking. Rancid cornmeal will smell stale and musty; good cornmeal will have a sweeter smell.
2. When mixing batter for cornbread or muffins, put away your electric mixer. Mixing by hand helps eliminate over mixing. It is desirable to have a few lumps in the batter. They will hydrate during baking and the lumps will help give a craggy appearance to your breads.
3. Once moistened, work quickly with the batter. The moisture will activate the leaveners in the batter.

4. Cornbread does not keep well. It is best used on the day baked. Store leftovers wrapped in plastic and then aluminum foil and placed in the refrigerator. Cornbread can be frozen for six weeks.
5. Use old-process cornmeal instead of degerminated cornmeal when available. Cornmeal with the germ should be stored in the refrigerator for up to six months. If you have more old-process cornmeal than you will use in six months, freeze part of it. It will keep in the freezer for over a year.
6. If you are making cornmeal for stuffing, it can be baked up to three days ahead. Crumble it and keep it in an airtight bag. Consider adding sage to cornbread batter.
7. Consider substituting whole wheat flour for white flour. With the grainy nature of cornmeal, your kids won't even know that you slipped whole wheat in on them.
8. Consider sugar a variable. A sweeter cornmeal will have 1/4 cup sugar or more for every one cup of flour and one cup of cornmeal. Many southern style cornbreads have little or no sugar.
9. When making corn muffins (or any muffins), partially fill any empty tins with water. The moisture will improve the muffins, the tins will heat more evenly, and cleanup is easier.
10. Many of us love crusty cornbread. A dark pan will make crustier cornbread than a light pan. For the crustiest cornbread, use a skillet.
11. Typical recipes call for cornmeal and flour in a one-to-one ratio. Some skillet cornbreads omit the flour and use extra eggs. These cornbreads are not only very good, they are good for you and an option for those who are gluten intolerant.

## Part 4--Recipes: Applying What You Learned

### The Muffin Method--Blueberry Corn Muffins

This recipe is typical of many recipes using the muffin method. It makes a great corn muffin loaded with blueberries. When you successfully make this recipe, you'll be prepared for many similar recipes.

Since this recipe batter has little acid, it is leavened with baking powder. (The blueberries are acidic but are not available to the baking powder in the batter.)



Corn muffins and blueberries are a classic combination. In this recipe, the corn meal is presoaked for a softer, less gritty texture. The not-too-sweet cornbread muffins set off the blueberries perfectly. While many corn muffins have more flour than cornmeal and are almost cake-like, this recipe maintains its cornbread roots with equal parts of each.

#### Ingredients

1 1/4 cups cornmeal  
1/3 cup very hot water  
3/4 cup vegetable oil

3 large eggs, whisked  
3/4 cup granulated sugar  
1 teaspoon salt  
1 teaspoon vanilla extract  
1/2 teaspoon vanilla extract

1 1/4 cups all-purpose flour  
1 tablespoon baking powder

1 cup fresh or frozen blueberries

#### Directions

Preheat the oven to 425 degrees

1. Measure the cornmeal into a large bowl. Add the hot water and oil and set it aside to soak. Let it soak for fifteen to twenty minutes.

**Baker's Note:** Soaking the cornmeal before mixing alleviates the gritty texture sometimes found in cornbread. For a more corn-like flavor, use a coarse-ground cornmeal.

2. In the meantime, whisk the three eggs in another medium bowl. Add the granulated sugar, salt, and extracts. Stir until smooth.
3. Mix the flour and baking powder together in a medium bowl.
4. Add the egg and sugar mixture to the cornmeal mixture. Stir with a spatula until smooth.

**Baker's Note:** Measure the flour by first whisking the flour in the bag to lighten it and then spooning the flour into the measure before screening it off with a straightedge. If you dip the flour from the bag, it will be more packed and dense and you will have too much flour in the recipe. Cornmeal does not pack as readily as flour and we do dip to measure our cornmeal.

5. Add the flour mixture all at once to the wet mixture. Stir with the spatula until just combined. Some lumps should remain.

**Baker's Note:** This is the classic muffin method of mixing, adding all the dry ingredients to the wet ingredients and mixing with a spatula only until moistened. If you stir too much, you will develop the gluten and your muffin will be chewy instead of tender. Do not use an electric mixer for this mixing.

6. Sprinkle the blueberries over the batter. Do not stir. Spoon the batter into very well greased muffin tins or muffin tins lined with paper cups. Try to catch a few blueberries in each spoonful of batter. Fill the cups until full or almost full.

**Baker's Note:** As you stir the blueberries into the batter, especially with frozen blueberries, the juice stains the batter. If you sprinkle the blueberries on top and spoon blueberries with the batter, you will reduce the staining.

7. Filling the cups full will help the muffins dome. If the temperature in the oven is hot enough and the sugar content is not too high, your muffins should rise into domes and not spread excessively.
8. Bake for five minutes at 425 degrees and then lower the temperature to 350 degrees. Bake for another 20 minutes or until the muffins just begin to brown. The baking time will vary depending on how well your oven retains heat after reducing the temperature.

**Baker's Note:** The initial hot oven creates oven spring which helps the muffins dome. Most of the oven spring is created by steam in the batter.

9. If you are baking your muffins without liners, let the muffins sit in the tins for five to ten minutes before removing the muffins to finish cooling on wire racks.



***Baker's Note:*** Cornmeal muffins tend to be fragile. You may want to consider paper liners. Because the batter sticks to paper liners, you will not get as much lift with paper liners.

---

## Toppings for Your Muffins

Part of the fun of muffins is being able to top them to fit your fancy. In this section, we will show you how to top your muffins with classic streusel toppings to cream cheese.

### Brown Sugar and Nut Streusel Topping

#### Ingredients

1/2 cup walnut pieces  
1/2 cup brown sugar  
1/2 teaspoon cinnamon  
1 tablespoon cold butter

#### Directions

1. Chop the walnuts into small pieces.
2. Stir the walnuts, brown sugar, and cinnamon together.
3. Cut in the cold butter with a pastry knife or two table knives.
4. Spoon the streusel mixture over the muffin batter evenly before baking.



### Cinnamon-Sugar Topping

#### Ingredients

1/2 cup granulated sugar  
1 teaspoon good quality cinnamon  
6 tablespoons butter, melted

#### Directions

Mix the cinnamon and sugar together in a bowl. When you remove the muffins from the tins, dip the still hot muffins in the butter and then roll the tops in the cinnamon sugar mixture.

### Orange Nut Streusel Topping

#### Ingredients

1/2 cup walnut pieces  
1/2 cup brown sugar  
1/2 teaspoon cinnamon

2 tablespoon orange zest (the zest from one large orange)  
1 tablespoon cold butter

#### Directions

1. Chop the walnuts into small pieces.
2. Stir the walnuts, brown sugar, cinnamon, and orange zest together.
3. Cut in the cold butter with a pastry knife or two table knives.
4. Spoon the streusel mixture over the muffin batter evenly before baking.

### **Cream Cheese Topping**

#### Ingredients

8 ounces cream cheese  
4 tablespoons flour  
1/2 teaspoon lemon extract  
egg  
cup sugar

#### Directions

1. In a small bowl, beat the cream cheese until soft
2. Add the other ingredients and continue beating until the mixture becomes soft and smooth.
3. Spoon the mixture over the top of the muffins.
4. Bake as directed. The topping will increase baking time by at least several minutes. Be sure and test the muffins for doneness with a toothpick inserted in the center of the largest muffin. If it does not come out clean, continue baking.



1  
1/3

### **Oat-Graham-Brown Sugar Topping**

#### Ingredients

1/2 cup brown sugar  
1/4 cup rolled oats  
2 sheets of graham crackers, crushed  
1/2 teaspoon cinnamon  
6 tablespoons cold butter, cut in pieces

#### Directions

1. Mix the first four ingredients together.
2. Cut the butter in with a pastry knife.
3. Spoon on top of the muffins.

4. Bake as directed.

---

## The Creaming Method--New England Hermits

Hermits are a heritage cookie originating in New England, a drop cookie filled with nuts and raisins, dates, or other fruits.

The New Englanders often used favorite dry fruits steeped in liquor. These were hearty, long-lasting cookies that could be packed away and taken to sea.

These are moist, spicy drop cookies that we find very good—but then, we like spicy cookies. If you like oatmeal raisin cookies, chances are you'll like these. They are chock full of nuts and raisins. If you want to tone down the spices just a bit, omit the ground cloves.



Like most drop cookies, hermits are made with the creaming method and may use either baking soda or baking powder for a leavener.

### Ingredients

3 1/2 cups all-purpose flour  
1 teaspoon baking soda  
1 teaspoon salt  
1 teaspoon ground cinnamon  
1/4 teaspoon nutmeg  
1/8 teaspoon ground cloves (optional)

1 cup shortening  
2 cups brown sugar  
2 large eggs

1/2 cup buttermilk

2 cups chopped walnuts  
1 1/2 cups raisins

### Directions

Preheat the oven to 375 degrees

1. Measure the flour, baking soda, salt, and spices into a medium bowl.
2. Using the paddle wheel attachment on your stand type mixer or an electric handheld mixer, beat the shortening and brown sugar together until light and

- fluffy. The mixture should be a light brown in color. Add the eggs, one at a time, beating after each addition. The mixture should be light and fluffy.
3. Add the flour mixture and the buttermilk in three separate additions starting with the flour mixture, beating only until combined after each addition. Add the nuts and raisins.
  4. Make golf-ball sized mounds on a greased cookie sheet. Bake for eight to ten minutes at 375 degrees or until the edges of the cookies just begin to brown. Do not over bake. Remove to a wire rack to cool.
-

## The Biscuit Method--Frosted Lemon Poppy Seed Scones

If you can make scones, you can make biscuits. The techniques are very similar. Review the section in this chapter about the biscuit method if need be.

Scones are wonderful for breakfast or brunch. Plain scones are not sweet and rely on butter and a fruit spread for extra moisture and sweetness. Most scones with frosting are a little sweeter to better complement the topping.

This is a classic English scone recipe with poppy seeds, lemon, and extra sugar added. It is topped with a lemon cream cheese frosting.



You've tried lemon poppy seed bread, muffins, and pound cake—now try lemon poppy seed scones. Ample poppy seeds give these light, flaky scones a bit of crunch. The lemon cream cheese frosting in this recipe tops the scones off just right. Like all scones, these are best if eaten warm from the oven with plenty of thick frosting piled on top.

This recipe is leavened with baking powder since there are no acidic ingredients in the batter. Because it is a stiff dough, not a more flexible batter, the butter cut into the flour mixture is an important contributor to a light and airy texture.

### Ingredients

2 1/2 cups all-purpose flour  
1 tablespoons baking powder  
1/4 teaspoon salt  
1/3 cup granulated sugar  
3 tablespoons poppy seeds  
1/2 tablespoon lemon zest

6 tablespoons butter, ice cold

2 large eggs  
3/4 cup heavy cream

3 ounces cream cheese  
2 teaspoons lemon juice  
1 1/2 cups powdered sugar  
milk as required



## Directions

Preheat the oven to 400 degrees.

1. Measure the flour, baking powder, salt, sugar, poppy seeds, and zest into a medium bowl. Stir to disperse ingredients.

***Baker's Note:*** *One-half tablespoon zest is about what you will get from a medium or small lemon. Do not scrape down into the white pithy part of the peel is bitter.*

2. Using a pastry blender, cut the chunks of butter into the dry ingredients until the mixture looks granular with butter pieces the size of wheat kernels.  
***Baker's Note:*** The trick to flaky scones is to keep the butter solid, not let the dough get warm enough that the butter melts. It's the solid little pockets of butter that melt in the oven, bursting with steam, and create flaky, buttery pockets. Start with the coldest butter, work quickly, and handle the dough as little as possible.
3. Add the whisked eggs and cream and stir with a fork until the mixture starts to come together. Place the dough on the counter and knead with your hands only until the dough comes together.

***Baker's Note:*** *Working the dough develops the gluten and makes the scone tough and chewy instead of tender and flaky.*

4. Pat or roll the dough to a thickness of almost 3/4 inch. Use a sharp knife or cookie cutter to cut into desired shapes. Place the scones on a greased baking sheet. Bake for 12 to 14 minutes or until the tops begin to brown. Immediately remove them from the sheet to cool on wire racks.

***Baker's Note:*** *Do not pat the cut edges. The scone will rise in layers if the edges are not molded.*

5. In a small bowl with an electric mixer, mix the cream cheese, lemon juice, and powdered sugar until smooth. Frost the warm scones and serve immediately.

***Baker's Note:*** *We made the frosting fairly thick so that we could pile it on the scones. If you prefer a thinner layer, thin the frosting to where it is just a bit runny. Drizzle it over the scones letting it drip down the sides.*

## Cheddar and Bacon Cornbread

We love cornbread—all kinds of cornbread. We classify cornbreads into two types: Rich cornbreads made without flour that use eggs to bind the bread and temper the cornmeal and more bread-like cornbreads with a high flour content. Both types are found in chapter one. Here, we included one more favorite recipe, a flourless, egg-rich recipe. It uses baking powder for leavening and the muffin method for mixing.



This skillet cornbread is made with bacon, cheddar, onion bits, and some red pepper or pimento for color.

### Ingredients

1 1/4 cups yellow cornmeal  
1 teaspoon baking powder  
2 teaspoons sugar  
1/2 teaspoon salt

4 large eggs  
1 cup milk

1/2 pound bacon  
1/2 red bell pepper, chopped and diced  
1/2 medium sized onion, chopped and diced  
1 1/2 cups grated cheese, cheddar or jack

### Directions

Preheat the oven to 375 degrees.

1. Fry the bacon to a crisp, pat the grease from the bacon with paper towels, and crumble or chop the bacon.
2. In a large bowl, stir together the cornmeal, baking powder, sugar, and salt.
3. In a medium bowl, whisk the eggs then stir in the rest of the ingredients plus the bacon, reserving 1/2 cup of the grated cheese.
4. Form a well in the dry ingredients and pour the wet ingredients into the dry ingredients. Mix with a spatula until well combined.
5. Bake in a ten-inch, nonstick skillet for 20 minutes or until all but the center of the cornbread is set. Remove the cornbread from the oven and immediately sprinkle the reserved cheese over the cornbread to melt. Serve hot with butter and maple syrup.

***Baker's note:*** Cornbread tends to be dry if over-baked. This is a flourless recipe and relies on the eggs for structure. This is very much like baking a custard or a quiche. As it bakes it will set up with the center being the last to set. It is time to remove the pan from the oven when all but the center two inches is set. It will continue cooking in the hot pan after it comes from the oven.

## Sweet and Savory—Explore a New World of Biscuits!

One of the joys of baking is the opportunity to experiment, to create our own sensations, what seems good to us and will please our families. We've probably all done that with muffins and scones, adding fruit or nuts, or toppings to make them ours. But biscuits? For some reason, when we think of biscuits, we think of classic buttermilk biscuits, tall and hot and slathered with butter and a little honey. There is no reason that we can't add to basic biscuits just like we do to scones. But then, what's the difference between a biscuit and scone?



Biscuits are most often rolled out and cut as scones are but usually in round or square shapes. One of the attractions of biscuits is how quickly they can be made. Drop biscuits, biscuits made with a soft batter and spooned onto the baking sheet, save the steps of rolling and cutting. Drop biscuits are “fast food” from scratch.

The following three recipes are made with drop biscuits. The same variations can be made with rolled and cut biscuits.

The first recipe is for a basic drop biscuit recipe. The next recipe is a sweet biscuit made with fruit and nuts. Use this as a template for your own creations. Use your favorite fresh or dried fruits, spices, and flavors. Drizzle the biscuits with a little glaze maybe flavored with extract, cream cheese, or syrup. You'll transform everyday biscuits into something fit for guests at the next brunch.

The last recipe is a savory recipe. Sharp cheddar and sautéed red pepper bits are added. But onions, chilies, bacon bits, diced ham, or anything else you desire could be added.

Have fun creating your own world of biscuits.

## Easiest Buttermilk Biscuits

This is a basic buttermilk drop biscuit. Of course, you can add just a bit more flour and make cut biscuits.

### Ingredients

2 cups all purpose flour  
2 teaspoons baking powder  
1/2 teaspoon baking soda  
1/2 tablespoon sugar  
1/2 teaspoons salt  
1/4 pound (one stick) cold butter  
1 cup plus one tablespoon buttermilk



### Directions

Preheat the oven to 425 degrees. Grease a baking sheet.

1. Measure the flour by scooping some into a bowl and then spooning the flour into the measuring cup. (If you measure packed flour, you will have too much.)
2. Add the baking powder, baking soda, sugar, and salt and stir these ingredients into the flour. Slice the cold butter into the flour mixture. Use a pastry knife or two kitchen knives to cut the butter into the flour mixture. Work the butter into the flour mixture until you have a coarse, grainy mixture.
3. Make a well in the middle of the flour and pour the buttermilk into the flour mixture. Stir until just moistened. The dough should be of a consistency like drop cookie dough or just a bit stiffer. If it is not moist enough, add another tablespoon of buttermilk.
4. Spoon the dough into twelve rounded mounds on the baking sheet leaving room for expansion.
5. Bake for 12 to 14 minutes or until the biscuits just begin to brown. Remove the biscuits from the baking sheet and place them on a wire rack to cool.

## Cranberry Nut Biscuits

We took our basic buttermilk biscuit recipe for drop biscuits and added cranberries, nuts, spices, orange zest, and a little more sugar. It is not overly sweet, more like bread with fruit and nuts. If you want a sweet bread, increase the sugar to 1/4 cup.



### Ingredients

2 cups all purpose flour  
2 teaspoons baking powder  
1/2 teaspoon baking soda  
2 tablespoon sugar  
1/2 teaspoons salt  
1/4 pound (one stick) cold butter  
3/4 cup dried cranberries, chopped  
1/2 cup walnut pieces  
1 tablespoon orange zest  
1/2 teaspoon cinnamon  
1/4 teaspoon nutmeg  
1 1/2 cups buttermilk or enough to make a soft batter

### Directions

Preheat the oven to 425 degrees. Oil a baking sheet.

1. Measure the flour by scooping some into a bowl and then spooning the flour into the measuring cup. (If you measure packed flour, you will have too much.)
2. Add the baking powder, baking soda, sugar, and salt and stir these ingredients into the flour. Slice the cold butter into the flour mixture. Use a pastry knife or two kitchen knives to cut the butter into the flour mixture. Work the butter into the flour mixture until you have a coarse, grainy mixture. Stir in the cranberries, walnuts, zest, and spices.
3. Make a well in the middle of the flour and pour the buttermilk into the flour mixture. Stir until just moistened. The dough should be of a consistency like drop cookie dough or just a bit stiffer. If it is not moist enough, add another tablespoon of buttermilk.
4. Spoon the dough into twelve rounded mounds on the baking sheet leaving room for expansion.
5. Bake for 12 to 14 minutes or until the biscuits just begin to brown. Remove the biscuits from the baking sheet and place them on a wire rack to cool.

## Cheddar Cheese Biscuits

These are great biscuits to go with a bowl of soup on a cold winter day and we think better than the cheesy biscuits served in the national restaurants.

We took the standard buttermilk biscuit recipe and added sharp cheddar cheese and reduced the butter by half since the cheese provides fat to the recipe.

It's hard to get enough cheese in a bread to make it really cheesy without a little help. We accented the cheese with a touch of white pepper, garlic, and mustard. The combination didn't overwhelm the cheese and yet was piquant enough to not be bland.



### Ingredients

2 cups all purpose flour  
2 teaspoons baking powder  
1/2 teaspoon baking soda  
1 tablespoon sugar  
1/2 teaspoons salt  
1/4 teaspoon white pepper  
1/4 teaspoon garlic powder  
1/2 teaspoon ground dry mustard  
4 tablespoons cold butter  
1 1/2 cups grated sharp cheddar cheese lightly pressed into the measure  
1/2 red bell pepper, diced and sautéed or steamed in the microwave until it is almost tender  
1 3/4 cups buttermilk or enough to make a soft batter

### Directions

Preheat the oven to 425 degrees. Oil a baking sheet.

1. Measure the flour by scooping some into a bowl and then spooning the flour into the measuring cup. (If you measure packed flour, you will have too much.)
2. Add the baking powder, baking soda, sugar, salt, pepper, garlic, and mustard and stir these ingredients into the flour. Slice the cold butter into the flour mixture. Use a pastry knife or two kitchen knives to cut the butter into the flour mixture. Work the butter into the flour mixture until you have a coarse, grainy mixture. (See picture.) Add the cheese and bell pepper.



3. Make a well in the middle of the flour and pour the buttermilk into the flour mixture. Stir until just moistened. The dough should be of a consistency like drop cookie dough or just a bit stiffer. If it is not moist enough, add another tablespoon of buttermilk.
4. Spoon the dough into twelve rounded mounds on the baking sheet leaving room for expansion.
5. Bake for 12 to 14 minutes or until the biscuits just begin to brown. Remove the biscuits from the baking sheet and place them on a wire rack to cool.

### **Understanding Baking—How it Works**

1. The hot oven gives the dough a burst of steam that helps make the biscuits light and airy.
2. The alkaline baking soda reacts with the acid buttermilk creating bubbles and a lighter texture. There is not enough baking soda to completely react with the buttermilk so the tangy taste of buttermilk still comes through.
3. The density in your flour mixture will affect the amount of liquid needed. If you spoon light flour into the measure, it should be about right for the liquid noted in the ingredients.
4. Make the biscuits of uniform size and shape so that they will bake uniformly. Protruding bits of dough can be pushed back in with a wet finger.

# Chapter 5



**Fresh from the Dairy**  
**Milk, Cream, Buttermilk, and Other Dairy Products**

## **Chapter 5**

### **Fresh from the Dairy**

#### **Milk, Cream, Buttermilk, and Other Dairy Products**

Fresh from the Dairy.....	133
Part 1: Dairy Products and How They Work .....	134
Composition and Why it Matters .....	134
Milk .....	134
Dry Milk .....	135
Cream .....	135
Buttermilk .....	136
Sour Cream and Yogurt .....	137
Cream Cheese and Cheese .....	137
Evaporated and Condensed Milk .....	137
How to Make Homemade Sweetened Condensed Milk .....	138
Part 2: Using Dairy Products .....	139
How to Make Cheesecakes .....	139
Storing Your Cheesecake.....	141
Mixing and Matching for Creative Cheesecakes .....	142
Questions and Answers about Your Cheesecake .....	143
How to Make Cream Pies .....	144
Whipping Cream.....	147
Part 3—Recipes: The Lesson in Practice: .....	148
Making Cream Pies .....	149
Basic Cream Pie Recipe .....	149
Double Chocolate Cream Pie .....	151
Making Cheesecakes .....	153
German Chocolate Cheesecake .....	153
Pumpkin Cheesecake in a Gingersnap Crust.....	155
Chocolate Cheesecake .....	157
Bonus: How to Make Stuffed Bread .....	161
Stuffed Bread: Italian Filled Bread (with recipes).....	162
Stuffed Bread: Homemade Hot Pockets.....	164
Stuffed Bread: Mushroom Cheddar Oat Bread.....	165
Stuffed Bread: Calzones .....	167
Creamy Ricotta and Sausage Calzone Recipe .....	168

Copyright 2005, The Prepared Pantry. All rights reserved.

The material herein is published by The Prepared Pantry for the private use of individuals and may not be used for commercial purposes without the express consent of the publisher. The information contained herein is believed accurate but the publisher makes no warranties, express or implied, and the recipient is using this information at his or her own risk.

# Milk, Cream, Buttermilk, and Other Dairy Products

## Chapter Objectives:

*In this chapter you will:*

- *Understand how the various dairy products work in baking.*
- *Understand the composition of various baking products and how that composition affects your baked goods.*
- *Understand how to use and make whipped cream.*
- *Use cream cheese to make a cheesecake.*
- *Make a cream pie.*
- *Make a whipped cream topping.*

## Part 1: Dairy Products and How They Work

We have a lot to cover in this chapter--a spectrum of dairy products that we use in our baking: milk, sour cream, yogurt, buttermilk, and more. We will keep the discussion of each brief, highlighting what is important, and hurrying onto the practice lessons where we get to bake some real goodies this week.

You will learn about the composition of each of these dairy products we just mentioned and how to use them in your baking. In the practice lessons, you will learn how to use cream cheese to make a cheese cake, how to make whipped cream, how to use cheese in bread baking, and how to make a cream pie filling. But first, we've got to talk about principles and techniques.

### Composition and Why it Matters

Dairy products are made of three components: water, fat, and nonfat solids. Each plays a role in a recipe. The water provides required moisture. The fat gives the product richness, a pleasing "mouth feel", and in some cases—shortening for a more tender product. The nonfat solids include lactose, or milk sugar. Not only does lactose add sweetness to the baked goods, lactose caramelizes at high heat to give products a rich, golden brown hue.

The composition is important in designing recipes or making substitutions in recipes. When making substitutions, acidity and flavor are other considerations.

### Milk

Milk is used extensively in baking. It is composed mostly of water with whole milk being 88% water. In addition to the moisture, milk adds flavor, contributes to the texture, and helps bread stay fresh longer.

It is remarkable how much different bread is when it is baked with milk instead of water. A bread mix or recipe made with a high proportion of milk is usually far superior. (Since milk costs eight to ten times more than flour, inexpensive mixes use little milk.)

In addition to the water, milk contains fat—3 1/2% butterfat in whole milk with low fat milk containing either 2% or 1% fat. About 8 1/2% of the milk is composed of solids including lactose and protein.

Because there is such a difference in fat, whole milk, low fat milk, and skim milk are not interchangeable in many recipes. That is especially so in yeasted products. Dairy fat acts as a shortening and breads and pastries made with whole milk are noticeably more tender and rich than those made with skim milk. Cream fillings for pies and pastries, if made with skim milk, have a very different richness and mouth feel than those made with whole milk unless butter is added to the filling. If you are using skim milk instead of whole milk consider adding a tablespoon of butter to the recipe for each cup of milk.

## Dry Milk

Dry milk products substitute wonderfully for liquid milk in baking and they do not have to be reconstituted before use. Simply add the water and milk solids according to the producer's directions directly to the batter or dough.

You should be aware that there are three kinds of dry milk:

**Nonfat dry milk** is typically what consumers purchase in stores. It is sometimes referred to as low-heat treated milk and may be mixed as a beverage. Use this in pastries, quick breads, and cakes. Since this is a nonfat product, if you use it in place of whole milk, add butter to the recipe.

**High-heat treated dry milk** is also a nonfat product but it has been produced at much higher temperatures to destroy certain enzymes naturally found in milk. These enzymes in milk will degrade the gluten structure in bread dough. Because of this, commercial bakeries nearly always use high-heat treated dry milk in their yeasted products.

If you bake bread, consider using high-heat treated dry milk in place of both the nonfat dry milk you buy in the stores and liquid milk.

**Whole dry milk** includes the fat and is therefore quite perishable. It is not generally available because it will not keep long without refrigeration.

## Cream

You can purchase cream in several types with the amount of fat in the composition being the varying characteristic. The most popular cream products follow:

**Whipping cream** can be purchased in a light whipping cream and a heavy whipping cream. Light whipping cream has a fat content of 30 to 35% while heavy whipping cream has a fat content of 36 to 40%.

The higher the fat content, the richer the baked product is. Also, the higher the fat content, the easier the cream is to whip and the more stable whipped cream produced. When shopping for whipping cream, read the labels to determine which brand has the highest fat content.

Ultra-pasteurized whipping cream has a longer shelf life but does not whip as well.

**Light or table cream** contains from 16 to 22% fat and is not suitable for whipping. It can be used in baking.

**Half-and-half** has a fat content of 10 to 12%--about three times that of whole milk but only a third of light whipping cream.

## Buttermilk

On the farm, buttermilk is the liquid left when the churning is done. In the grocery store, buttermilk is a skim milk product cultured with bacteria to sour the milk. (Sometimes this is called cultured buttermilk to distinguish it from traditional buttermilk.) Processors often add salt and flakes of butter to make a buttermilk product that is more acceptable to consumers.

Buttermilk is highly acidic—the lactose in the milk is converted to lactic acid during production. We learned in lesson four that buttermilk is often used in conjunction with alkaline leaveners to create a chemical reaction and carbon dioxide bubbles to lift the batter. When the acid is neutralized in this chemical reaction, much of the characteristic tangy taste of buttermilk is removed.

If you choose to substitute buttermilk for milk or water in a recipe, you will need to adjust the leaveners. When adding a cup of buttermilk, reduce the baking powder by 1/2 tablespoon and then add one teaspoon of baking soda.

## Sour Cream and Yogurt

Sour cream and yogurt are cultured products as is buttermilk. Sour cream has a fat content of about 18%. Bacteria are added to make sour cream thick and slightly tangy.

Yogurt is only occasionally used in baking. It is cultured with different bacteria than sour cream. You can purchase yogurt in either whole or low fat varieties.

## Cream Cheese and Cheese

Cream cheese is a soft, unaged cheese with a fat content of 33 to 35%. Neufchatel is a similar cheese that is slightly lower in fat content. Cream cheese is used for cheesecakes and occasionally, cream fillings, but not often otherwise.

We love to use cheese—mozzarella to aged cheddar—in our baking in breads, biscuits, corn breads, and muffins. In addition to flavor, cheeses bring a richness and moisture to baked goods. If you want a pronounced cheese flavor, use a strongly-flavored cheese. A sharp cheddar or Swiss are among our favorites.

## Evaporated and Condensed Milk

Evaporated milk can be purchased in either a whole milk or a skim milk. To produce evaporated milk, about 60% of the water is removed and it is then sterilized and canned.

Evaporated milk can be used as a substitute for whole milk by reconstituting the milk with water as directed on the can. Typically, recipes calling for evaporated milk intend for the milk to be used straight from the can without reconstituting. Evaporated milk has a different, somewhat cooked flavor, that you should consider when substituting evaporated milk for whole milk.

Sweetened condensed milk is evaporated milk with a heavy addition of sugar. It is called for in many desserts and has the cooked flavor of evaporated milk. You should not substitute other milk products for sweetened condensed milk.

### Yogurt in Action

A lady called who was having trouble with her rye bread. She read the recipe to me. The recipe called for 2 cups of yogurt and six cups of flour and didn't specify whether it was whole yogurt or low fat. We solved the lady's problem and were left to ponder the yogurt in the bread.

In this recipe, whole yogurt would produce a very different bread than low fat yogurt. The large amount of additional fat in whole yogurt would have a substantial shortening effect and a much more tender, less chewy bread.

Yeast grows best in a slightly acidic environment and a little yogurt would provide that. But the recipe also called for molasses which is acidic. With two cups of yogurt, the culture would likely be too acidic.

It seemed likely that the recipe designer added the yogurt, not for chemical reasons but to add a sour flavor. A long, cool fermentation would have also created a sour flavor without the richness and tenderization of yogurt. (See chapter three for information about retarding fermentations.)



## How to Make Homemade Sweetened Condensed Milk

What if your recipe calls for sweetened condensed milk and you're out? You can make your own. Homemade sweetened condensed milk is acceptable whenever called for in a recipe and you can make it for a lot less than you would buy it for. Just follow this recipe:

**Yield:** The equivalent of one 14-ounce can of sweetened condensed milk.

### Ingredients

1/3 cup water  
2/3 cup sugar  
1 cup dry milk powder  
3 tablespoons butter

### Directions

1. Heat a bowl of water in the microwave until it is very hot (or use tap water if you can get it steaming hot).
2. Combine the remaining ingredients in a small bowl. Add the hot water and beat with an electric mixer or wire whisk until smooth.

Note: This should be made as you need it and will not store well. One recipe equals one can of store bought sweetened condensed milk.

## Part 2: Using Dairy Products

### How to Make Cheesecakes

Cheesecakes are both one of the most luxurious of desserts and the easiest to make. They are custards in a crust and many of the principles for custards set forth in the preceding chapter apply. As with custards, they receive a long slow bake though the recipe may call for an initial burst of heat to create a golden crust on the top of the cheesecake.

The smoothest cheesecakes are made with little or no starch. (Dense, New York-style cheesecakes usually include flour or cornstarch.)



If you understand and practice the following principles, chances are you will make wonderful cheesecakes.

#### Principle #1

As a custard, the cheesecake should be thick, rich and creamy. As with any custard, a cheesecake relies on the proteins in the eggs to give it structure. The proteins coagulate as the temperature approaches 160 degrees. If it over bakes, the custard becomes dry.

#### Principle #2

A long, slow bake allows for a more uniform internal temperature. Never bake over 350 degrees. We prefer a dark pan to uniformly absorb heat, not a reflective pan.

#### Principle #3

Don't over bake your cheesecake. Most cheesecakes are over baked and they tend to be dry, not creamy. An over baked cheesecake tends to crack. The cheesecake is done when it is still jiggly but not soupy. The top of the cheesecake will jiggle as a whole and the center two inches will look softer. The top color is not a reliable indicator of doneness. Do not stick a knife or a toothpick in the center. It is not a reliable test and it may start a crack.

#### Principle #4

Beat the cream cheese until it is soft and smooth. It's easier to make a smooth mixture of the cream cheese if you start with softened cheese. Take the cream cheese from the refrigerator at least an hour before mixing. Beat the cheese with the paddle attachment, not the whip.

### **Principle #5**

Mix the ingredients into the cream cheese; don't whip the ingredients. If too much air is incorporated into the filling, the cheesecake will puff when baked and sink as it cools. With too much air incorporated into the filling, cracks are likely to develop.

### **Principle #6**

Custards tend to be soft and may weep especially if they are over baked. To give your cheesecake more structure, consider adding one to two tablespoons of cornstarch or flour. For a creamier cheesecake, leave the starch out.

### **Principle #7**

Cheesecakes rely primarily on eggs for the structure. Not only does the egg mixture have to reach 160 to 170 degrees to coagulate but will become dry and tough if baked beyond 185 degrees.

### **Principle #8**

The filling must have enough eggs to set properly. In our experience, one egg per eight-ounce package of cream cheese plus a little milk or cream is about right.

### **Principle #9**

Cheesecakes are easier to remove from a pan after they have cooled slightly. Let the cheesecake cool for ten minutes and then with a spatula or thin-bladed knife, run the blade between the cake and the pan. If you let the cheesecake cool for any longer than that, it may start to contract and, with the cake stuck to the pan, crack. A nonstick pan not only makes the release easier but may help keep the cheesecake from cracking.

## Storing Your Cheesecake

Cheesecakes are so good but so rich. Unless you are baking for a party, there's likely to be some left over. Here's what you can do with that too-good-to-waste cheesecake.

### **To refrigerate your cheesecake:**

Wrapped in plastic, your cheesecake will last three days in the refrigerator. If you have an airtight container that you can put it in, it'll last five days.

### **To freeze your cheesecake:**

Freeze individual slices and then wrap them in foil or plastic and place them in heavy freezer-type plastic bags. Slices will last for three weeks. You can freeze an entire cheesecake and it will last four to six weeks. Always store your frozen cheesecake in the freezer, not in the freezing compartment of your refrigerator where it is not as cold.

### **To unthaw your cheesecake:**

Thaw your cheesecake overnight in the refrigerator. In a rush, individual slices can be thawed on the counter in thirty minutes.



## Mixing and Matching for Creative Cheesecakes

Cheesecakes consist of three basic parts: the crust, the filling, and the topping. Knowing that, you can mix and match to make wonderful combinations. Using a vanilla filling, consider these combinations:

- A cherry vanilla cheesecake with a graham cracker crust
- A raspberry vanilla cheesecake with a chocolate crust
- A blueberry vanilla cheesecake with a gingersnap crust
- A strawberry vanilla cheesecake with a vanilla wafer crust
- An apple cinnamon cheesecake with a walnut crust

Of course, cheesecakes don't have to be made with vanilla filling. Chocolate and pumpkin fillings are favorites. And of course, you can top your cheesecake with whatever you please. Consider the following toppings:

- Whipped cream
- Flavored whipped cream such as chocolate or strawberry
- Chocolate ice cream topping
- Caramel ice cream topping
- Fruit syrups made by heating jams or jellies
- Fruit pie filling
- Fresh fruits
- Fruit compotes made with fresh or frozen fruit

## Questions and Answers about Your Cheesecake

*How do I stop my cheesecake from cracking?*

A cheesecake top without a crack seems to be the ultimate measure of success. It shouldn't be. A crack doesn't affect the taste. Many cheesecakes are topped and the topping covers any cracks.

There may be a number of reasons for cracks:

- Too much air incorporated into the filling may cause cracks.
- Too much baking time will over bake the filling and is a common cause of cracks.
- Uneven baking may be a cause. If you are using light gauge, reflective pans, consider switching to heavier gauge, dark pans.
- Too high of heat may cause cracking. Consider baking at 325 degrees instead of at 350 degrees.
- If your cheesecake cools too rapidly, it may develop cracks. Don't let your cheesecake cool in a draft.

Cheesecakes with starch in the filling are less prone to cracking.

*What's the best way to cut a cheesecake?*

Use the right knife, a sharp, thin-bladed knife. Don't use a serrated knife as filling and crumbs tend to stick to the serrations.

Cut with downward pressure, dragging the knife as little as possible. After each cut, wash and dry the knife so that you have a clean blade slicing through the cheesecake.

*What's the easiest way to make crumbs for my crust?*

Lots of folks use a food processor; we don't bother. We use a heavy-duty zipper-type plastic bag and crush the graham crackers or cookies with a rolling pin a few at a time. We save the plastic bag for the next crust.

*Is there an easy way to form the crust?*

Yes. Use a straight-sided drinking glass with a smooth or nearly smooth base. By pressing the base of the glass into the crumbs, you can make a nice uniform bottom crust. By pressing the side of the glass against the wall of the pan with a slight rolling action, you can make a wonderful side crust.

*My slices seem to stick to the base and it's hard to remove them. Is there an easy way to neatly remove my slices?*

Yes. Take a wet dish towel and heat it in the microwave. Set the base with the cheesecake on the hot towel. The hot towel will soften the butter in the crust and allow the slices to slide off without sticking.

It helps to have a springform pan with a smooth base.

## How to Make Cream Pies

Cool, creamy pies go well with summer. They are easy to make, don't take a lot of baking, and are often smooth and light. Can you think of anything that you would rather take to a family reunion than a pair of cream pies? Everyone loves them.

What's the difference between a custard pie and cream pie? A custard pie is baked in a shell. A cream pie is cooked on the stovetop and then placed in an unbaked shell. The trick in a cream pie is to get the filling thick enough that it holds its shape when cut. That is usually done with a combination of starch, which gelatinizes when heated, and egg proteins, which coagulate when heated.



Pastry creams, used to fill pastries, are made with the same methods. You can use pie filling recipes to make pastry creams although pastry creams do not need to be as thick for pie fillings. For a softer cream, just reduce the starch in the recipe.

In this section, we will go through the steps for making cream pies. Since cream pies are made with and without meringue toppings, we will include directions for meringue toppings.

### Step 1:

Cream pies are made in pre-baked single pie shells. Make the pastry dough from the recipe of your choice. Roll the dough to a thickness of about 1/8-inch thick. You can use a toothpick to gauge how thick the dough is in various spots.

Place the dough in the pie pan. For cream pies, we prefer to use a dark, metal pan to get a crisper crust than from a light-colored or glass pan. There are several ways to place the dough in the pan without tearing it. A simple way is to fold the dough in half and then in quarters, place the folded dough in the pan with the point in the center of the pan, and then unfold the dough. The disadvantage of this method is that the crease marks will remain.

The dough can also be placed using the rolling pin method. Roll the dough partially around the rolling pin, lift the dough and move it to the pie pan, then unroll the dough. (It's easier than my description sounds.)

Trim the dough about 1 inch beyond the edges of the pie pan. Turn the edges under and flute the edges for an attractive finish.



For cream pies, use a fork to prick the surface of the pie crust. The holes will allow steam to escape as the shell bakes instead of creating bubbles.

### **Step 2:**

Cream pies need to be firm enough to hold their shape when cut and served. They rely primarily on the coagulation of the proteins in the eggs to create that structure. Often flour or cornstarch is added for additional structure and to prevent the pie from “weeping”.

Mix the sugar, salt, and flour or cornstarch together in a saucepan. It is important that the combination be thoroughly mixed so that the sugar particles separate the flour and avoid lumping.

Gradually pour the liquid into the sugar mixture while stirring.

### **Step 3:**

Cook the mixture over medium to medium-high heat, stirring regularly, until it is thick and bubbly. Cooking over low heat takes too long. Cooking over high heat may scorch the filling. The higher the heat, the more diligent you must be in your stirring.

Once the filling is bubbly, cook and stir for two minutes more. The continued cooking will gelatinize the starches in the cornstarch or flour and avoid the pasty taste of undercooked starches.

### **Step 4:**

In most recipes, egg yolks are used instead of the whole eggs. The egg whites can be saved for a meringue topping. The fat in the egg yolks adds a pleasant “mouth feel” to the custard and the yolks have a high protein content to make the filling firm.

The egg yolks need to be tempered before adding to the pan. Whisk the yolks together in a medium bowl until combined. Take about one cup of hot filling mixture and pour it in a stream into the egg yolks while stirring constantly. This will warm the egg yolks so that they will not curdle and lump as they are poured into the hot mixture.

Pour the egg yolk mixture into the rest of the hot filling while stirring constantly.

Immediately return the saucepan to the heat and cook for two more minutes. This cooking will cause the proteins in the egg yolks to coagulate—they coagulate at about 160 degrees—and create a firm pie filling. Do not overcook. Overcooking will weaken the protein structure.

### **Step 5:**

Preheat the oven to 350 degrees.

Stir the butter into the hot filling along with any extract that the recipe may call for. Use a rubber spatula to scrape the pie filling into the cooled pastry shell.

If you are not topping the pie with meringue, cover the filling with plastic pressed against the surface. This will keep the filling from developing a tough skin. If you are going to top the pie with meringue, make it now.

**Step 6: (Optional Meringue Topping)**

Place the egg whites in a medium bowl, one with deep, straight sides works best. Four large egg whites will make enough meringue to cover a nine-inch pie. For a larger, more generous topping, use five or six egg whites.

Add one to 1 1/2 teaspoons vanilla and 1/2 teaspoon cream of tartar. Do not add the sugar yet. Beat for about 1 1/2 minutes or until soft peaks form. Do not over-beat.

Add 1/2 cup granulated sugar gradually to the mixture as you beat. Beat for another four minutes or until stiff peaks form. Rub a little of the meringue between your fingers to make sure that the sugar is dissolved. You should not feel any grains of sugar between your fingers.

With a spatula, spread the meringue topping on the pie. Push the meringue against the crust to seal the edges. (If the meringue is not anchored on the crust, it will tend to pull away from the crust in baking.)

Bake the pie for 12 to 16 minutes or until the topping is a golden brown.

Store the pie in the refrigerator. To cut the pie, first dip the knife in cold water; the meringue will not stick to a wet knife.

## How to Make Whipped Cream

Whipped cream is the coup de grace of so many desserts from pies to cakes to pastries. It should be silky smooth and luxurious and may be flavored with extracts, syrups, caramel, or chocolate.

It's easy to whip cream. The following tips and techniques will assure the best whipped cream.

### Principle #1:

Cream whips better when it is ice cold. Not only use very cold cream but chill the bowl and beaters before starting. A ceramic, glass, or stainless steel bowl works better than plastic bowls for beating cream.

### Principle #2:

Use powdered sugar instead of granulated sugar for sweetening. The finer powdered sugar dissolves more readily and the small amount of cornstarch gives the cream a little more body.

### Principle #3:

Do not use very fresh cream. Cream whips better if it is a couple days old. Ultra-pasteurized cream does not whip to the same volume as regularly pasteurized cream.

### Principle #4:

Beat at medium speed with an electric mixer or use a wire whisk. When the cream forms soft peaks when you lift the whisk, it is perfect for serving alongside a dessert. Beat to stiffer peaks for folding into another mixture or for garnishes.

### Principle #5:

Do not over whip your cream. As cream is over whipped, it separates into fat globules and liquid, eventually turning into butter. Over whipped cream looks rough and craggy and does not have the volume of perfectly whipped cream.

### Principle #6:

Add other ingredients such as syrups, extracts, and fruit at the end of the whipping.

### Principle #7:

Extra cream should be stored in the refrigerator. Dollops of cream can be frozen on waxed paper.

## **Part 3—Recipes: The Chapter in Practice:**

With these recipes, you will master the following techniques:

- **Making a Cream Filling**
- **Whipping Cream**
- **Making Cheesecakes**
- **Making Cheese Bread**

There are six different cream pie recipes, several cheesecake recipes, and five ways to use cheese and bread together. We think these will become some of your favorite recipes.

---

## Making Cream Pies

In this part, we will explore some very good cream pies. The first is a basic cream pie recipe that you can use for a variety of pies from chocolate to banana cream.

### Basic Cream Pie Recipe

It's handy to have a basic cream pie recipe available. From it you can make vanilla, chocolate, coconut, banana cream pie, and more.



We've used this recipe for over 20 years to make everything from coconut cream to strawberry cream pies. We'll give you the basic cream pie recipe and then tell you how to make other scrumptious pies with the basic recipe.

#### Ingredients

2/3 cup sugar  
4 tablespoons flour  
1 1/2 tablespoons cornstarch  
1/4 teaspoons salt  
2 cups milk  
4 large egg yolks  
1 teaspoon vanilla  
2 tablespoon butter  
1 baked nine-inch pie shell  
1 cup whipped cream for topping  
sugar for whipped cream (3 tablespoons or to taste)  
1/2 teaspoon vanilla extract for whipped cream

#### Directions

1. Place the dry ingredients in a saucepan.
2. Wisk the egg yolks with the milk. Add the egg mixture to the dry ingredients in the saucepan, stirring after each addition.
3. Heat over low heat, stirring regularly, until the mixture is thick and just begins to bubble.
4. Add the butter and vanilla and stir.
5. Let the mixture cool for fifteen minutes and then remove the filling to the baked pie shell. Chill for several hours.

### **Banana Cream Pie**

Use the basic cream pie recipe. Cover the bottom of the pie shell with sliced ripe bananas. Pour the cream filling over the bananas.

### **Chocolate Cream Pie**

Use the basic cream pie recipe. Add one cup semi-sweet chocolate chips to the mixture when you begin to heat the filling.

### **Double-Decker Cherry Cream Pie**

Use the basic cream pie recipe. Spread a can of cherry pie filling over the vanilla cream filling after the pie has cooled.

### **Coconut Cream Pie**

Use the basic cream pie recipe. If you have coconut flavor, substitute the coconut for vanilla in the base recipe.

Toast one cup of sweetened, flaked coconut. Mix one half cup into the filling just before adding the filling to the pie shell. Sprinkle the other one half cup over the whipped cream topping.

## Double Chocolate Cream Pie

A smooth, cool chocolate cream pie is always inviting. This one is tucked in a chocolate crust to make it doubly so. Whipped cream is optional and may cover the pie or just garnish the pie.

This recipe presents an absolutely scrumptious chocolate filling that is rich but not too chocolaty. The crust is buttery and flaky. The whipped cream topping has some marshmallow filling for flavor and to stabilize the whipped cream.



Make this pie the day before. It takes six hours for the pie to set firm.

### Double Chocolate Cream Pie Recipe

*For the topping: (If you want enough whipped topping to cover the pie, double the amounts listed.)*

1 cup whipping cream for topping, divided  
1/3 cup miniature marshmallows or snipped large marshmallows  
2 tablespoons granulated sugar  
1/2 teaspoon vanilla extract

*For the crust:*

3 tablespoons cocoa  
1 1/2 cups pastry flour (or all-purpose flour if pastry flour is not available)  
1/2 teaspoon salt  
3 tablespoons sugar  
2/3 cup cold butter (1 1/3 cubes)  
1/3 cup ice cold water

*For the filling:*

1/3 cup sugar  
4 tablespoons cornstarch  
1/4 teaspoons salt  
2 1/2 cups whole milk  
5 large egg yolks  
2/3 cup semi-sweet chocolate chips  
1/2 tablespoon vanilla  
4 tablespoon butter (6 tablespoons if you are using nonfat milk)

*For the topping*



1. Place 1/4 cup of the whipping cream in a small saucepan. Add the marshmallows and heat, stirring often, until the marshmallows are melted.
2. Pour the marshmallow mixture into a medium glass, ceramic, or steel bowl suitable for whipping the cream. Add the remainder of the whipping cream and refrigerate until well-chilled. Chill the mixer attachments that you will use for whipping.
3. To top the pie, whip the cream at medium speed until soft peaks form. Add the sugar and vanilla and continue beating until firm peaks form. Spread the topping on the pie as desired.

#### *For the crust*

1. Preheat the oven to 425 degrees. Make the pie crust by mixing the cocoa, flour, salt, and sugar in a medium bowl. Cut in the butter with a pastry blender until it is the size of peas.
2. Add the ice cold water all at once. Mix these ingredients with a fork just until they start to come together. Remove the dough to the counter and knead just a few times until the dough is coherent and can be rolled out.
3. Roll the dough out until it is less than 1/4-inch thick and larger than a pie pan. Place the dough in a nine-inch pie pan and shape the crust.
4. Fill the pie with pie weights and bake the shell for 8 minutes at 450 degrees then reduce the heat to 350 degrees and bake for another 25 minutes. (Baking times will vary depending on the type of pie weights that you use. See how to use pie weights.)

#### *For the filling*

1. Mix the sugar, cornstarch, and salt in a medium sauce pan. Add the milk and egg yolks to the pan and. Stir the contents until smooth.
2. Heat over medium heat, stirring frequently, until the contents are bubbly and thick. Cook for another 30 seconds or so, stirring constantly.
3. Remove the pan from the stove and add the vanilla and butter. Set the filling aside to cool for fifteen minutes.
4. Pour the filling into the baked pie crust and smooth top. To prevent a crust on the top of the filling, cover the pie with plastic wrap and press the plastic against the filling.
5. Refrigerate the pie for at least six hours to set the filling,

***Baker's Note:*** Make certain that the filling is cooked enough. Amylose is the primary thickener in starch. Eggs contain enzyme that will attack and destroy amylose. This enzyme in eggs is destroyed with high heat, nearly boiling. If this enzyme is not destroyed, the pie that looks perfect this evening will be a runny mess in the morning.

## Making Cheesecakes

We debated on whether to put these recipes in the dairy section or the egg section of the book. In the end, we decided that it didn't matter since it relies on both dairy and eggs.

A cheesecake is really a type of custard. It relies primarily on the coagulation of egg proteins to set the batter and secondarily, on the starches in any added flour. The cream cheese in the batter makes cheesecakes rich and decadent.

### German Chocolate Cheesecake

This spectacular-looking dessert is really an everyday cheesecake dressed up with caramel and chocolate topping sauces and a sprinkle of walnuts. But it makes a splashing presentation that will impress your family and friends.

Though this cheesecake may look complicated, it is an easy recipe to put together. You can make the caramel topping from melted caramels but caramel ice cream topping works just as well and saves a little time.



This recipe can be made a day or two in advance of the dinner.

#### Ingredients

##### *For the crust:*

2 cups chocolate graham cracker crumbs (about two inner packages of graham crackers). Chocolate cookie crumbs may be substituted.  
6 tablespoons butter, melted.

##### *For the filling:*

2 1/2 eight-ounce packages of cream cheese  
1 cup granulated sugar  
2 tablespoons all-purpose flour  
1/4 teaspoon salt  
3 large eggs  
1 teaspoon vanilla  
2 tablespoons milk

##### *For the toppings:*

1 cup chopped pecans or walnuts

For the chocolate topping, combine four ounces of sweet German chocolate with two tablespoons whipping cream and one tablespoon butter. Melt in a small saucepan and stir until smooth.

For the caramel topping, melt 12 caramels with 1/3 cup cream in a small saucepan, stirring until smooth. Or use ice cream topping.

### Directions

Preheat the oven to 450 degrees.

1. In a nine-inch spring form pan, mix the cracker crumbs and the melted butter. Press the crumb mixture into a crust across the bottom and about one inch up the sides. Bake the crust for eight minutes.
  2. In a large bowl, cream the cream cheese with the sugar. Add the flour and salt. Add the eggs, vanilla, and milk all at once. Mix until just combined, scraping down the sides of the bowl. Pour the filling mix into the crust.
  3. Bake for ten minutes at 450 degrees. Lower the temperature to 200 degrees and bake for an additional 35 to 40 minutes or until the cheesecake filling is set.
  4. After the cheesecake has cooled for ten minutes, with a sharp knife, loosen the edges of the cheesecake from the pan so that the cake will pull away from the pan as it cools. Remove the rim of the pan after it has cooled for about forty-five minutes.
  5. Drizzle the cheesecake with caramel and then with chocolate. Sprinkle nuts on the cake. Refrigerate until completely cool before serving.
-

## Pumpkin Cheesecake in a Gingersnap Crust

We especially like to make this cheesecake for the holidays—it is absolutely phenomenal. It completely outshines the traditional pumpkin pies. Your guests will rave.

This two-tone cheesecake has a pumpkin cheesecake filling with a vanilla cheesecake top layer. The crust is made with gingersnaps which complement the spicy pumpkin filling perfectly. If you are not in love with gingersnaps, substitute vanilla wafers for the crumbs.



This scrumptious cheesecake is best made the night before so that it can thoroughly chill in the refrigerator. (Of course, that is one less thing you have to do on the day of the dinner.)

You will need a nine or ten-inch springform pan for this recipe. (The nine-inch size is perfect.) The cake pictured was baked and served in a nine-inch glass-base springform pan.

### For the crust

1 1/2 cups crushed gingersnaps  
1/2 cup finely chopped nuts  
1/4 cup brown sugar  
4 tablespoons butter, melted

### For the filling

3 8-ounce packages of cream cheese  
3 large eggs  
3/4 cup granulated sugar  
1/4 teaspoon salt  
1 teaspoon vanilla  
  
1 1/3 cup pumpkin puree  
1/4 cup whipping cream or yogurt  
1/2 teaspoon allspice  
1/2 tablespoon cinnamon

### Directions

Preheat the oven to 350 degrees.

1. Crush the gingersnaps. Mix the crumbs with the nuts, brown sugar, and melted butter in a nine or ten-inch springform pan. Press the mixture into a crust across

the bottom of the pan and up the sides. Put the crust in the refrigerator to set up while you prepare the filling.

2. Mix the cream cheese, eggs, granulated sugar, salt, and vanilla together with your stand-type mixer using the whisk attachment. Beat until smooth and fluffy, six to eight minutes. Set about 1 1/2 cups of the mixture aside for the topping.
3. To the remaining filling, add the pumpkin, whipping cream or yogurt, and spices. Beat until well-mixed. Pour the filling into the prepared crust. Carefully spoon the set-aside topping over the top of the pumpkin-cheesecake filling.
4. Bake for 70 to 80 minutes or until the top starts to brown and the center of the cake is just barely jiggly.
5. Let the cake cool in the pan on a wire rack for ten minutes. Run a knife around the edge of the pan to loosen. Remove the ring and let the cheesecake cool completely. Refrigerate for several hours before serving.

## Chocolate Cheesecake

A chocolate cheesecake is an impressive alternative to a vanilla cheesecake. This recipe calls for a walnut and graham cracker crust but you could use chocolate cookies if you prefer and leave out the nuts. Fresh berries are delightful with chocolate cheesecake but we chose to drizzle this cheesecake with chocolate syrup.



Again, you will need a nine or ten-inch springform pan for this recipe. The cheesecake pictured was baked and served in a nine-inch glass-base springform pan.

### For the crust

2 cups crushed graham crackers  
1/2 cup finely chopped walnuts  
2 tablespoons sugar  
5 tablespoons butter, melted

### For the filling

3 8-ounce packages of cream cheese, softened  
3 large eggs  
3/4 cup granulated sugar  
1 tablespoon flour  
1/4 teaspoon salt  
1 teaspoon vanilla  
1/4 cup whipping cream  
4 ounces semi-sweet baking chocolate, melted

### For the topping

Chocolate ice cream syrup

### Directions

1. Crush the graham crackers. Mix the crumbs with the sugar and melted butter in a nine or ten-inch springform pan. Press the mixture into a crust across the bottom of the pan and up the sides. Put the crust in the refrigerator to set up while you prepare the filling.
2. Preheat the oven to 325 degrees. Mix the cream cheese with the paddle attachment of your stand-type mixer set at medium speed until smooth and creamy, about five minutes. Add the eggs, granulated sugar, flour, salt, vanilla, and whipping cream and

gently cream together until smooth. Do not over beat. Too much air in the filling will cause the cake to sink and crack.

3. With your mixer on the low setting, drizzle in the melted chocolate and mix until combined. (If your filling is too cold, some of the chocolate may set up leaving chocolate flecks in the filling. That's okay; the cheesecake will not be compromised and the flecks are actually quite attractive.)
4. Pour the cream cheese filling into the crust. Bake for 40 to 50 minutes or until the top starts to turn golden and the center of the cake is just barely jiggly. Because it is not as thick, a ten-inch cheesecake will bake more quickly than a nine.
5. Let the cake cool in the pan on a wire rack for ten minutes. Run a knife around the edge of the pan to loosen. Remove the ring and let the cheesecake cool completely. Refrigerate for several hours.
6. Prior to serving, drizzle the cheesecake with chocolate syrup.

## Cherry Chocolate Cheesecake Bars

This is a great cheesecake for parties and get-togethers. Instead of a springform pan, it is made in a 9 x13-inch baking pan. The topping is simply cherry pie filling. Of course, if you prefer, you can top the cheesecake with apple or any other filling.



### For the crust:

1/2 cup butter  
3/4 cup powdered sugar  
1/2 teaspoon almond extract  
3 large egg yolks  
1 large egg  
1 3/4 cups all-purpose flour  
1/4 cup cocoa

Preheat the oven to 350 degrees.

1. With the paddle attachment of your stand-type mixer, beat the butter until it begins to soften. Add the powdered sugar and the extracts. Beat in the egg yolks and egg. Add the flour and cocoa and continue beating until combined.
2. Press the dough into 9x13 inch baking pan with your hand until it is of uniform depth across the bottom of the pan.
3. Bake for 20 minutes.

### For the filling:

Make the filling while the crust is baking.

2 8-ounce packages of cream cheese  
1 cup granulated sugar  
1/2 teaspoon almond extract  
1 teaspoon vanilla extract  
4 large eggs

1 21-ounce can cherry pie filling

1. Beat the cream cheese, sugar, and extracts together until smooth, scraping down the sides of the bowl at least once. Add the eggs and beat at low speed until just combined.
2. Spread the filling over the hot crust. Bake for another 30 minutes or until the center of the filling is just firm.



3. Cool in the pan on a wire rack. Spread the pie filling over the cream cheese filling after it has cooled.

## Bonus: How to Make Stuffed Bread

Stuffed bread is wonderful. You can make a masterpiece of a meal by adding ingredients to your bread. If you add sweet ingredients, you can create a dessert bread.

There are probably many ways in which to stuff bread just as there are many ingredients with which to stuff your bread. In this section, we'll show you some of these means. Though there are recipes included, consider them templates. Experiment and make the breads that are just right for your family.



Here is what you will find in this section:

- Stuffed Bread: Italian Filled Bread
- Stuffed Bread: Homemade Hot Pockets
- Stuffed Bread: Mushroom Cheddar Oat Bread
- Stuffed Bread: Calzones
- Stuffed Bread: Italian Filled Bread

## Stuffed Bread: Italian Filled Bread

Think of this bread as pizza in a loaf. You can stuff this attractive braided bread with almost anything that you would put on a pizza. We'll show you how to make one of our favorites but use this technique and make whatever suits your fancy.

The convenient way to make this bread is with our Tuscany Tomato Basil Bread Mix, but you can use your favorite plain white bread recipe. If you are making this bread from a recipe, use a two loaf recipe and mix according to directions. Add two tablespoon dried crushed basil during the mixing. (If you are making this from our mix, follow the directions but set the dried tomatoes aside and use slightly less than the two cups of water called for. The dried tomatoes soak up some water so using less than the directions call for is appropriate.) Place the bread dough in an oiled bowl, turn once, and cover to let rise until doubled.



Use the following recipe for the filling. Stuffed bread recipes lend themselves to customization so add or substitute ingredients according to your taste.

### Tomato Basil Bread Filling

#### Ingredients:

- 1 cup sliced sun dried tomatoes (one packet if you are using our mix)
- 1 six ounce can of pitted black olives, drained and chopped or 1/2 pound Italian sausage, sautéed
- 1/2 medium sized onion, diced or 1/2 red or green bell pepper, diced
- 1/2 tablespoon crushed oregano, Italian seasonings, or other seasonings of choice
- 1/4 teaspoon pepper
- 2 cups grated mozzarella cheese
- 2 tablespoons grated cheese for topping

#### Directions:

Grease a baking sheet and sprinkle it with cornmeal or semolina flour.

1. Place the dried tomatoes in a bowl with barely enough water to cover. Cover with plastic and microwave for one minute on high heat. Let the tomatoes steep in the hot water for several minutes. Drain the tomatoes and pat dry with a paper towel.
2. Mix all the filling ingredients together in a large bowl.
3. Once the dough has risen, divide it into two equal parts for two loaves. Roll one part into a rectangle about 12 inches by 15 inches. Slice the dough into one inch wide fringed ribbons as shown in the picture leaving the center one-third

unsliced. Make sure there is an equal number of slices on each side. Place half the filling on the dough center. Fold up the bottom edge one inch and then beginning folding the ribbons over the filling, lapping them alternately as shown. When you near the top, fold the top one inch down along with two of the ribbon pieces. Finish folding over the ribbon pieces. Cup the ends of the loaf in your palms and compress the loaf into an oblong, well-shaped loaf. Put the loaf on the prepared pan, and cover with plastic wrap. Repeat with the other loaf. Let the loaves rise until doubled, about an hour in a warm kitchen.



4. Preheat the oven to 350 degrees.
5. Whisk one egg with one tablespoon water. Just before baking, brush the top of the loaves with the egg wash.
6. Bake for thirty minutes or until done. As soon as you remove the bread from the oven, sprinkle the tops with the remaining grated cheese so that it will partially melt on the loaves. If need be, return the loaves to the oven for a minute. Cool the bread on wire racks. Serve hot.
7. Refrigerate any leftovers. This bread can also be frozen.

## Stuffed Bread: Homemade Hot Pockets

Years ago, we discovered that stuffed bread was a real treat. At first, we stuffed them with meat and cheese concoctions but later, we tried everything from chocolate chips (chocolate chips, sour cream, and sugar) to sun-dried tomatoes (sun-dried tomatoes, olives or onions, and basil). Here, we'll show you three different ways to stuff that bread. In this article, we'll show you the "hot pocket" method; in the next, a braided filled bread; and finally, a filled and rolled bread.



Homemade Hot Pockets are simple to make and simple in concept. You put the sandwich fixings into the bun before you bake it. On the left, is a bun with a brat, cheddar cheese, and mustard. On the right, is a ham and cheese pocket. Here's how to make them.

These are great for picnics and box lunches. Because they have fillings that may spoil, protect them as you would any other meat or cheese sandwich.

### Directions:

1. Mix the bread according to package instructions. We used an Idaho Potato White Mix for bread machines but any mix or recipe will do. If you are using your bread machine, set the machine for "dough" so that it will rise but not bake.
2. After the dough has risen, divide it into bun-sized pieces—eight pieces for a bread machine mix or sixteen for a double loaf mix is about right.
3. Roll each piece flat with a rolling pin. Place the meat, cheese, and condiments in the center of the bread pieces. Pull the dough around the filling, pinching the seams closed. The dough will tend to pull apart on the seams as it rises again so pinch the seams tightly together making sure that they are bound and sealed well. Place the buns seam side down on a greased baking sheet. Let the dough rise until puffy and doubled. It will take longer to rise than dough alone because of the cool filling in the dough.
4. Bake for eighteen minutes or until the bread is done. Serve hot. Refrigerate leftovers.



## Stuffed Bread: Mushroom Cheddar Oat Bread

The third way to make stuffed bread is jelly-roll fashion. We are most familiar with this as cinnamon raisin bread but you can use any filling—sweet or savory—that pleases you. We'll show you how by making Mushroom Cheddar Oat Bread.

For this bread, we used our Old-Fashioned Oat Bread Mix which makes two loaves. If you prefer to use your bread machine or only make one loaf, try a bread machine mix. Of course, you can always retrieve your favorite bread recipe from the cookbook. We like the chewy goodness of oats with this combination.

Mix the bread according to directions. Let it rise, covered, in a bowl. Roll the dough, one loaf at a time, on clean counter until the dough is 1/4-inch thick and in the shape of a rough rectangle. Spread melted butter, mayonnaise, or mustard on the dough, cover with filling, and roll into a tight cylinder. (See below for the recipe for this filling.) Pinch the seams together. Place the dough in a greased loaf pan with the seam down.

There's a trick to making these breads turn out right. The heavier the fillings, the more likely it is that the layers will pull apart as they rise leaving a void between the layers caused by trapped gases from the yeast. We reduce those voids by creating vents for the gas to escape. It won't eliminate them but it helps.

Once the loaf is in the pan, before the bread begins its second rising, take a sharp knife and slice the tops lengthwise, one slice at ten o'clock and another at two o'clock. The cuts should pierce the first layer of dough so that gas trapped between these layers can escape. (See the picture.) Cover the loaves and let them rise until doubled.

Bake at 350 degrees for 25 minutes or until done.



### **Mushroom Cheddar Filling**

Prepared mustard to spread on the dough according to taste

2 cups grated cheddar cheese

8 ounces mushroom pieces, coarsely chopped

1/4 teaspoon pepper

After the bread is rolled into a 1/4-inch thick rectangle, spread the mustard on the surface of the dough. Mix the remaining ingredients and spread them on the dough.

## Stuffed Bread: Calzones

Calzones are closely related to pizzas, sort of a folded over pizza. Somehow though, cutting into the crisp, golden crust of a calzone to reveal a luscious filling is a different experience than eating a pizza. But if you can make a pizza, you can make a calzone. In this article, we'll tell you how and give you a recipe.



You can use nearly any pizza crust recipe to make calzones. The fillings are usually different than the toppings on a pizza; use ricotta instead of hard cheese for the filling base. (Although you can make calzones without any cheese in the filling.)

### Keep the following principles in mind as you build your calzones:

1. For the filling, simple combinations really do work best. Less is truly better.
2. Calzones take longer to cook than pizza and require a lower temperature in order to crisp the crust and to penetrate the filling. They generally take 15 to 20 minutes to bake at 400 degrees.
3. Smaller is better. Make calzones that are 6 to 12 inches long.



Most calzones are made in the traditional half-moon shape that is achieved by rolling or pressing out the dough ball into a circle. The filling is mounded into the bottom half of the circle and the top part is folded over and crimped by hand or with a fork.



### Here are the steps to making a perfect calzone:

1. Mix the dough according to the package or recipe instructions. Cover and let the dough rise until doubled.
2. Roll out a small dough ball (about 8 ounces) into a round 1/4 inch thick. The gluten in the dough may try to make the dough spring back into shape. It's often easier to roll the dough partially, let it sit for a few minutes to relax, and then roll the dough again. Try to roll the dough uniformly. Thin spots lead to leaks.
3. Place a small handful of mozzarella on the lower half of the circle. On top of the cheese, place about three quarters of a cup of filling materials. On top of the filling, add 1/2 to 2/3 cup ricotta. Thick, creamy ricotta—not low-fat—works best.



Season with salt and pepper and sprinkle with parmesan. (Of course, you can vary the filling ingredients greatly. Often an egg is mixed with the ricotta to make the filling less runny.)

4. Fold the top of the calzone crust over the bottom into the traditional half-moon shape. Seal the edges by crimping them with a fork. Be sure to press firmly enough to seal the edges and keep the fillings from leaking. Use the edge of a knife or fork to shape the crust edge into a uniform border.
5. Just before baking, brush the crust with an egg white wash or olive oil. An egg white wash will give the calzones a satiny finish. Olive oil will make the crust browner and crisper. If you brush with olive oil before baking, brush the crust again with olive oil immediately after coming from the oven. The second brushing will add sheen and flavor to the crust.
6. Bake the calzones on a dark pan on the lowest shelf of the oven to provide enough bottom heat to bake the bottom crust. Better yet, place the pan directly on a preheated baking stone. (If you are using a rectangular pan, a rectangular baking stone works best.)

## **Creamy Ricotta and Sausage Calzone Recipe**

Use this recipe as a template for other calzones. Try other calzones with mushrooms, pepperoni, spinach, or more. If you use onions or green peppers, partially cook the veggies before adding them to the filling. Meats should always be cooked first.

### *For the crust*

2 2/3 cups bread flour  
1 cup water at 110 degrees  
1 7 gram packet instant yeast  
1/4 cup stone ground whole wheat or rye flour  
2 tablespoons olive oil  
2 teaspoons granulated sugar  
1/2 teaspoons salt  
1 tablespoon baker's dry milk  
1/2 teaspoon dough conditioner

olive oil

### *For the filling*

3/4 pound mild Italian sausage  
1 small onion, diced



1/4 cup chopped fresh basil or 1 tablespoon dried  
1 1/4 to 1 1/2 cups grated mozzarella cheese  
1 1/2 to 2 cups whole milk ricotta  
2 tablespoons grated parmesan cheese  
salt and pepper (optional)

*Directions for the crust*

1. Place about 2/3's of the bread flour in the bowl of your stand-type mixer. Add the water and yeast. Mix with the dough hook for about one minute to hydrate the instant yeast.
2. Add the rest of the bread flour, the whole grain flour, olive oil, the sugar, salt, dry milk, and dough conditioner. Mix for about four minutes at medium speed or until the gluten is formed.
3. Remove the dough to a large greased bowl. Cover and let the dough rise until doubled.

*For the filling*

1. Sauté the sausage and onion together until cooked but not over-cooked. (The meat will cook just a bit more in the heat of the oven.) Stir in the basil. Crumble the meat into smaller pieces.

**Putting the calzone together**

Preheat the oven to 400 degrees.

1. Once the dough has risen, divide it into three equal parts with a sharp knife. Roll out each into a nine-inch round. Avoid any thin spots that might leak.
2. Place 1/3 of the mozzarella on the lower half of each circle. On top of the cheese, place 1/3 of the meat and onion filling. On top of the filling, add 1/3 of the ricotta. Sprinkle each with a portion of the parmesan. Salt and pepper if desired.
3. Fold the top of the calzone crust over the bottom into the traditional half-moon shape. Seal the edges by crimping them with a fork. Use a sharp knife or pizza wheel to trim the crimped edges smoothly.
4. Grease a large baking sheet and dust it with cornmeal or semolina flour. With a pastry brush, brush the crust of each of the calzones with olive oil. Bake the calzones for 15 to 20 minutes or until browned. Remove from the oven and turn to a wire rack. Brush the crust again with olive oil. Serve hot.

***Baker's Notes:*** *In filling the calzones, you don't need to measure the ingredients; just use what looks right. Unless your sausage is well-seasoned, you will probably want to sprinkle the fillings with salt and pepper.*

# Chapter 6



**Butter, Shortening, and Oil**  
**The Fats We Bake With**

## **Chapter 6**

### **Butter, Shortening, and Oil The Fats We Bake With**

Butter, Shortening, and Oil .....	171
Part 1: Butter, Shortening, and Oil.....	172
Overview .....	172
Margarine .....	174
Shortening.....	174
Vegetable and Olive Oils .....	175
Choosing Healthy Cooking Oils .....	176
Part 2: How We Use Fats and Oil in Baking .....	177
The Perfect Pie Crust .....	178
The Creaming Method for Mixing Cakes.....	179
Substituting Oils and Fats in Baking .....	180
How to Reduce Fats in Baking.....	181
Part 3: Recipes—The Chapter in Practice .....	182
Rich Buttery Pie Crusts .....	182
American Walnut Pie Crust Recipe .....	183
Vanilla Nut Pie Crust .....	184
Peach Chiffon Pie with Gingersnap Crust Recipe .....	185
Sour Cream Chocolate Cake with Raspberry Divinity Frosting.....	187
Cherry Dream Cake .....	190
Bonus Bulletin: Storing Fats and Oils.....	192

Copyright 2005, The Prepared Pantry. All rights reserved.

The material herein is published by The Prepared Pantry for the private use of individuals and may not be used for commercial purposes without the express consent of the publisher. The information contained herein is believed accurate but the publisher makes no warranties, express or implied, and the recipient is using this information at his or her own risk.

# Butter, Shortening, and Oil and How We Use Them

## Chapter Objectives:

*In this chapter you will:*

- *Learn about the fats that we use in baking and the roles that they play.*
- *Understand how to substitute butter for shortening in a recipe.*
- *Understand how butter works in a recipe.*
- *Use butter and a pastry blender to make scones.*
- *Use butter to make a cake.*
- *Use shortening to make a cake.*

## Part 1: Butter, Shortening, and Oil

### Overview

Flour, butter, and sugar are the three cornerstones of baking. We learned about flour in chapter one. We'll learn more about sugar in the next chapter. In this chapter, we'll learn about the fats and oils that we use in our baking, especially butter.

Nearly all recipes call for a fat—and butter is the fat most often called for. In our discussion of dairy products, we explored fats. We will extend that exploration in this chapter. For definitional purposes, fat is so labeled if it is solid at room temperature and an oil if it is liquid at room temperature. A baker is most interested in the function of a fat or oil and usually refers to both fats and oils as fats. In this book, you will find us using the same definitions.

Nearly all recipes call for fat or oil and they usually call for water or milk so the baker is trying to mix water and oil together. To meet that challenge, the baker must use proper mixing techniques. In this chapter, we'll discuss those techniques as well as the roles of flour and eggs in mixing our fats and liquids.

Finally, in this chapter you will find recipes that demonstrate the proper use of fats. We will use butter and shortening in pie crusts and cakes.

### Butter

Our fat of choice is butter. While some recipes, especially cakes, rely on shortening and occasionally oil, a mastery of the use of butter is essential to great baking.

The sweet taste of butter is superior to margarine or shortening. Because it has a low melting point, butter melts in your mouth for a wonderful, luxurious mouth feel. Butter does not contain hydrogenated fats as shortening and most margarines do and that is an important health consideration for many.

The disadvantage of butter is that because of the low melting point, doughs made with butter are harder to handle. At room temperature, butter becomes soft and liquid-like and pastry doughs—unless they are kept chilled—can become soggy and tough. The cardinal rule of using butter in a pastry is to keep the dough cold so that the butter does not turn soft and liquid-like.

### Composition

By USDA requirement, butter must contain at least 80% dairy fat. Of the remaining 20%, 15% is water and the rest are usually nonfat milk solids. In comparison, shortening is 100% fat and no water with some entrained air.

### Salted or Unsalted

Butter can be purchased either salted or unsalted. Salt is a preservative and salted butter can be kept in the refrigerator longer. Unsalted butter has a fresher, sweeter taste and is preferred in those recipes that have a high butter content and in which butter is a dominant flavor. Salted butter has a higher percentage of water but not enough to matter except in those recipes with a high proportion of butter. If the recipe has a high proportion of butter, you may need to modify the salt in the recipe when using salted instead of unsalted butter.

Many recipes call for unsalted butter. Unless the recipe calls for quite a bit of butter, we don't specify unsalted butter. In most recipes, we find salted butter acceptable and more people are more likely to have salted butter in their refrigerator than unsalted. Of course, if you have unsalted butter available, please use it.

### Working with Butter

Measure butter accurately. The best way to measure is with a scale. One-half cup (or one cube), weighs four ounces. The next best way to measure is to cut a cube in half for 1/4 cup and in half again for two tablespoons. Don't rely on the marks on the wrapper; wrappers rarely fit properly.

It's okay to melt butter in the microwave. When melting butter, cut the butter into pieces so that it will melt easily and uniformly.

Many recipes call for room temperature butter. You can bring a cube of butter to room temperature—65 degrees--by setting it on the counter for an hour. If you are like we are and don't always plan ahead, don't despair. Use the paddle attachment on your stand-type mixer to soften butter. Beat the butter at medium speed for two or three minutes. The heat caused by friction of the butter beating in the bowl will soften the butter.

When using butter in pie crusts, pastry doughs, or biscuits—any time butter is cut in with a pastry knife—temperature is a key to success and very cold butter should be used. For these recipes, use only rock hard butter--never soft—and then work quickly. Don't overwork the dough. Overworking the dough will melt the butter and ruin the dough. The butter bits should still be hard when complete. If you suspect that your flour and

butter mixture is becoming too warm, stick it back in the refrigerator before the butter melts and let it chill.

When creaming butter for cookies and cakes, temperature is still a key. If you over mix the batter, the friction will heat the butter until it begins to melt, the tiny air pockets in the batter will be lost, and the cookies will spread too quickly.

Any fat, including butter, acts as a shortening in baking because it shortens the gluten strands formed from the flour. It is shortenings that make for tender and crumbly baked products rather than chewy. Shortening makes for a finer, less open, crumb in breads.

## **Margarine**

Margarine is hydrogenated vegetable oil to which flavors and colors have been added. It has a low water content.

To understand margarine, we need to understand hydrogenation and what it does. Fats are composed of molecules consisting of carbon, hydrogen, and oxygen atoms. Different configurations of the carbon and hydrogen atoms create saturated, polyunsaturated, and monounsaturated fats. With unsaturated fats, whether poly- or monounsaturated, the fat molecules have not been saturated with hydrogen atoms—that is, there are still carbon atoms in the molecules that have the availability to bond with hydrogen atoms. In the hydrogenation process, additional hydrogen atoms are added to unsaturated fat molecules and these hydrogen atoms connect to the carbon atoms.

By adding hydrogen, the processor converts a liquid unsaturated fat—vegetable oil—to a more fully saturated solid—margarine. Hydrogenation slows oxidation of the fat and thereby increases shelf life. (The rancidity that we taste in spoiled butter or nuts is the result of oxidation.)

Because margarine has a higher melting point than butter, it is easier to keep solid and work with in a dough. But of course, it doesn't have the flavor of butter and many of us choose to limit the amount of hydrogenated fats in our diets for health reasons.

## **Shortening**

Shortening is another hydrogenated fat similar to margarine. It has no water and does not have the colors and flavors that are added to margarine. It has air entrained into the fat in processing to increase the volume and enhance the aeration of batters. Some shortenings have added emulsifiers. (Emulsifiers act as a boundary between water and fat molecules so that the water and fat can blend uniformly instead of curdle.) With the entrained air, the higher melting point, and in some cases—emulsifiers--shortening makes a better and more consistent fat than butter for aerating batters. For these reasons and because of the attendant long shelf life of hydrogenated products, commercial bakeries often use shortening in their products. (If the label says "hydrogenated fat" the product is likely to have a shortening-type product in its composition.)



## **Vegetable and Olive Oils**

Although some muffin and quick bread recipes call for vegetable oil, vegetable oils are not used extensively in baking. They lack the ability to aerate as the solid fats do. Because the liquid oil migrates through the batter readily, it is a more effective agent in shortening gluten strands and making baked goods crumbly—and often too crumbly for many baked goods.

We like the taste of olive oils and use them in baking when we can. Most focaccia, ciabatta breads, and pizzas are made with olive oil.

## Choosing Healthy Cooking Oils

Fats are an essential part of our diet—but some are “good” and some are “bad”. Here, we'll give you a run down on the best cooking oils and help you choose which to use.

We recommend three oils for the pantry. These, along with a little shortening (we rarely use shortening because of the hydrogenated fat), butter, and vegetable oil in aerosol cans, should meet nearly all of your cooking needs. These three oils are olive oil, peanut oil, and canola oil.

We use olive oil for Italian breads such as ciabatta and focaccia because of the distinct olive flavor. For the same reason, we use olive oil in salad dressings and marinades. It is suitable for low heat or quick cooking but changes flavor rapidly at higher heats.

Olive oil is one of the healthiest of oils. It has a high percentage of monounsaturated fat, a good fat, and a lower percentage of saturated and polyunsaturated fats than vegetable oils. Unlike oils processed from hard seeds with heat and chemicals, oils from the fruit of the olive are soft pressed and healthier.

Peanut oil is more heat tolerant than olive and some other oils and is suitable for frying. The peanut taste of the oil complements some foods well. Peanut oil is higher in monounsaturated fats than most vegetable oils.

Canola oil is neutral flavored and is suitable for frying. It is relatively high in monounsaturated fat and has some omega-3 fatty acids. The safest canola oil is organic, expeller-pressed available in the health food section of the grocery store.

While we recommend olive, peanut, and canola oil, some experts don't. Dr. Andrew Weil, the author of *Eating Well for Optimal Living*, does not endorse peanut oil because of possible harsh processing and because some peanut oil may be tainted with a carcinogenic mold that frequents peanuts.

How oil is processed and how you store oil once you get it home may be as important as the type of oil that you buy. Heat, light, and oxygen damage the fatty acids that comprise oils. Store oils in a cool, dark place, preferably the refrigerator and buy smaller bottles and keep them tightly capped. (We'll talk more about storing oils in the next section.)

We suggest that you read labels regularly noting the types and amounts of fats present in the articles that you buy. The nutritional information table will tell you what is considered a serving size and how much saturated or polyunsaturated fat is present—the bad fats. Read in the ingredient listing to discover the presence of hydrogenated fats—another unhealthy fat. You will find that many processed foods contain hydrogenated fat, including most baking mixes found in stores.

## **Part 2: How We Use Fats and Oil in Baking**

In this part, we'll discuss how we use fats and oils in our baking. At the end of this section, you should understand how to use fats and oils in these basic methods as well as understanding how to reduce the fat in your favorite recipes.

- We'll explore pie crusts and how they are made.
- We'll use the creaming method to incorporate butter or shortening in a cake batter.
- We'll describe how to substitute oils and fats in baking.
- Finally, we explore some guidelines for reducing the amount of fat in a recipe.

## The Perfect Pie Crust

There are tricks to making perfect pie crusts. The first is maintaining the correct balance of ingredients and the second is temperature.

Pie crusts are a mixture of flour, fat, and water. For years we made pie crusts with a ratio of these ingredients: 1/4 cup water to 1/2 cup shortening to 2 1/2 cups flour. (The flour should be measured by spooning the flour into the measure, not scooping it. Scooping packs the flour and overloads the formula.) Add a teaspoon of salt and you have a recipe for a double crust.



In recent years, we have fallen in love with butter-based crusts. The above ratio will work just fine using butter instead of shortening but we have discovered that we can really load our crusts up with butter adding up to three times as much butter as we did earlier. The recipe for this rich crust can be found in the recipe section of this chapter.

Temperature may be even more important than balance—especially if you are using butter. The trick is to keep the butter and the dough cold enough that the butter pieces remain intact. If it gets too warm, it melts and saturates the flour. (The same thing happens with shortening but the melting temperature of shortening is higher.) It's the little pieces of butter that makes the crust flaky. As the butter heats in baking, little pockets of steam are formed from the butter nodules.

To keep your dough cold, use only the coldest butter and water. Then refrigerate the dough for an hour before forming the pie. If making multiple pies, take only enough dough from the refrigerator for one pie keeping the rest cold until you are ready for it.

## The Creaming Method for Mixing Cakes

In chapter four we learned about the creaming method as it applies to most baked goods. The same basic method is used for cakes.

The creaming method for mixing cakes is consistent with the general creaming method that you would use for mixing cookies or muffins. Attention to temperature and mixing the dry and wet ingredients alternately is beneficial.

Temperature of the batter is important when you are making a cake. All ingredients should be at room temperature—65 to 70 degrees. If you are using butter, you may bring cold butter to room temperature by beating it at medium speed for about two minutes with the paddle attachment of your stand-type mixer.



### Steps in the Creaming Method for Cake Mixing

1. With the paddle attachment of an electric mixer, beat the butter or shortening at medium speed until it is smooth and creamy.
2. Add the sugars, spices, flavorings (including chocolate, if any), and salt. Beat at medium speed for eight to ten minutes or until it is light and fluffy.
3. Add the eggs one at a time, creaming after each.
4. Mix the flour and leavenings together.
5. Add about one-fourth of the dry ingredients to the creamed mixture. Mix until just combined. Do not over-stir or you may reduce the entrained air in the creamed mixture.
6. Add about one-third of the liquid ingredients and stir them in.
7. Repeat with the dry ingredients and the wet ingredients until all the ingredients are added. You should end by adding the dry ingredients.
8. Add any nuts or raisins by gently folding them in with a spatula. Keep the stirring to a minimum.
9. Place in pans and bake immediately as set forth in the recipe.

**Baker's Note:** You can make an extra light cake by whipping two egg whites to soft peaks along with some of the sugar called for in the recipe. Gently fold them into the batter in step 8.

## Substituting Oils and Fats in Baking

We have experimented with substituting butter, oil, and shortening in quick bread and muffin recipes. In many recipes, one works better than the others. We have not yet been able to determine which will work better by studying the recipe, only by trial and error.

We have found that changing the mixing method called for in the recipe has a more dramatic affect on the baked good than does changing the fat—though we are very partial to the rich flavor of butter.

As you recall from chapter 4, muffins and quick breads can be made by either the muffin method or the creaming method. Only liquids—vegetable oil or melted butter--can be used in the muffin method.

### Guidelines for Substituting Butter and Shortening in Cake Recipes

Some of us try to limit our intake of hydrogenated fats. Shortening, a hydrogenated fat, is most often used in cake recipes. Because of the performance characteristics of shortening, we sometimes splurge and use shortening in our cakes.

It is possible to substitute butter for shortening or shortening for butter in cake recipes. To do so, use the following guidelines. Generally, you will be successful with these guidelines though some cakes may require additional experimentation.

To substitute shortening for butter:

- For each cup of butter, use one cup plus two tablespoons of shortening.
- Since butter contains water and shortening does not, add 2 1/2 tablespoons of water or milk for every cup of butter eliminated.

To substitute butter for shortening:

- For each cup of shortening, use 3/4 cup plus two tablespoons of butter.
- Since butter contains water and shortening does not, subtract 2 1/2 tablespoons of water or milk from the recipe for every cup of butter added.

## How to Reduce Fats in Baking

In many baked goods, some fat is necessary to create the proper mouth feel and texture. Often those same baked goods are acceptable in a fat-reduced variation. Here are ways that fat can be reduced:

- Use fruit purées or applesauce for some of the fat. Purées made from dried apples or dried apricots have less affect on the flavor of the baked goods than most other purées.
- Use reduced fat dairy products for whole fat products. Nonfat dairy products typically do not perform well in baked goods.
- Replace some of the whole fat product with low fat buttermilk.
- Replace all or some of the whole eggs with egg whites.
- Xanthan gum can be used to replace some of the eggs. Follow the package directions but with most gums, a small amount will have a significant effect. We have had very good success with xanthan gum though it takes some experimentation and good results are easier to achieve if the xanthan gum replaces only a part of the eggs.



## Part 3: Recipes—The Chapter in Practice

### Rich Buttery Pie Crusts

If you haven't tried making pies with buttery crusts, do so. Most pie crusts are made with shortening but shortening is tasteless while butter is rich and fulfilling. And it's not hard to make butter-based pie crusts.

As we mentioned earlier in this chapter, the tricks to making perfect pie crusts are maintaining the correct balance of ingredients and temperature. Temperature is especially important with butter-based crusts.



#### Ingredients:

2 1/2 cups all-purpose or pastry flour  
2 tablespoons sugar  
1 teaspoon salt  
1 1/2 cups cold butter  
1/2 cup ice water

#### Directions:

1. Mix the flour, sugar, and salt together in a medium bowl.
2. Your butter should be ice cold and rock hard. Cut the butter into one-inch chunks. Cut the butter into the flour mixture with a pastry knife until the butter pieces are pea-sized or smaller.
3. Add the ice water. Mix the water into the flour and butter mixture with a fork until it becomes to come together. Knead it together by hand. Work quickly and do not over mix. The dough must remain cold. Wrap the dough in plastic and refrigerate it for an hour before shaping the crust.

Baker's note: Temperature may be even more important than balance—especially if you are using butter. The trick is to keep the butter and the dough cold enough that the butter pieces remain intact. If it gets too warm, it melts and saturates the flour. (The same thing happens with shortening but the melting temperature of shortening is higher.) It's the little pieces of butter that makes the crust flaky. As the butter heats in baking, little pockets of steam are formed from the butter nodules.

## American Walnut Pie Crust Recipe

Adding nuts to a crust can make all the difference. This one combines walnuts, lots of cinnamon, and butter. This crust works wonderfully well with creamy smooth pies from vanilla cream to pumpkin. It also works well with fruit pies with precooked fillings. A canned fruit filling can be used with this crust and then garnished with whipped cream for a quick, elegant dessert. Since it is a crumbly crust, it even works well as a crust for a cheesecake.



Pair this crust with your favorite pie and you'll love the combination.

### American Walnut Pie Crust Recipe

#### Ingredients:

1 cup pastry or all-purpose flour  
1/3 cup sugar  
1/2 teaspoon cinnamon  
Dash salt  
3/4 cup walnut pieces  
6 tablespoons butter, melted

#### Directions:

Preheat the oven to 350 degrees. You will need one buttered, nine-inch deep-dish pie pan either a light-colored or glass pie pan.

1. Place the flour, sugar, cinnamon, and salt in a small bowl and stir to combine.
2. Place the nuts in a food processor or blender and pulse just long enough to chop the nuts finely, not into a paste. Scrape the nuts into the flour mixture and stir to combine.
3. Add the melted butter and combine well.
4. Press the mixture into the buttered pie pan making certain that the crust is evenly thick.
5. Bake for 15 to 18 minutes or until it just starts to brown on the edges. Do not over bake. A light-colored or glass pan will absorb less heat than a dark one and help ensure against over baking.

## Vanilla Nut Pie Crust

This recipe is similar to the American Walnut Pie Crust but is made with vanilla wafer crumbs and fewer walnuts. The vanilla and walnuts make a splendid combination. This crust works best with a cream pie or a cheesecake.

### Vanilla Nut Pie Crust Recipe

This wonderful crust marries crushed vanilla wafers with rich walnuts for a nutty, vanilla crust. You'll love the combination. We recommend this with cream pies. Again, don't over bake the crust. This recipe makes a nine-inch deep dish pie.



### Ingredients

2 cups crushed vanilla wafers  
2 tablespoons granulated sugar  
2/3 cup walnut pieces  
6 tablespoons butter, melted

### Directions

Preheat the oven to 400 degrees. You will need one buttered, nine-inch deep-dish pie pan either a light-colored or glass pan.

1. Crush the vanilla wafers. (See The Baker's Note.) Place the crushed wafers in a deep-dish pan.
2. Place the nuts in a food processor or blender and pulse just long enough to chop the nuts finely, not into a paste. Scrape the nuts into the pie pan. Add the sugar. Stir to combine.
3. Add the melted butter and combine well.
4. Press the mixture into the buttered pie pan making certain that the crust is evenly thick.
5. Bake for eight minutes or until it just starts to brown on the edges. Do not over bake. A light-colored or glass pan will absorb less heat than a dark one and help ensure against over baking.

The Baker's Note: This is how we crush cookies, vanilla, wafers, and graham cracker. Place handful of crackers or cookies in a heavy-duty plastic bag. Using a rolling pin, roll over the cookies to crush them. When crushed, empty the bag into a measuring cup and repeat the process until you have the desired amount of crumbs.

## Peach Chiffon Pie with Gingersnap Crust Recipe

In this recipe, the creamy peach filling is complemented perfectly by the gingersnap crust. The peach filling is fresh and sweet and the ginger creates a contrast. If you have access to fresh peaches, try this pie.

### Peach Chiffon Pie with Gingersnap Crust Recipe

The crust for this pie is simply made with crushed gingersnaps and butter. The filling is chiffon with a fresh peach puree. You will need a nine-inch, deep-dish pie pan for this pie.



#### For the crust

2 cups gingersnaps, crushed  
5 tablespoons butter, melted

#### For the filling

1 cup whipping cream  
1 teaspoon vanilla  
2 cups puree from ripe, peeled peaches  
1 tablespoon lemon juice  
2 drops red food coloring  
2 envelopes unflavored gelatin  
3 large egg whites  
1 cup granulated sugar

#### Directions

Preheat the oven to 350 degrees

1. In a nine-inch, deep-dish pie pan, mix the cookie crumbs and melted butter. With a large spoon or stiff spatula, press the crumbs into the bottom and up the sides of the pie pan. Bake the crust for ten minutes.
2. Whip the cream until soft peaks form. Add the vanilla and continue whipping until mixed.
3. Mix the puree, lemon juice, and red food coloring together.

***Baker's Note:*** The lemon juice helps the peach puree from turning dark. The touch of red food coloring should give the puree just a blush of pink.

4. Sprinkle the gelatin over 1/2 cup of the peach puree. Place the puree and gelatin in the microwave and heat for fifteen seconds. Take the puree out and stir it with a spoon. Heat it again for 15 seconds and stir again. Repeat the process until the mixture is very hot and the gelatin is dissolved. Mix the hot puree with the rest of the puree and refrigerate it for ten minutes.
5. Place the egg whites in a metal or Pyrex bowl. Stir in the sugar. Place the bowl in a pan of water on the stove. Heat the water and stir the egg whites with a whisk until the egg white mixture reaches 160 degrees. (Use your insta-read thermometer. If you don't have a thermometer, the mixture will be very hot but not bubbling.) Remove from the heat. Beat with an electric mixer until soft peaks form.
6. Fold the peach mixture into the egg white mixture. Fold the whipped cream into the mixture. Refrigerate for two or three hours or until firm. Store in the refrigerator.

## Sour Cream Chocolate Cake with Raspberry Divinity Frosting

Nearly everyone likes chocolate cake. This one has the deep, rich taste of unsweetened chocolate and sour cream. The light airy, raspberry divinity frosting is really a seven-minute frosting with added raspberry jam. Both the raspberries and the fluffy frosting complement the rich chocolate cake.



### Chocolate Sour Cream Cake Recipe with Raspberry Divinity Frosting

As with all cake recipes, it is important that the temperature of the ingredients is at room temperature. You may beat cold butter for about two minutes to bring that to room temperature. You will heat the chocolate with milk. By letting it cool for several minutes and then adding cold sour cream, the resulting mixture should be near room temperature.

#### Ingredients:

##### *For the cake:*

3 ounces unsweetened chocolate  
1/2 cup milk  
3/4 cup sour cream

1/2 cup butter  
1 2/3 cups brown sugar  
1/4 teaspoon salt  
2 large eggs

2 cups all-purpose flour  
1/2 tablespoon baking powder  
1/2 teaspoon baking soda

##### *For the frosting:*

3 egg whites  
2 cups granulated sugar  
1/2 cup cold water  
1/2 teaspoon cream of tartar

1 cup seedless raspberry jam  
1/2 teaspoon almond extract

## Directions

### *For the cake*

Prepare three eight-inch cake pans by greasing them and dusting them with flour.

Preheat the oven to 350 degrees.

1. Heat the chocolate and milk together in a small saucepan, stirring until the chocolate is melted. Remove the pan from the heat and stir in the sour cream. Set the mixture aside to cool to room temperature.
2. With the paddle attachment of an electric mixer, beat the butter at medium speed until it is smooth and creamy. Add the brown sugar and salt. Beat until it is light and fluffy.
3. Add the eggs one at a time, creaming after each. Beat at medium speed for eight to ten minutes or until it is light and fluffy.
4. Mix the flour, baking powder, and baking soda together.
5. Add about one-third of the dry ingredients to the creamed mixture. Mix until just combined. Do not over-stir or you may reduce the entrained air in the creamed mixture.
6. Add about one-half of the liquid ingredients and stir them in.
7. Add another one-third of the dry ingredients to the creamed mixture and mix until just combined.
8. Add the last of the liquid ingredients and stir them in.
9. Add the last of the dry ingredients to the creamed mixture and mix until just combined.
10. Place in pans, smooth the tops, and bake immediately for 25 minutes at 350 degrees or until a toothpick stuck in the center of the cake comes out clean.
11. Cool for five to ten minutes in the pans. Remove the cakes to wire racks to cool completely. Frost after cooling.

### *For the frosting*

1. In the top of a double boiler, mix the egg whites, sugar, water, and cream of tartar. Whisk them together for thirty seconds or beat slow speed with an electric mixer.
2. Over boiling water, cook the mixture while beating constantly at high speed with your electric mixer. Continue for about seven minutes or until peaks begin to form.
3. Add the extract and jam. Continue beating until stiff peaks form. Frost the cake.

**Baker's note:** Use a good quality jam. If your jam has seeds in it, remove them by pressing the jam through a sieve. As with all cake recipes, it is important that the temperature of the ingredients is at room temperature. You may beat cold butter for

about two minutes to bring that to room temperature. You will heat the chocolate with the milk. By letting it cool for several minutes and then adding cold sour cream, the resulting mixture should be near room temperature.



## Cherry Dream Cake

This snack cake is unbelievably light and moist and fluffy. It doesn't have much fat and has a lot of egg whites--almost like an angel food cake. The cherry flavor comes from a whole jar of maraschino cherries chopped finely in the blender.

### Cherry Dream Cake Recipe

This cake works best in a rectangular pan and is sweet enough that it doesn't have to be frosted. If you do choose to frost it, choose a light frosting, either a glaze or a fluffy, light frosting. Our choice for this cake is a dab of whipped cream or maybe a little ice cream.



#### Ingredients:

2 cups all-purpose flour  
1 teaspoon baking powder  
1/2 teaspoon baking soda

1/2 cup shortening  
1 1/3 cups granulated sugar  
1/4 teaspoon salt  
4 large egg whites  
1/2 teaspoon almond extract

1 ten-ounce jar of maraschino cherries  
1/2 cup or more of buttermilk  
2 drops red food coloring (optional)

#### Directions

Prepare an 8 x 13-inch pan by greasing the pan and dusting it with flour.

Preheat the oven to 350 degrees.

1. Mix the flour, baking powder, and baking soda together in a medium bowl. Set aside.
2. With the paddle attachment of an electric mixer, beat the shortening at medium speed for 30 seconds. Add the granulated sugar and salt in two additions, beating after each.

3. Add the egg whites in three or four additions, beating after each. Add the almond extract. Beat at medium speed for eight to ten minutes. The mixture should be very light and fluffy.
4. Place the cherries from the jar in a blender along with a tablespoon or so of juice. In the blender, finely chop the cherries. Add the buttermilk. You should have about 1 1/4 cups of the cherry-buttermilk mixture. Add more buttermilk to reach exactly 1 1/4 cups.
5. Add about one-fourth of the dry ingredients to the creamed mixture. Mix until almost combined. Do not over-stir or you may reduce the entrained air in the creamed mixture.
6. Add about one-third of the liquid ingredients and optional red food coloring and stir them in. Repeat with the rest of the flour mixture and cherry mixture until all ingredients are combined.
7. Place in pan, smooth the top, and bake immediately for 30 to 35 minutes at 350 degrees or until a toothpick stuck in the center of the cake comes out clean.
8. Cool in the pan on a wire rack. If you have lined the pan with parchment paper, after ten minutes lift the cake from the pan by grasping the edges of the parchment paper.

**Baker's note:** This cake is light and airy because there is so much air entrained into the shortening, sugar, and egg white mixture. Be sure that the mixture is very light and fluffy before proceeding. The baking soda, an alkaline substance, reacts chemically with the buttermilk, an acid, to create carbon dioxide and lift the batter even more.

## Bonus Bulletin: Storing Fats and Oils

Fats turn rancid as they oxidize and oxidization is accelerated by exposure to heat, light, and oxygen. Butter, of course, must be refrigerated and should be used within two weeks of purchase. Other fats, such as vegetable oil and shortening, should be stored with tight-fitting lids in cool dark places. Do not store your oils above the stove which is probably the warmest spot in your kitchen

The human body requires the intake of six types of substances for survival: Fats, carbohydrates, proteins, water, vitamins, and minerals. Certain fatty acids are essential to our health and fats and oils are important components of our food and their preparation. Fat is responsible for much of the texture, appearance, and taste of our baked goods. Since fat is both required for human health and an important part of our diets, we should include fat in our emergency preparedness plans--some combination of butter, margarine, vegetable oil, olive oil, and shortening. (Oils are liquid at room temperature; fats are solid.) Though we need to store these foods to maintain our lifestyles and our health, they represent a particular food storage challenge. As oils and fats age, they oxidize. Oxidation is the process that turns fats rancid. Rancid foods not only taste bad, they are unhealthy. As fats and oils breakdown, they become toxic. These oxidized oils promote arterial damage, cancer, inflammation, degenerative diseases, and premature aging.<sup>1</sup> So it is important that we store fats properly, use all fatty foods well before they become rancid, and discard those foods that have been stored too long.

So what is the proper way to store fats and oils? Since three conditions accelerate the oxidation of fats--the exposure to heat, to oxygen, and to light--fats should be stored in cool or cold conditions, in the dark, and sealed so that they are not exposed to air. We store our vegetable oil, olive oil, and shortening in a dark, fifty-degree room. Once opened, we store our vegetable and olive oils in the refrigerator.

How long can we safely store fats and oils? That, of course, depends on the storage conditions. At seventy degrees, shortening can be kept for eight months.<sup>2</sup> Butter does not last long at all in the refrigerator--only two weeks--but can be stored for up to nine months in the freezer (not the freezing compartment of a refrigerator which is usually not as cold).<sup>3</sup> Margarine can also be frozen though some margarine tends to be flaky once thawed. While I do not have a government source for the shelf life of vegetable oils, I would not store oils for over eight to ten months.<sup>4</sup> My recommendation is to store butter in the freezer for up to nine months and store oils and shortening for eight months at seventy degrees--slightly longer at cooler temperatures. Maybe more so than any other food group, fatty foods must be carefully and conscientiously rotated to maintain adequate and healthy stocks. Use what you store and store what you use.

Not just oils and fats have to be carefully stored. Any food with a significant fat content such as nuts, cookies, or whole wheat flour is subject to rancidity. Nuts should be stored in a cool, dark environment and always checked for rancidity before they are used. Ideally, nuts should be stored in metal or metalized containers; plastic bags are permeable to air and slowly allow oxygen to seep into the package and accelerate oxidation. We keep our nuts in the freezer--even unopened bags. Freshly ground whole

wheat should be kept in the refrigerator and used within two weeks. (The commercial milling process removes most of the fat from wheat. Most white flour is nearly fat free. Any whole wheat flour with a fat content higher than two percent should not be stored.) Any food that has any rancid odor should be discarded.

So what fats should we store? Flaxseed oil and safflower oil oxidize very rapidly and are not good candidates for storage. Most commonly purchased vegetable oils are extracted with heat, pressure, and chemical additives, which may accelerate oxidation.<sup>5</sup> Cold pressed oils are better though more expensive. I know of no government source for the shelf life of cold pressed oils. Check any oil carefully for rancidity before using.

The modern diet is high in the consumption of Omega-6 essential fatty acids and low in Omega-3 fatty acids. Flesh from grain and corn fed animals and most vegetable oils are high in Omega-6. The National Institutes of Health urges nearly all people to reduce the consumption of the Omega-6 fatty acids and increase the consumption of Omega-3 believing that this is critical to achieving optimal brain and cardiovascular functions.<sup>6</sup> Of the commonly used oils, canola oil and soybean oil contain Omega-3 fatty acids. Avocados and nutmeats, especially walnuts, are high in Omega-3.<sup>7</sup>

Andrew Weil in his excellent book, *Eating Well for Optimum Health*<sup>1</sup>, promotes olive oil as a healthy substitute for vegetable oils. It has the highest percentage (77%) of monounsaturated fats of any of the oils but is low in Omega-3. There are many different varieties of olive oil available, each with a little different flavor. Choose what you like but watch it carefully for rancidity. Stored in the refrigerator or a cool basement, olive oil may turn cloudy-but the quality is unaffected.

Nutritionists advise us to reduce our intake of hydrogenated fats-margarine and shortening. Margarine is not a healthy substitute for butter.<sup>8</sup> Hydrogenated means that hydrogen atoms have been added to stabilize the oil and turn it from a liquid at room temperature to a solid. A saturated fat is a fat that has been saturated with hydrogen atoms, is stable and less prone to oxidation but the molecular composition of saturated fats is believed to raise serum cholesterol levels.<sup>9</sup>

Store oils and fats-they are essential to a well-prepared household and some fat is necessary to maintain health. However, choose the right fats and oils, store them properly, rotate religiously, and discard any that happen to get old.

<sup>1</sup>Weil, Andrew, M.D., *Eating Well for Optimum Health*, The Essential Guide to Food, Diet, and Nutrition, Alfred A. Knopf, New York, 2000, p.89, and:

Amendola, Joseph and Rees, Nicole, *Understanding Baking: The Art and Science of Baking*, Third Edition, John Wiley and Sons, Inc. Hoboken, New Jersey, 2003, p. 84.

<sup>2</sup>Kansas State University, "Cupboard Storage Chart" [www.oznet.ksu.edu/dp\\_fmud/hrap/storage](http://www.oznet.ksu.edu/dp_fmud/hrap/storage), Sept. 9, 2002.

<sup>3</sup>Clemson University, <http://hgic.clemson.edu/factsheets>, Nov. 11, 2002.

<sup>4</sup>Salsbury, Barbara G., *Just in Case: A Manual for Home Preparedness*, Bookcraft, Salt Lake City, 1975, p. 158. This source states that oils can be kept for six to twelve months depending on storage conditions. The author believes this is accurate.

<sup>5</sup>Weil, Ibid., p. 91. In addition to accelerating oxidation, common extraction methods may create detrimental trans -fatty acids.

<sup>6</sup>Ibid., p. 88.

<sup>7</sup>Ibid., p. 95.

<sup>8</sup>Ibid., p. 93.

<sup>9</sup>Amendola and Rees, Ibid., p. 83.

# Chapter 7



**The Sweeteners:  
Sugar, Honey, and Molasses and How We Bake with Them**

## Chapter 7

### The Sweeteners: Sugar, Honey, and Molasses and How We Bake with Them

Types of Sweeteners.....	195
Part 1: The Family of Sweeteners .....	197
White Sugars .....	197
Brown Sugar .....	197
Turbinado Sugar .....	197
Decorative Sugars.....	198
Honey .....	198
Molasses .....	198
Dehydrated Honey and Molasses.....	199
Corn Syrup.....	199
Part 2: How to Use Sweeteners .....	200
The Functions of Sweeteners .....	200
Sugar Cooking: Syrups and Sauces .....	202
Making Syrups and Sweet Sauces .....	204
The Use of Starch in Sauces .....	204
Substituting Sugar and Honey .....	205
Using Honey in Yeasted Breads.....	205
Decorating Cookies with Sugar.....	206
How to Decorate the Edges of a Cookie .....	206
Topping Muffins and Quick Breads with Sugar .....	207
Cookie Decorating Tips .....	207
Part 3: Recipes with Sweeteners.....	209
Basic Syrups (with Recipes) .....	209
Homemade Maple Syrup .....	209
Vanilla Syrup .....	209
Cinnamon Vanilla Syrup .....	210
Chocolate Syrup.....	210
Chocolate Banana Smoothie.....	210
Basic Sauces (with Recipes) .....	211
New England Chocolate Sauce .....	211
Supreme Caramel Sauce .....	212
Supreme Butterscotch Sauce.....	212
Pecan Pancakes with Butter Pecan Syrup.....	213
Autumn Apple Pancakes with Walnut Caramel Syrup.....	215
Peach Melba on Gingerbread Pancakes.....	217
Golden California Raisin Bread.....	219
Peanut Butter and Honey Cookies .....	221
Cinnamon Banana Breakfast Cakes .....	223

Copyright 2006, The Prepared Pantry. All rights reserved.

The material herein is published by The Prepared Pantry for the private use of individuals and may not be used for commercial purposes without the express consent of the publisher. The information contained herein is believed accurate but the publisher makes no warranties, express or implied, and the recipient is using this information at his or her own risk.

# The Sweeteners: Sugar, Honey, and Molasses and How We Bake with Them

## The Sweeteners—An Introduction

Got a sweet tooth? This chapter is for you. Here we will explore the ways we sweeten our baked goods—from plain granulated sugar to honey. Discover the array of sweeteners available, how to substitute one for another, and how they work in baking. You will also find recipes that rely on these sweeteners.

Sugar is the last of the three cornerstones of baking—flour, butter, and sugar. We'll look at specialty sugars such as turbinado, other sweeteners such as honey, and even dry molasses and dry honey.



Sweeteners do more than just enhance the taste. They can add crunch, decorate, change the structure of cookies and cakes, induce browning, and even retard staling. But let's dig in and learn about these sweeteners.

## Types of Sweeteners

Sugars are carbohydrates. To the chemist, sugars refer to a family of compounds with particular molecular structures. Corn syrup and maple syrup are sugars. Sugars can be classified into two types: simple sugars or monosaccharides and complex sugars or disaccharides. Glucose (or dextrose) and fructose are monosaccharides. Sucrose, lactose, and maltose are disaccharides. Why is this important to the baker? Each sugar has a different level of sweetness. Sucrose is what we know as granulated sugar and is less sweet than the glucose and fructose combination in honey.

Sucrose is what we know as granulated sugar, the sugar found in most recipes. Most of us are familiar with granulated sugar so we will list the other sugars in relationship to sucrose.

Fructose, one of the sugars found in honey, is a powerful sweetener. Pure fructose is twice as sweet as sucrose yet has only half the calories.

Fructose has another endearing quality for bakers: it is hygroscopic, that is it attracts moisture rather than dehydrates. Because of this, honey helps products remain fresh and moist.

Lactose, found in milk, has 85% of the sweetness of sucrose. Whole milk contains less than 8% lactose by weight therefore a cup of milk does not contain a great deal of sugar. Adding a cup of milk to your recipe may be the equivalent of adding a tablespoon of sugar.

Glucose is about 75% as sweet as sucrose or granulated sugar. Glucose is found in both honey and the molasses-like syrup that is added to refined sugar to make brown sugar.

Glucose, lactose, and fructose caramelize more easily than sucrose. Because of that, adding honey, milk, or brown sugar to a recipe will create a browner product than will sucrose alone. A loaf of bread made with brown sugar or milk will usually have a deep brown crust when fully baked.



## Part 1: The Family of Sweeteners

### White Sugars

White sugar is refined to take all of the brown syrup or molasses out of the final product. To the baker, it is our most important group of sugars.

- **Granulated sugar** is the table sugar that we are all familiar with. It is 99% sucrose and is a disaccharide refined from either sugar cane or sugar beets.
- **Superfine sugar, or caster sugar**, is simply granulated sugar ground to a finer texture. Because superfine is composed of smaller crystals, it will dissolve faster. It is used in applications where the sugar needs to dissolve with a minimum of stirring. We like it especially in whipped cream and meringues. It is often used with butter for creaming since with more particles, there are more sharp edges to cut into the butter and create tiny air pockets.
- **Confectioners' or powdered sugar** is pulverized granulated sugar with 3 to 5 percent cornstarch added. If you substitute part of the confectioners' sugar for granulated sugar in a sugar cookie recipe, the added cornstarch will make for a stiffer dough and a cookie that will hold its shape a little better. Confectioners' sugar added to baked meringues will reduce its proclivity to weep. Because it is so fine, it does not cream with butter or shortening to create tiny air pockets as granulated or brown sugar does.

### Brown Sugar

Brown sugar is refined sugar with some molasses either left in the sugar from the refining process or added as a syrup. The combination results in a caramel flavor and enough invert sugar to help keep baked goods fresh. Substituting brown sugar for a portion of the granulated sugar in a cookie recipe, adds caramel flavor, increases spread, and creates a cookie that will stay moist longer. Products baked with brown sugar will brown quicker than those baked with granulated sugar.

### Turbinado Sugar

Turbinado sugar is an amber-colored sugar manufactured into coarse crystals. It has a little of the caramel flavor of brown sugar. Turbinado sugar makes a wonderful decorative sugar for cookies, cakes, muffins, and pie tops. Our Chocolate Sugarsnap Cookies are topped with turbinado sugar to give them added sweetness and a wonderful crunch.

You can see turbinado sugar in the



accompanying picture.

## Decorative Sugars

Decorative sugar, or coarse sugar, is large-grained sugar used as a decorative topping for cakes and cookies. It is also used to create a “crunch” on the top of cookies.

Decorative sugars come in different sizes and colors. The white sugar on the plate to the right is size AA. The red sugar is slightly smaller, a size A. The green sugar is finer yet, a sanding sugar comparable to most of the decorative sugars that we see in the stores. The amber-colored sugar is turbinado. The turbinado that we use is slightly larger than AA.



## Honey

Honey is derived from the nectar of flowers and, when commercially produced, heated to kill any yeasts or bacteria, and filtered to remove foreign substances. Each flower type adds its own distinctive flavor and the composition of the honey varies slightly depending on these flower types. When substituting honey for sugar, consider three factors: honey has a distinctive flavor that is imparted to baked goods, honey is 1 1/4 times sweeter than sugar—adjust your recipe accordingly, and because it contains fructose and glucose, it is hygroscopic and will retard staling.

## Molasses

Molasses is a by-product of the sugar refining process and can be light or dark depending on the process. Molasses is typically added to baked goods for its strong, distinctive flavor. Because it contains an invert sugar and is not 99% sucrose as granulated sugar is, it attracts moisture and keeps baked goods from drying out.

## Dehydrated Honey and Molasses

That's right--honey and molasses can be purchased in a dry form. They are processed with sucrose or dextrose and are not as concentrated as the liquid forms. Since they are composed with real honey and real molasses, they carry the flavors of each.

In the picture, the darker mound is dried molasses and the lighter pile, dried honey. In the center is ordinary sugar.



These are easy and convenient to use.

We use them regularly in bread and cookie mixes. If you make mixes in a jar or mixes for your own use, consider these dried forms of honey or molasses. It also makes a great topping on ice cream, cereals, or dessert.

It's an easy way to use honey or molasses in those recipes that call for sugar. The sweetness of these dried forms approximates sucrose or table sugar and they can be substituted on a one-for-one basis with sugar.

## Corn Syrup

While sugar beets and sugar cane have a high sugar content, corn consists primarily of starch and yet corn syrup rivals the sweetness of table sugar. To process corn into something as sweet as sugar, an enzyme is used to convert the starch to sugar. The more complete this conversion is, the sweeter and more viscous is the syrup. Corn syrup is often used in candies and frostings because it won't turn grainy as sugar can.

## Part 2: How to Use Sweeteners

### The Functions of Sweeteners

Sweeteners change the characteristics of our baked goods. We've identified seven different ways that sweeteners affect our baked goods:

- Moisture retention:

We've already discussed the moisture retaining qualities of brown sugar and molasses. Both honey and corn syrup also have those qualities. Because they are hygroscopic, not only do they help retain moisture in the baked product but they also draw additional moisture from the air. Candies made with hygroscopic sweeteners will draw moisture from the air and may become sticky.

- Browning:

Even a little sugar will help brown cookies as the sugar melts and caramelizes. Because milk contains lactose, a sugar, a little milk in a bread dough improves the crust color. Sweeteners high in fructose or glucose, like honey or corn syrup, brown at a lower temperatures and produce a deeper brown color.

- Tenderness:

Sugar in a bread dough makes for a more tender product. It competes with the proteins for moisture and therefore acts as a shortening. It also interferes with the gelatinization of the starches in the flour. It is one of the reasons that a rich pastry dough is more tender and less chewy than a lean French bread.

- Aeration (Leavening):

When sharp sugar crystals are beaten into shortening, butter, or margarine, air is entrained in the mixture. These tiny air pockets give the batter loft and structure during the baking process. Confectioners' sugar lacks the cutting edges of granulated sugar and does not cream well with butter.

- Spread:

Spread is most often an issue with cookies. As sugars melt they act as liquids and allow the cookie dough to spread. Since brown sugar contains moisture, cookies made with brown sugar tend to spread more than those made with white. Honey, molasses, and corn syrup contribute to spread. Substituting confectioners' sugar for a portion of the granulated sugar in a recipe will decrease spread. (If you do substitute confectioners' sugar for a portion of the sugar, cream the butter with the granulated sugar to create aeration and add the confectioners' sugar with the dry ingredients.)

Sugar also raises the temperature at which eggs coagulate and therefore delays the setting of batters giving them more time to rise and allowing cookie doughs to spread more.

- Fermentation:

Since yeast feeds on sugar more easily than starch, a little sugar speeds up fermentation in a bread dough and makes the dough rise faster. Conversely, too much sugar makes the dough sluggish.

## Sugar Cooking: Syrups and Sauces

Knowing how to cook sugar is important for the baker: Many of our desserts, recipes, and even pancakes, call for syrups, creams, and sauces made with cooked sugar.

The techniques of sugar cooking are fairly simple. Stir together sugar and water until the sugar is dissolved. Boil the solution. At this point, you will have a thin syrup. As you continue to cook the solution, water evaporates and the syrups thicken. Soon, all the water is gone and you have nothing but melted sugar.

If you continue to cook melted sugar, the sugar caramelizes and changes color and flavor. As the temperature rises, the sugar further changes. Sugar cooked to a high temperature will be hard and brittle when it is cooled. Many candies are made this way.

### Principles for Cooking Sugars

1. Use pure, granulated sugar. Impurities will rise to the surface as scum and should be skimmed off.
2. Don't use more water than what you need. Excess water must be boiled off.
3. Put the extract or liqueur in after cooking. Cooking may reduce the concentration of the added flavor.

### Making Candy

You can manage the hardness of the cooled, cooked sugar by managing the temperature of the sugar while cooking. A candy thermometer is the best way to do this though my mother made wonderful candies by dropping a bit of the hot syrup into a little water and testing the hardness of the resulting sugar ball. I remember her tutoring me as we made candies at the "soft ball" and "hard ball" stage. Today, most of us use a thermometer.

The following table will guide you. It shows the minimum temperature, in Fahrenheit degrees, required to reach various hardness stages.

Soft Ball	240
Firm Ball	245
Hard Ball	250
Small Crack	265
Crack	275
Hard Crack	290
Caramel	320

### Avoiding Crystallization

The graininess found in some candies and desserts is caused by sugar crystallization in the cooked syrup. A single, tiny, sugar crystal added to the syrup may start a chain reaction that will cause the whole batch to crystallize.

The best way for the home baker to avoid crystallization is to be careful not to add any undissolved sugar crystals to the cooked sugar. Here are some suggestions:

1. Never stir the cooked sugar with anything but a clean utensil. A spoon with a little sugar clinging to it will start crystallization.
2. When the batch first starts to boil, cover the pan with a lid for several minutes. The steam will tend to dissolve any sugar crystals caught on the sides of the pan.
3. Try adding a spoonful of corn syrup to the cooking sugar. Corn syrup has been inverted with a chemical process to prevent crystallization.

## **Making Syrups and Sweet Sauces**

Syrups and sweet or dessert sauces are made by cooking sugar and incorporate the techniques explained above. Directions for making specific syrups and sauces are covered in the next section of this chapter, the recipe section.

## **The Use of Starch in Sauces**

Many sauces use starch to thicken and reduce viscosity. The most common starches are cornstarch and wheat starch, usually in the form of flour. How does this work?

Starches are used to thicken dessert sauces, gravies, soups, and pie fillings. The principles are the same. The thickening doesn't occur until the starch gelatinizes. Gelatinization is the process whereby the starch particles absorb moisture, expand and become firm. This process starts at 140 degrees and is complete when the sauce becomes bubbly. If you quit cooking the sauce before gelatinization is complete, the sauce will not be as thick as it could be. The sauce will thicken further as it cools.

Cornstarch in particular sets up almost like gelatin making it especially valuable for pie fillings. Sauces made with cornstarch are clearer and more translucent than those made with wheat flour since the wheat flour is comprised of more than starch.

Sauces come in an infinite variety of flavors and types. The basic dessert sauce is a mixture of a liquid, a sweetener, a fat, and a starch. (Dinner sauces are similarly constructed without the sweetener.) The sweetener can be sugar, brown sugar, honey, or more. The fat gives a pleasing "mouth feel" to the sauce, usually with butter or cream. The starch can be either corn or wheat flour. Flavors are added from spices and extracts to chocolate.

Not every sauce is made with starch. With enough sugar and cooking, the starch is often omitted. Fruit sauces are often made without starch. They rely on the pectin and solids in the fruit for thickening. Some sauces are thickened with eggs.

The starch must be evenly distributed in the sauce to avoid lumps. There are two basic ways to do this. In most recipes calling for butter, the starch is mixed with the melted butter to form a paste and then the liquid is added all at once and stirred well for distribution. In other recipes, the sugar and starch is well-mixed in the pan before the liquid is added. In either method, frequent stirring is required. A bell-shaped whisk is the preferred way to stir and is an indispensable tool for making sauces.

You do not need a recipe to make a sauce. With just a little practice, you can make whatever sauces fit your needs.



## Substituting Sugar and Honey

So you want to use honey instead of sugar in that favorite recipe? The following guidelines will help you successfully make that substitution as well as substitute sugar for honey in a recipe.

- Honey is 1 1/4 times sweeter than sugar so you will want to use less honey in a recipe than sugar. If you want to replace the sugar in the recipe with honey, use 3/4 cup of honey plus one tablespoon for each cup of sugar called for. Conversely, use 1 1/4 cups granulated sugar for each cup of honey called for.
- Since honey is about 15% water, you will need to reduce the amount of liquid called for in the recipe when you use honey in place of sugar. For each cup of honey, reduce the liquids by 2 1/2 tablespoons.

## Using Honey in Yeasted Breads

Honey lends itself well to yeasted breads. Your bread will have a wonderful flavor and because honey is hygroscopic, the bread will stay moist and fresh longer.

You can substitute honey for sugar in almost any bread recipe. Remember that honey is 1 1/4 times sweeter than sugar and you may choose to reduce the amount of honey used slightly.

It is a little trickier to substitute honey in bread machine recipes. In the bread machine, the dough must rise to an optimal level when the baking starts. Breads made with honey tend to rise a little faster so you may need to make adjustments for that perfect loaf. If your dough rises too quickly, you can slow down the rise in the next batch by reducing the liquid by a tablespoon or adding a little salt.



## Decorating Cookies with Sugar

Often you will decorate cookies with sugar products. The holiday cookies that you make and sprinkle with colored sugar crystals is one way. The cookies can be sprinkled with sugar before placing them in the oven or, if the cookies are frosted, you can top the frosting with sprinkles. There are other ways to decorate cookies:



- Rolling cookie dough balls in large sugar crystals or turbinado sugar. When the cookies bake, the crystals are imbedded in the top of the cookie. The large crystals add a delightful crunch to the cookies.
- Rolling cookie dough balls, especially chocolate cookies, in powdered sugar before baking leaves an intriguing splotched affect. Some cookies, such as wedding cookies, are dusted with powdered sugar after baking.
- You can also decorate the edges of cookies with sugar, decorations, or nuts. Since this method is not well known, it is explained in detail in this section.

## How to Decorate the Edges of a Cookie

It's fun to decorate the edges of a cookie; you can do that with refrigerator cookies.

Cookies with minimal spread work best for decorating. Look for recipes that have a higher flour to sugar ratio or for those without leavening, for best results. (Refrigerator cookies with a high sugar content are usually light and crisp because the sugar in the dough melts in the heat of the oven. Cookies without leavening tend to be rich and shortbread-like but decorate nicely. Festive Fruit and Oat Cookies and Coconut Cranberry Cookies--the recipes for which are found on our site--are perfect for edge decorating.)



Use large, colored, sugar crystals, turbinado sugar, decorating sprinkles, decorating jimmies, crushed candies, or nuts. Simply roll the log of dough in the decorating materials prior to slicing the cookies. If you roll the log with the sugar or other

decorations in waxed paper or parchment paper, you can press them into the surface of the dough.

Some instructors use an egg white wash to assure that the candies stick to the log. Except for with nuts, we don't find it necessary and the moisture from the egg white tends to melt the candies or sugar crystals into a blurry mess.

To showcase the edges, we usually cut the slices just a bit thicker before baking. We color white sugar crystals any color we like by mixing a few drops of food coloring with the crystals. You can buy large bags of white crystals to make a collection of different colors.



Turbinado is an excellent coating sugar with its amber color and large crystals.

## **Topping Muffins and Quick Breads with Sugar**

You can top most baked goods with sugar by brushing on a little milk or butter with a pastry brush and sprinkling the tops just before baking. Brush the tops sparingly; too much moisture will dissolve finer sugar crystals.

If the dough or batter is moist enough, the sugar may stick to the top without brushing.



## **Cookie Decorating Tips**

- Let your cookies cool completely before decorating. If the cookie is not completely cool, the frosting will trap moisture and the cookie will sweat.
- Decorating sugar is graded by size with AA being the most popular large crystal size. It's easiest to buy in white. That's okay. Put some white crystals in a bowl,

add a drop or two of food coloring, stir, and you have colored sugar crystals. There's no need to stock a rainbow of colors. You can purchase AA sugar crystals on our site.



- Turbinado sugar is made of large crystals and is amber in color. We love it. It is less expensive than white decorating sugar. Consider turbinado where the amber color is not a problem. You can purchase turbinado sugar on our site.
- For firmer icing that will not spread and smear, use a recipe that calls for egg whites or use meringue powder. A couple tablespoons of meringue powder will firm up the icing nicely. You can purchase meringue powder on our site.
- Frosting, especially with meringue powder, dries quickly. Place a damp paper towel over each bowl of frosting that you are not using.
- Don't have a piping bag? You can make do with a heavy plastic bag. Just snip a tiny corner of the bag and squeeze the frosting through the clipped corner.
- How do you get those nice, neat edges on frosted cookies? Use a fine tip with your icing set and pipe a border around the edge of the cookies. Let the frosting set. It helps to have a frosting that sets fairly hard, with egg whites or meringue powder. Then spread frosting between the piped edges.
- You can put food coloring right in the dough to make colored cookies. After baking, the color will not be as intense as it was in the raw dough.

## Part 3: Recipes with Sweeteners

### Basic Syrups (with Recipes)

Simple syrups are made with sugar and water and with or without flavoring. Flavorings can consist of extracts, liqueurs, and fruit juices. These are used for dessert and pancake syrups and are often used in recipes. How much water is used is a matter of preference. We have often used two cups of sugar for one cup of water. There is no reason to use more water than necessary; it simply must be boiled off.

#### How to Make Basic Syrups

1. Measure the sugar and water into a clean saucepan.
2. Over medium heat, stir and cook until the sugar is dissolved and the solution comes to a boil.
3. Remove any scum. Store in a covered container.

### Homemade Maple Syrup

We take this camping with us—no fuss and no mess from a leaky syrup container. It works great for backpacking.

#### Ingredients:

2 cups granulated sugar  
1 cup water  
1 teaspoon maple flavor

#### Directions:

Add the sugar and water to a saucepan. Stir and cook until the syrup reaches a full boil. Remove from the heat and add the flavor. Serve hot.

When we go backpacking, we bag the sugar and add the flavor to the sugar. It saves trying to carry a liquid flavor on the trail.

### Vanilla Syrup

Make as per the instructions for Maple Syrup. Instead of maple flavoring, use vanilla extract. Since your vanilla extract may not be as pronounced as maple, you may wish to use more extract.

This is a good syrup to use with strawberries over shortcake.

## **Cinnamon Vanilla Syrup**

Add a teaspoon of good quality cinnamon to your Vanilla Syrup.

## **Chocolate Syrup**

This is easy to make and fun to experiment with. Since it is fat free, it does not have the consistency and “mouth feel” of a sauce. It’s a great addition to a summertime slush, makes great chocolate milk for the kids, and can be used on ice cream or desserts.

### Ingredients:

2 cups granulated sugar  
1 cup water  
1 teaspoon vanilla extract  
1/2 cup cocoa

### Directions:

Add the sugar and water to a saucepan. Stir and cook until the syrup reaches a full boil. Remove from the heat.

Add the cocoa a little at a time, whisking steadily as you add the powder. Press the hot syrup through a fine strainer. Add the extract. After sitting for a few minutes, you are likely to have a scum on the top. Skim it off. Cover and store in the refrigerator.

## **Chocolate Banana Smoothie**

This is a quick, easy, three-ingredient smoothie. It is low-fat and refreshing. (It’s also a great thing to do with those extra bananas before they get too ripe.)

### Ingredients:

1 ripe banana  
8 to 12 ice cubes  
3 or 4 tablespoons of chocolate syrup, to taste (see recipe)

### Directions:

Mix ingredients in a food blender.



## Basic Sauces (with Recipes)

The mastery of sauces is essential to the desserts that you bake.

What's the difference between a dessert sauce and a syrup? Most but not all sauces contain fat either from butter or cream. They are thicker than syrups, often thickened with cornstarch but sometimes with egg yolks and occasionally with flour.

Except for a thickening agent, sauces are prepared much like syrups. In part 2 of this chapter, we covered the techniques for sugar cooking. Review that section if needed.

Also in part 2, is a section about making sauces with starch in them. You may want to review that section also.

In this section of the chapter, we will show you how to make both a caramel sauce and a chocolate sauce. There are many recipes for these sauces but these are very nice renditions. The chocolate sauce is made without cream and so is not as rich as ganache and many chocolate sauces. The caramel sauce is made by cooking the sugar and then adding hot cream. It has a touch of lemon to add acidity to the mixture and reduce the chances for crystallization.

### New England Chocolate Sauce

This is an example of a cooked sugar sauce with corn syrup added to reduce the chances of crystallization.

#### Ingredients:

2 cups sugar  
1 cup water  
2 tablespoons corn syrup

3 ounces unsweetened baker's chocolate (for a very dark sauce, use 4 ounces)  
4 tablespoons butter

#### Directions

1. Measure the sugar and water into a clean saucepan.
2. Over medium heat, stir and cook until the sugar is dissolved and the solution comes to a boil. Cook for one minute.
3. Melt the chocolate and butter in the microwave in a medium bowl.
4. Very slowly hot syrup into the chocolate mixture. Pour the chocolate sauce back into the saucepan.
5. Bring the sauce back to a boil. After it reaches the boiling point, cook for four more minutes. Let cool.

Store in a covered container in the refrigerator.

## **Supreme Caramel Sauce**

This is a very good caramel sauce. Lemon juice is added to make the cooked sugar more acidic. A more acidic syrup is less prone to crystallization.

### Ingredients:

2 cups sugar  
1/4 cup water  
1/2 tablespoon lemon juice (lemon juice from concentrate is okay)  
  
1 1/2 cup whipping cream  
milk as needed

### Directions

1. Measure the sugar and water into a clean saucepan. Add the lemon juice.
2. Over medium heat, stir and cook until the sugar is dissolved and the solution comes to a boil. Cook the syrup over very low heat until the sugar begins to caramelize. It will turn a golden color. If you cook it too long, it will turn dark. Set aside and let cool for six minutes.
3. In another pan, heat the cream until it boils. Pour about one-third of a cup of the cream into the caramel, stirring as you pour. Add the remaining cream slowly, stirring as it is added.
4. Place the pan back on the hot stove and stir the sauce as it heats until the caramel is dissolved. As soon as the caramel is dissolved in the hot cream, set it aside and let cool completely.
5. Add enough milk to dilute the sauce to the desired consistency.

Store in a covered container in the refrigerator.

## **Supreme Butterscotch Sauce**

Prepare as for caramel sauce only use brown sugar instead of granulated white sugar.



## **Pecan Pancakes with Butter Pecan Syrup**

I spent two years in the South and learned to love all things pecan—especially the great pecan pie that the Southerners bake. This is a thinly veiled attempt to enjoy that same flavor for breakfast.

### **Pecan Pancakes**

These pancakes are made with a mix. You can use your favorite recipe if you prefer and add the nuts, spices, and extract.

#### Ingredients:

2 cups dry pancake mix  
1/2 cup finely chopped pecans  
1 teaspoons vanilla extract  
1 teaspoon ground cinnamon  
1/4 teaspoon nutmeg  
1/4 teaspoon ground ginger  
For the oil called for in the mix, use melted butter  
Water and egg as called for in the mix directions

#### Directions:

1. In a small bowl, mix the nuts, spices, and extract together until the nuts are covered with spices.
2. Prepared the pancake mix as directed on the package.
3. Stir in the nut mixture, stirring no more than needed.
4. Cook per the directions on the package.

### **Butter Pecan Syrup**

With corn syrup added, this is nearly foolproof. The corn syrup will almost eliminate the chances for crystallization.

For thicker syrup, cook the syrup until the water is boiled off.

#### Ingredients:

2 cup granulated sugar  
2/3 cups water  
1/3 cup dark corn syrup  
4 tablespoons butter

2 teaspoons vanilla extract or 1 teaspoon vanilla extract and 1 teaspoon rum extract  
1/2 cup finely chopped pecans

Directions:

1. Mix the sugar, water and corn syrup together in a saucepan. Bring to a boil, stirring as needed. Cook for five minutes over medium heat for thicker syrup.
2. Add the butter, extract, and nuts and stir. Serve hot.

## Autumn Apple Pancakes with Walnut Caramel Syrup

This is like eating a caramel apple for breakfast—tender pancakes smothered in apples with a buttery, caramel syrup. Though this makes an elegant looking dish, it is really quite easy to put together. The apple slices are cooked in the syrup and piled on the pancakes.

This recipe is sweet enough to work well for brunch. Top it with whipped cream for a quick and unusual dessert.

This apple and syrup mixture also works well as a topping for ice cream sundaes.



### Autumn Apple Pancakes

#### Ingredients:

2 cups all-purpose flour  
2 tablespoons sugar  
2 teaspoons baking powder  
1 teaspoon baking soda  
1/4 teaspoon salt  
2 large eggs  
4 tablespoons melted butter or oil  
2 cups buttermilk  
additional water if required

#### Pancake Directions:

1. Mix the dry ingredients together in a large bowl.
2. Mix the egg, butter, and buttermilk together in a small bowl. Make a depression in the dry ingredients and add the liquid mixture. Stir until moistened—some lumps will remain. Add more water to get the right consistency, if required. Do not over mix.
3. Pour about 1/3 cup of batter onto a hot, lightly greased griddle. Cook for about two minutes on medium heat or until the edges are set and the bubbles remain open. Turn over and cook on the other side.

## Walnut Caramel Syrup

### Ingredients

2 or 3 medium cooking apples  
4 tablespoons butter  
1 teaspoon cinnamon  
1/4 teaspoon nutmeg  
1/8 teaspoon ground cloves  
1 tablespoon cornstarch  
2/3 cup brown sugar  
1 cup water  
1/3 cup walnut pieces

### Topping Directions:

1. Peel, core, and thinly slice the apples. Set aside.
2. In a large saucepan, melt the butter over low heat. Stir in the spices, cornstarch and brown sugar all at once. Immediately add the water and stir until the sugar is dissolved.
3. Add the apples and cook over medium heat, stirring frequently, until the apples are nearly tender and the syrup is bubbly. While the apples are cooking, mix the pancakes.

Note: If you would like a thinner syrup, simply add a little more water.

Serve the pancakes hot topped with the cooked apples and syrup.

## Peach Melba on Gingerbread Pancakes

Peach Melba—peaches and raspberries in a sugar syrup—matches wonderfully with these gingerbread pancakes. A generous dollop of whipped cream is the perfect complement.



### Peach Melba Recipe

#### Ingredients:

2 1/2 cups frozen peach slices  
3/4 cup granulated sugar  
water  
1 tablespoon cornstarch  
1 1/2 cups individually frozen raspberries  
2 teaspoons vanilla extract

#### Directions:

1. In a microwavable bowl, thaw the peaches in the microwave. Drain off the juices from the peaches into a measuring cup. Add enough water to have 1/2 cup liquid.
2. In a medium saucepan, mix the juice with the sugar and cornstarch. Cook over medium heat until the mixture has thickened and turned translucent.
3. Add the peaches, raspberries, and vanilla to the saucepan. Stir until combined.

### Gingerbread Pancakes Recipe

#### Ingredients:

2 cups all-purpose flour  
2 teaspoons baking powder  
1 teaspoon baking soda  
1/2 teaspoon salt  
1 teaspoon cinnamon  
2 teaspoons ground ginger  
1/4 teaspoon ground cloves  
1/3 cup molasses crystals  
2 large eggs  
1 cup sour cream  
1/4 cup melted butter  
1 cup milk (plus more as needed for the right consistency—about 1 1/2 cups)

Note: Instead of molasses crystals, you may use liquid molasses. Do not use blackstrap or other strong-tasting molasses.

Directions:

1. In a medium bowl, mix together the flour, baking powder, baking soda, salt, and spices until well-dispersed.
2. In a large bowl, mix the molasses, eggs, sour cream, melted butter, and milk. Let the mixture sit for a minute to soften the molasses crystals and then stir until they are dissolved.
3. Add the dry ingredients to the wet ingredients and stir until the two are just combined, adding more milk if needed. Some lumps will remain.
4. Cook on a very hot griddle. Serve hot topped with peach melba and whipped cream.

## Golden California Raisin Bread

This bread is delightful. It is made with honey, golden raisins, and a bit of orange. Orange complements the intensity of raisins very well. The orange juice also gives the bread a bit of acidity which helps the yeast. This bread is made with white rye flour. You can substitute medium rye though we prefer the white rye.



This recipe has so many things to love. We love the taste of raisins and orange together. And we're particularly partial to golden raisins. We also love white rye flour. It's mild and has an almost sourdough-like taste. All in all, we're pretty proud of this bread.

If you are having trouble finding white rye flour, medium rye will work. Better yet, try our white rye flour blend and use that in place of both the rye and bread flours. If you use our blend, it will have the right ratio of rye and bread flours along with extra gluten and dough conditioners to make a great bread.

### Golden California Raisin Bread Recipe

#### Ingredients:

zest from one orange

about 3/4 cup freshly squeezed orange juice

1 cup whole milk or one cup reduced fat milk and one tablespoon butter

about 1/4 cup warm water

1/2 cup honey

1 seven gram package instant yeast

2 cups white rye flour

about 4 cups high protein bread flour

1 tablespoon salt

1 tablespoon cinnamon

2 1/2 cups golden raisins

#### Directions:

1. Grate the zest from one orange being careful not to get the bitter, white pithy layer. Set the zest aside.

2. Squeeze the orange juice from one or two oranges until you have about 3/4 cup. Mix the orange juice with the milk and water. You should have 2 1/4 cups of liquid mixture. Add the honey. Heat the liquid mixture in the microwave until it reaches 105 degrees.
3. Place the rye flour and yeast in the bowl of your stand-type mixer. Add the warm liquid mixture and beat with a dough hook until it is partially mixed—about 30 seconds. The purpose of this mixing is to hydrate the yeast.
4. Add most of the bread flour to the bowl. Add the salt, cinnamon, and orange zest. Knead with the dough hook at medium speed for four minutes adding more flour to reach a soft but not sticky dough. Add the raisins and knead them in. (You may need to knead the raisins in by hand.) Set the dough in a greased bowl, turn once, and cover. Set the bowl in a warm place and allow it to double in size.
5. Grease two 8 1/2" x 4 1/2" loaf pans. Form two loaves, cover them, and let them rise until doubled and puffy.

**Bakers Note:** *This bread is very good. The key is to let it rise enough. The yeast has to lift a lot of raisins and the bread has a high rye content and it just takes a while. Be patient. If there is a second key, it's to use quality golden raisins. They should be soft and plump.*

6. Bake at 350 degrees for 25 minutes or until done. The internal temperature should be 190 to 200 degrees. Remove the bread from the pans and let the bread cool on a wire rack.

**Bakers Note:** *Whole milk has an enzyme which retards the growth of yeast. We recommend that you use Bakers Dry Milk, high heat treated dry milk, for this recipe, though liquid milk will still make an excellent bread.*



## Peanut Butter and Honey Cookies

This is a kid's recipe. But then, if you like peanut butter, you'll like these cookies.

This is one of our favorite peanut butter cookie recipes. The recipe calls for size AA white but you can use turbinado just as well. We included this recipe to give you a chance to work with large-crystal sugar.



### Peanut Butter and Honey Cookie Recipe

Salted peanuts are so good, those roasted peanuts that we all love to snack on. Some time ago, we discovered that we could add them to peanut butter cookies for a much better cookie. Now we've added honey and some crunchy sugar.

Can peanut butter cookies get any better?

#### Ingredients:

1 1/3 cups all-purpose flour  
1/2 teaspoon baking powder  
1/2 teaspoon baking soda  
1/2 teaspoon salt  
  
1/4 cup butter  
1/4 cup shortening  
1 cup peanut butter  
1/2 cup honey  
1 large egg  
1 teaspoon vanilla extract  
1/2 cup granulated sugar  
1/2 cup coarsely chopped roasted snack peanuts

3/4 cup turbinado or size AA sugar crystals

#### Directions:

Preheat the oven to 350 degrees.

1. In a medium bowl, mix the flour, baking powder, baking soda, and salt together.
2. Mix the butter, shortening, peanut butter, and honey together with the paddle attachment and your stand-type mixer. Add the egg and beat until fluffy, six to

eight minutes. Beat in the vanilla, granulated sugar, and peanuts. Refrigerate the dough for about an hour.

3. Form golf-ball sized balls of dough. Roll each in the sugar crystals until they are generously coated. Place them on ungreased baking sheets. Press each down with the tines of fork, leaving a crosshatch pattern and cookies that are at least 3/8 inch thick.
4. Bake for ten to eleven minutes or until the cookies just start to brown. Cool on wire racks.

## Cinnamon Banana Breakfast Cakes

These are fun little breakfast cakes to make. They are just a little sweeter and richer than most muffin recipes but not much different than most commercial muffin products. The double serving of bananas and the sugar topping make these a wonderful treat that works well for breakfast or brunch.

These can be made in almost any shaped pans. Large muffin tins, small loaf pans, or mini bundt pans are ideal.



This is a great glorified muffin. It is made like banana bread, topped with sliced bananas, brushed with butter, and then covered with sugar.

Initially, we made these breakfast cakes in large muffin tins and sprinkled them with cinnamon and sugar. Topping them with turbinado sugar gives them crunch. These can also be made in small loaf pans.

### Ingredients:

- 1 cup butter
- 1 cup sugar
- 2 large eggs
- 1 1/2 cups mashed ripe bananas (about three large)
- 1 teaspoon vanilla extract
- 2/3 cup buttermilk
- 3 cups all-purpose flour
- 1 teaspoon baking powder
- 1 teaspoon baking soda
- 1 teaspoon cinnamon
- bananas for slicing
- 2 tablespoons melted butter for brushing on the cake tops
- a mixture of three tablespoons sugar and two teaspoons cinnamon for sprinkling or 1/4 cup turbinado or size AA sugar crystals

### Directions:

Prepare some baking molds by greasing well and flouring the bottoms or by lining with parchment paper. Large muffin tins work well. Preheat the oven to 350 degrees.

1. Cream the butter and sugar together until light and fluffy. Add the eggs and continue beating. Add the bananas, vanilla, and buttermilk.

2. In another bowl, mix the flour, baking powder, baking soda, and cinnamon together.
3. Add the flour mixture to the butter-banana mixture and fold in.
4. Spoon the batter into the prepared molds.
5. Slice the bananas and arrange them on top of the dough. Use as many slices as desired. (Remember, the dough will expand in the oven while the banana slices will tend to become smaller.)
6. Brush the tops with the melted butter and then sprinkle them with the cinnamon-sugar mixture or sugar crystals.
7. Bake at 350 degrees for 30 to 35 minutes depending on the size of the baking molds. A toothpick inserted in the center of the cake should come out clean. Cool on wire racks.

# Chapter 8



**Chocolate!**  
Choosing and Using Chocolate

## **Chapter 8**

### **Chocolate!** **Choosing and Using Chocolate**

Part 1: Chocolate Types .....	227
Overview .....	227
Cocoa .....	228
The Baking Chocolates.....	228
Storing Chocolate .....	229
Questions and Answers about Chocolate .....	230
Part 2: Using Chocolate .....	231
Melted Chocolate.....	231
Molded Chocolate .....	231
Fondue and Dipping Chocolate .....	232
Toppings and Drizzles .....	233
Making Substitutions.....	234
Adding Cocoa to a Recipe .....	234
Adding Baking Chocolate to a Recipe .....	234
Using Cocoa in Place of Baking Chocolate .....	234
Using Baking Chocolate in Place of Cocoa .....	234
Part 3: Using Chocolate in Recipes .....	236
Ganache .....	236
Peanut Butter Sandwich Cookies with Ganache Filling .....	236
Chocolate Raspberry Sandwich Cookies.....	238
Ganache for Frosting.....	240
Making Chocolate Sauce .....	240
Creamy Hot Fudge Sauce .....	241
Making a Chocolate Fudge Cake .....	242
Buttery Chocolate Cake with Fudge Frosting .....	242
Root Beer Chocolate Cake with Chocolate Butter Frosting .....	244
Sweet Chocolate Braided Bread .....	247
Chocolate Peanut Butter Drops .....	249

Copyright 2006, The Prepared Pantry. All rights reserved.

The material herein is published by The Prepared Pantry for the private use of individuals and may not be used for commercial purposes without the express consent of the publisher. The information contained herein is believed accurate but the publisher makes no warranties, express or implied, and the recipient is using this information at his or her own risk.

# Chocolate!

## Part 1: Chocolate Types

This is the eighth and final chapter. If you're a chocoholic, you'll love this chapter. You'll learn about cocoa and the kinds of chocolate we use in baking. You'll learn how add chocolate and convert some of your favorite recipes to a chocolate desserts. You'll learn how to make ganache for fillings and frosting. And of course, you'll learn to make a chocolate fudge cake.

### Overview

To many of us, the differences in the array of available chocolates are a mystery. (What's the difference between bittersweet and semisweet chocolate?) We'll explain those differences so that you will be able to choose the best chocolate for the project at hand.

All chocolate is derived from cacao beans. There are three varieties of cocoa plants, each with its own characteristics. Most quality chocolate is produced from the combination of beans from these three plants. Even among these three varieties, there are differences based on regions and soils. Producers seek the best beans and prize and guard their formulas. There is an alchemy that goes into the balancing and blending of beans to achieve the complex, smooth flavors that we love.

The differences in fine chocolate appeal to different tastes just as in wines. Try a number of different chocolates and decide which you like the best. All chocolates are not the same. Personally, I'm not so particular about the chocolate that is mixed into the batter for a chocolate cake but I do like a first quality chocolate in a chocolate chunk cookie, a chocolate coating, or a quality chocolate frosting.

### Processing

Cacao beans are picked by hand. While different companies have different processes, generally the beans are roasted first. After roasting, the nibs, or kernels, slip easily from the skins. It is from these nibs that all chocolate products are derived.

If cocoa is produced, the nibs are then ground and pressed to remove the cocoa butter. The cocoa butter is retained for other chocolate products while the remaining powder is sieved and processed into the cocoa we find on the store shelves.

To make baking chocolate, the nibs are ground and made into a paste called chocolate liquor. (The term does not refer to alcoholic liquor.) The chocolate liquor contains the light colored fat, cocoa butter. Using their own formulas and processes, producers add sugar, milk solids, lecithin, and flavors to make different products.

## Cocoa

There are two types of cocoa. Natural cocoa is somewhat acidic. Because it is acidic, it can be used with baking soda, an alkaline, to create a chemical reaction and carbon dioxide bubbles for leavening. Dutch cocoa or dutch processed cocoa is processed with alkali so that it is no longer acidic but is slightly alkaline and will not react with baking soda. It is darker and because it tends to have less cocoa butter than natural cocoa, dissolves more easily and is smoother in flavor.

You can purchase either in grocery stores. If the recipe does not specify a type of cocoa, you will need to determine which is best. If the recipe is relying on baking soda for leavening, you will need natural cocoa unless there is another acid—like sour cream or buttermilk—in the recipe.

Natural cocoa is reddish in color and your cake or cookies may turn out brown or reddish brown instead of the desired dark chocolate color. You can make the product darker by adding baking soda to neutralize the acid—one-half teaspoon to one teaspoon in most recipes.

## The Baking Chocolates

**Bitter (unsweetened) chocolate** is made from pure chocolate liquor. By specification, it must contain 50 to 58 percent cocoa butter though with inferior products, vegetable oil may be added. Depending on the producer, milk solids, vanilla, or salt may be added. I have a package in front of me that contains only chocolate and milk solids.

Unsweetened chocolate has a bitter taste and relies on sweeteners in the recipe to make it palatable.

**Sweet chocolate-- bittersweet, semisweet chocolate--**has sugar added. These products must contain 35 to 50% cocoa butter but may have as little as 15% chocolate liquor. Because unsweetened chocolate has twice the chocolate liquor, we prefer to use unsweetened chocolate in most of our baking.

Bittersweet and semisweet chocolate can be used interchangeably in recipes though there is a difference in flavor. Often, bittersweet is a more expensive chocolate and to many, a better, richer-flavored chocolate.

**Milk chocolate** is made with ten percent chocolate liquor. It contains a minimum of twelve percent milk solids. Because it has such a low percentage of chocolate liquor, rarely is it melted and added to batter or dough.

**White chocolate** contains no chocolate liquor but is made with cocoa butter. Historically, the FDA has not regulated the manufacture of white chocolate so you need to read labels carefully. If the product was made with vegetable oil instead of cocoa butter, it will not perform the same as a product with cocoa butter.

**Chocolate chips** are made with chocolate liquor with only minimal amounts of cocoa butter. Instead, they are made with vegetable oil and stabilizers to help them hold their



shape. Without the cocoa butter, chocolate chips have a different taste and mouth feel. Chocolate chips will have a firmer set in puddings, pie fillings, and sauces than baking chocolate.

## **Storing Chocolate**

Because chocolate contains cocoa butter, it will eventually become rancid as other fats do. In ideal conditions, chocolate with low milk solids content will last for two years while those with milk solids tend to go rancid more quickly.

The ideal storage temperature for chocolate is 65 degrees. Exposure to light accelerates deterioration.

Fluctuating temperatures cause a condition called “bloom” (either fat bloom or sugar bloom) to occur which appears as filmy white streaks on the surface of the chocolate. It does not affect the chocolate for baking purposes though it may for candy making purposes.

Chocolate will readily absorb kitchen odors. Keep chocolate in sealed containers or wrapped tightly and away from odorous foods.

## Questions and Answers about Chocolate

### What is bloom and does it hurt the chocolate?

Bloom is that white frosted look that chocolate sometimes gets in storage. It is bits of cocoa butter on the surface of the chocolate that is often caused by temperature fluctuations in storage or transit. For baking purposes, the chocolate is unaffected.

### Can I substitute chocolate chips for baker's chocolate in a recipe?

Unsweetened baking chocolate is much too intense to be used interchangeably with chocolate chips, even semisweet chips.

It is true that melted semisweet chocolate chips will have a little different flavor and intensity than melted semisweet baking chocolate but in our experience, you can substitute the chips for the chocolate. Use 1/3 cup of unmelted chocolate chips as a substitute for two ounces of baking chocolate.

### What makes good chocolate, good?

Chocolate is a proprietary product with each producer having its own process usually shrouded with secrecy. Accordingly, there is a great deal of difference in brands with the better quality brands usually offering better chocolates. Try different chocolates to find the ones that you love.

Cocoa butter is critical to good chocolate. Usually, you'll want to avoid any chocolate product that has added fat, usually listed on the label as hydrogenated fat. That means that they are substituting vegetable fat for the cocoa butter. While other fat is sometimes added to coating chocolates to alter handling characteristics, you'll be happier with a pure product in your baking.

### Is white chocolate really chocolate?

That depends on the product and your definition of chocolate. The FDA does not recognize or regulate the term "white chocolate" as it does other chocolate products. White chocolate does not contain cocoa solids. It should contain cocoa butter along with sugar, flavors, and milk solids. Be aware of lesser products that do not use cocoa butter. Even more so than in dark chocolate, there is a great difference in quality in those products labeled white chocolate or vanilla chips.

## Part 2: Using Chocolate

In this section, we will cover how to use chocolate from melting to substituting. Since we love chocolate, we often add chocolate to recipe to make a new chocolate dessert. You'll learn how to do that in this section.

### Melted Chocolate

Many recipes call for melted chocolate. Melted chocolate is also used in candy making, in molding, in dipping, and in decorating. This section deals with these uses.

You can melt chocolate on the stovetop or in the microwave. We recommend using the microwave. If you choose to melt your chocolate on the stove, use a double boiler.

To melt your chocolate in the microwave, place the chips or wafers in a microwave safe bowl. If you are melting baking chocolate that has been formed into blocks, chop the chocolate into bits before melting.

Microwave the chocolate for one minute not on a high setting but on a medium or lower setting. The defrost setting works perfectly in most microwaves. Stir the chocolate and then microwave again for thirty seconds on the same setting. Continue doing this until the chocolate is melted and smooth. Do not overcook the chocolate.

To melt chocolate in a double boiler, partially fill the pan with water. The water should not touch the bottom of the top pan. Heat the water on a low setting and do not let it boil. Place the chocolate in the top pan. It will slowly begin to melt. As it does, stir the chocolate periodically until it is melted and smooth.

Always use clean, dry containers for melting chocolate. Any water or moisture will cause melted chocolate to go lumpy and thick. If your melted chocolate is too thick, add vegetable oil to thin the chocolate.

### Molded Chocolate

Once melted, you can pour chocolate into almost any mold. You can buy molds (the figures on the right were molded using a pan available on our site) or you can be creative and use other containers for molds.

Fill the molds one-third full then add nuts, melted caramel, marshmallows, dried fruit, or more. Then fill the mold with the remaining chocolate. Tap the mold on the counter to eliminate any voids. The chocolate will set in about fifteen minutes. Once set, the candies will release easily.



You can use an ice cube tray to make chocolates. A plastic ice cube tray with individual compartments is perfect. Fill each compartment one-third full with melted chocolate. Then place nuts, nougat candy, peanut butter, or melted caramel on the top of the chocolate. Finally, finish filling the compartments with melted chocolate.

Use any of the following ingredients alone or combined for an array of homemade gourmet chocolates:

- Walnuts
- Almonds
- Peanuts
- Pecans
- Pistachios
- Dried Cranberries
- Dried Apples
- Dates
- Maraschino Cherries (keep refrigerated)
- Fresh Fruit (keep refrigerated)
- Bananas (keep refrigerated)
- Mini Marshmallows
- Peanut Butter
- Caramel (melted candies, apple dipping caramel, ice cream topping)
- Your favorite jam or jelly
- Coconut
- Rice Cereal
- Toffee Bits or Chunks
- Marshmallow Cream
- Fudge Bits or Chunks

## Fondue and Dipping Chocolate

You can dip fruit, cookies, cake squares, pretzels, or anything else in melted chocolate. You can melt the chocolate in a double boiler. The hot water in the pan will keep the chocolate melted while you dip. A fondue pot works even better. At your next party, let guests dip strawberries, cherries, or pineapple or banana chunks in the chocolate. Use a skewer or fondue fork to hold the fruit to be dipped.



For a special treat, put half a banana on a stick, dip the banana in chocolate, and then roll the banana in chopped peanuts.

## Toppings and Drizzles

You can pour melted chocolate over brownies or cakes to make a great icing. If you would like a softer topping instead of a hard shell, add a bit of vegetable oil to your chocolate.

It's easy to drizzle a little chocolate (or frosting) on your cookies, cakes, or pastries.

Place one-half cup chocolate chips in a small heavy-duty plastic bag. Microwave the bag and chips for 40 seconds on medium heat. Knead the chips to mix the melted chips through those that are not melted. Microwave again for 10 to 15 seconds or until the chips are completely melted.

Cut a tiny corner from the plastic bag and squeeze a narrow stream of chocolate through the cut corner. You'll quickly get the knack and be able to create decorative patterns of your choice. You can use the same technique with frosting.



The cookies shown are Buttery Shortbread Cookies drizzled with chocolate.

## **Making Substitutions**

Now that you know the composition of chocolate products and the characteristics of each, you may wish to substitute one for another. Additionally, you may wish to add chocolate to a recipe, to convert that favorite yellow cake to a chocolate cake recipe, for example. This section will help you make those changes. Since every recipe is different, consider these as guidelines and realize that some fine tuning may be necessary for the perfect product.

### **Adding Cocoa to a Recipe**

Because cocoa contains starch, it absorbs moisture. Consequently, when you add cocoa to a recipe, you must reduce the flour. Reduce the amount of flour by 1/3 cup for each 1/2 cup of cocoa.

How much cocoa should you add? Obviously, tastes vary. A starting point is to look at other recipes, especially those that you have tried and like. Look at the ratio of flour to cocoa and use the same ratio in your recipe.

### **Adding Baking Chocolate to a Recipe**

If you add baking chocolate to a recipe, you will not need to make adjustments in the amount of flour. We recommend adding unsweetened chocolate since the adjustments are easier.

If you add two ounces of unsweetened baking chocolate, you will be introducing about two tablespoons of cocoa butter. You may wish to reduce the butter or oil in the recipe by a commensurate amount. No other changes are required.

### **Using Cocoa in Place of Baking Chocolate**

If you choose to use cocoa in place of unsweetened baking chocolate, use three tablespoons of cocoa plus one tablespoon of vegetable oil for every one ounce of unsweetened baking chocolate. (Six tablespoons of cocoa equals 1/3 cup plus two teaspoons. Nine tablespoons equals 1/2 cup plus one tablespoon.)

For one ounce of sweet baking chocolate, use one tablespoon of cocoa plus two teaspoons of vegetable oil plus one tablespoon and 1/2 teaspoon of sugar.

### **Using Baking Chocolate in Place of Cocoa**

Two and two-thirds ounces of unsweetened chocolate replaces 1/2 cup cocoa. Reduce the vegetable oil or butter by two to three tablespoons since unsweetened chocolate contains cocoa butter.

Because sweet chocolate has relatively less chocolate liquor and because of the differences in composition between types and brands of sweet chocolate, substituting sweet chocolate for cocoa is a bit more challenging. For one half cup cocoa, it will take six to eight ounces of sweet chocolate. That much sweet chocolate will add a lot of sugar. For eight ounces of chocolate, reduce the sugar by 1/2 cup and one tablespoon. The sweet chocolate will also add fat to the recipe. For eight ounces of chocolate, reduce the fat by 1/3 cup.

## Part 3: Using Chocolate in Recipes

### Ganache

Ganache (pronounced “gah nahsh”) is a rich, chocolate and cream filling for many uses. In its simplest form, it is a mixture of heavy cream and chocolate only but butter and other flavors are often added. It can be thick or thin depending on the ratio of chocolate to cream with high chocolate ratios resulting in a thicker, semi-solid ganache.

Ganache is simple to make. Usually ganache is made by boiling cream and adding chocolate. In the hot cream, the chocolate melts and the ganache thickens as it cools.

### Peanut Butter Sandwich Cookies with Ganache Filling

This is really a recipe for peanut butter yoyo cookies—thin peanut butter wafers sandwiched with a creamy chocolate filling. This recipe is bound to be a hit at your house. It’s one of our favorite recipes.

For the very best cookies, use a quality chocolate though good quality chocolate chips will make a fine cookie.



#### Ingredients

1/2 cup butter  
1/2 cup granulated sugar  
1/2 cup brown sugar  
1/4 teaspoon salt  
1 large egg  
1 teaspoon vanilla extract  
3/4 cup peanut butter

1 1/4 cups all-purpose flour  
1 teaspoon baking soda

#### Directions

1. Cream the butter and sugars together with the paddle attachment of your mixer. Add the salt, egg, and vanilla and beat until smooth. Add the peanut butter and mix.
2. Add the flour and baking soda and beat until combined.
3. Refrigerate the dough for 20 minutes to firm up slightly.



4. Divide the dough into two portions. Using wax paper, roll each portion into logs 1 1/2-inches in diameter. Refrigerate for two hours or until firm.
5. Preheat the oven to 325 degrees. Cut cookies into slices just thicker than 1/4 inch. Place them on a greased baking sheet and bake 12 to 14 minutes or until the cookies just start to brown on the edges. Cool on a wire rack.

**For the filling:**

Mix 1/2 cup whipping cream, one tablespoons butter, and 2 tablespoons of light corn syrup in a heavy saucepan. Heat until it simmers. Remove the pan from the heat and immediately add six ounces of semisweet baking chocolate chopped into pieces. Stir until the chocolate is melted into a smooth sauce. The filling will thicken as it cools.

## Chocolate Raspberry Sandwich Cookies

Chocolate and raspberry makes a wonderful combination. In this case, it makes a scrumptious filling to sandwich between two sugar cookies. The filling is simply a ganache made with raspberry jam.



This is a very nice recipe to add to your collection. You can make the sugar cookies alone, without the filling. You can make plain sandwich cookies as we have, or dress them up for a special occasion. For Valentine's Day, cut the cookies into hearts and decorate them with candies or colored sugar. For Christmas, cut them into stars or other shapes.

This is a rich sugar cookie recipe with just a bit of almond flavor. The filling is made with chocolate, raspberry jam, and cream. You can make the sugar cookies alone, without the filling. You can make plain sandwich cookies as we have, or dress them up for a special occasion. These are very good cookies.

### Ingredients

1 cup butter  
1 cup granulated sugar  
1/4 teaspoon salt  
2 large egg  
1 teaspoon vanilla extract  
1/4 teaspoon almond extract

3 cups all-purpose flour  
1/2 teaspoon baking powder

3 tablespoons whipping cream

### Directions

Mix the filling first and refrigerate it to keep it thick. Mix 1/4 cup whipping cream and 1 tablespoon of light corn syrup in a heavy saucepan. Heat until it simmers. Remove the pan from the heat and immediately add three ounces of semisweet baking chocolate chopped into pieces. Stir until the chocolate is melted into a smooth sauce. Add 1/2 cup raspberry jam and stir until smooth. The filling will thicken as it cools.

Preheat the oven to 350 degrees.

1. Cream the butter, sugar, and salt together with the paddle attachment of your mixer. Add the eggs one at a time, beating after each. Beat for five or six minutes or until the mixture is light and lemon-colored. Add the extracts.
2. Mix the flour and baking powder together in another bowl. Add the flour mixture to the creamed mixture along with the cream. Mix until combined. Do not over mix. Refrigerate the dough for at least one hour.
3. Roll the dough to a thickness of 1/4-inch on a lightly floured countertop. Cut into shapes with a cookie cutter. Sprinkle with decorative sugars if desired.
4. Bake on an ungreased baking sheet for about 12 minutes or until done. (The edges will be very lightly browned.) Let the cookies cool on a wire rack.
5. Match up the cookies back-to-back in pairs. Spoon filling between the cookies to make sandwiches. Ganache is flavorful and a thin layer is sufficient. Store the cookies in a cool place.

## Ganache for Frosting

It is the ratio of chocolate to cream that determines the consistency of ganache. For a thinner, ganache, add more cream and for a thicker ganache, add melted chocolate.

Be sure and use a good quality chocolate. Fresh cream is less likely to curdle than cream that has aged.

### Ingredients

1 cup heavy cream  
1 teaspoon vanilla  
8 ounces semisweet or bittersweet chocolate, cut into pieces  
4 tablespoons butter



### Directions

1. Bring the cream and vanilla to a boil.
2. In a medium bowl, pour the hot cream over the chocolate. Stir until the chocolate is melted.
3. Stir in the butter.
4. Let the ganache cool until it reaches a consistency for frosting.

This can also be made with one cup of semisweet chocolate chips though the lack of cocoa butter in the chocolate chips will affect the flavor. If you use chocolate chips, increase the butter to two tablespoons.

## Making Chocolate Sauce

Homemade sauce is so much better than most of what you buy in the store. Maybe it's the ingredients, premium ingredients, without cutting corners to save a few cents. Maybe it's because it is fresher without stabilizers or preservatives. Maybe it's just because it's yours.

## Creamy Hot Fudge Sauce

This is a great hot fudge sauce made with cream and fresh butter. No wonder it's good.

This is a great ganache-like, fudge sauce. It is thick and needs to be heated to be pourable. If you would like a little thinner sauce, add more cream.

Refrigerate this sauce. To reheat, place in the microwave for 15 to 30 seconds.

### Ingredients

5 ounces unsweetened baking chocolate  
1/2 cup granulated sugar  
2/3 heavy cream  
1/4 cup unsalted butter

### Directions

Place the chocolate, sugar, and cream in a heavy saucepan. Bring to a boil, stirring frequently. Remove from the heat and stir in the butter. Serve warm over ice cream.



## Making a Chocolate Fudge Cake

One of America's favorite desserts is a buttery chocolate cake layered with a fudge frosting. True fudge frosting is made with the same technique as chocolate fudge. It is simply spread on the cake before it becomes too set to spread.

### Buttery Chocolate Cake with Fudge Frosting

In this recipe, we walk through the steps of making a layer cake and fudge frosting. There are a few tricks to successful fudge making. We'll share those tips. (If you can make chocolate fudge frosting, you can make chocolate fudge.)

If you like fudge, this cake recipe is for you. This makes a buttery chocolate cake spread with fudge frosting, the same type of fudge that you would buy at the neighborhood candy shop.

*For the cake:*

3 ounces unsweetened baking chocolate  
1/2 cup butter  
1 1/2 cup brown sugar  
1/2 teaspoon salt

2 large eggs

2 1/4 cups cake flour  
1/2 tablespoon baking powder  
1/2 teaspoon baking soda

3/4 cup milk

*For the frosting:*

3 cups granulated sugar  
1/4 cup light corn syrup  
1/4 teaspoon salt  
1 cup cream  
2 ounces unsweetened baking chocolate  
1/4 cup unsalted butter  
1 teaspoon vanilla



### Directions

*For the cake:*

Prepare two nine-inch cake pans by greasing them and lining them with parchment or waxed paper. (Use the pan as a pattern and trace the outline on the paper before cutting the circles with your kitchen shears.)

Preheat the oven to 350 degrees.

1. Melt the chocolate and set aside to cool to room temperature.
2. With the paddle attachment of an electric mixer, beat the butter at medium speed until it is smooth and creamy. Add the brown sugar and salt. Beat until it is light and fluffy.
3. Add the eggs one at a time, creaming after each. Beat at medium speed for eight to ten minutes or until it is light and fluffy. Add the melted chocolate.
4. Mix the flour, baking powder, and baking soda together.
5. Add about one-fourth of the dry ingredients to the creamed mixture. Mix until just combined. Do not over-stir or you may reduce the entrained air in the creamed mixture.
6. Add about one-third of the liquid ingredients and stir them in. Add another one-fourth of the dry ingredients to the creamed mixture and mix until just combined. Repeat with the dry and liquids ingredients until combined, ending with the dry ingredients.
7. Place in pans, smooth the tops, and bake immediately for 25 minutes at 350 degrees or until a toothpick stuck in the center of the cake comes out clean.
8. Cool for five to ten minutes in the pans. Remove the cakes to wire racks to cool completely. Frost after cooling.

*For the frosting:*

1. Coat the inside of a heavy saucepan with butter. The butter will help prevent sugar crystals from forming on the sides of the pan.
2. In the saucepan, mix the sugar, corn syrup, salt, and cream. Stir well to dissolve crystals. Add the chocolate.
3. Over medium heat, cook the mixture. Stir gently to keep from burning on the bottom of the pan. Try to avoid splashing onto the sides of the pan where crystals may form.
4. Cook to a temperature of 234 degrees. You will need a candy thermometer to monitor the heat. (If you do not have a thermometer, you may cook it until it is at the "soft ball" stage.) Remove from the heat and add the butter. Do not stir. Let the butter melt on the top of the candy mixture.
5. Let the candy cool until it reaches 110 degrees or the bottom of the pan is warm to the touch.
6. Beat the frosting with a spoon using an up and down motion until it is of a frosting consistency. Frost immediately.

**Baker's note:** The trick for making great fudge is to eliminate the sugar crystals and the resulting grainy texture. Crystals form in chains. A few crystals tend to generate crystals throughout the mixture. Make certain that the sugar is completely dissolved and that you do not reintroduce crystals by sticking a spoon back into the mixture with sugar crystals on it. A tablespoon of corn syrup will help prevent crystallization.

Refer to Chapter 7 about cooking sugar for more information about crystallization and how to avoid it.



## Root Beer Chocolate Cake with Chocolate Butter Frosting

We had to slip this recipe in. It's such an interesting cake. We first made it for a family party, Grandma Maloney's birthday party. We were to bring the cakes. We couldn't bring just any cake so we started experimenting.

We had some root beer soda left over from our camping trip. Why not use that? The carbonation will create bubbles in the batter. We added buttermilk. Buttermilk is an acid and will react with soda, an alkaline creating additional leavening.



Three cakes later, we had a very good cake. It was surprisingly light and moist with just a hint of root beer flavor. We wanted it chocolaty but not so much that it overwhelmed the root beer flavor. This worked.

The cake got a thumbs up—from youngest to oldest. We have since experimented with other soda pop cakes leaving the chocolate out and trying different sodas. On our web site, you will find a spice cake made with soda pop. With these two recipes, you can try all kinds of cakes. Be sure to use soda pop with sugar in it, not sugar-free.

### Ingredients

3/4 cup shortening  
1 3/4 cups granulated sugar  
2 large eggs  
1/2 tablespoon vanilla extract  
  
2 2/3 cups all-purpose flour  
1/4 cup dutch-processed cocoa  
1/2 teaspoon salt  
1 teaspoon baking soda  
  
1/2 cup buttermilk  
1 12-ounce can root beer, not sugar-free

### Directions

Preheat the oven to 350 degrees. Grease and dust with flour a 13 x 9-inch baking pan.

1. Cream the shortening and sugar together. Add the eggs one at a time, beating well after each. Beat for five or six minutes so that the mixture is light and fluffy. Add the vanilla.

2. In another bowl, mix the flour, cocoa, salt and soda together.
3. In three or four additions, add the dry ingredients and the liquids to the creamed mixture alternately starting and ending with the dry ingredients. (Each time that we made this, we added the buttermilk first then one half of the soda and finally, the rest of the soda.) Mix only until smooth.
4. Pour the batter into the prepared pan. Bake for 35 to 40 minutes or until the cake tests done with a toothpick. Cool completely before frosting with the frosting of your choice.

***Baker's Note:*** When making a cake such as this, you are mixing oil (shortening) and water (soda pop and buttermilk)—which don't mix. The egg yolks act as an emulsifier, a bonding agent between the oil and water molecules and the flour absorbs much of the water. That is why you start with the flour addition—so that the water doesn't overload the fat mixture before the flour is there to start absorbing water. It's also why you add the liquids in stages between the flour additions.

## Chocolate Butter Frosting

We used this frosting for our Root Beer Chocolate Cake. It's a simple frosting that works well on any cake.

### Ingredients

3/4 cup butter  
about 5 cups powdered sugar  
2 tablespoons milk  
2 ounces unsweetened baking chocolate, melted and cooled  
1 teaspoon vanilla extract  
Additional milk as required

### Directions

Cream the butter. Add half the powdered sugar and two tablespoons milk. Gradually add the remaining powdered sugar, beating as you go. Add the vanilla and melted chocolate. Add more milk as required to reach a spreadable consistency.

## Sweet Chocolate Braided Bread

While challah is a traditional bread baked for the Jewish Sabbath, it has become popular with everyone, everywhere. It's attractive and has a firm, egg-rich texture that works for dinner, sandwiches, or French toast. It is typically braided with three, four, or six strands of dough. (The braided strands are symbolic of love.)

Challah is really very easy to make. There is a sense of satisfaction in working the dough by hand and crafting such an attractive bread and it certainly will impress your guests.



In this version, we added chocolate for the dough and a chocolate cream cheese filling and then we drizzled the bread with a chocolate cream cheese glaze. It may not be real challah but it is absolutely scrumptious—maybe our best chocolate bread ever.

This recipe can be doubled.

### Ingredients

- 3 to 3 1/2 cups bread flour
- 1 packet instant active dry yeast
- 3/4 cup water, heated to 110 degrees
- 1/3 cup brown sugar
- 1/3 cup cocoa
- 4 tablespoons butter
- 1/2 teaspoon salt
- 1 large egg at room temperature

### **For the filling**

- 5 ounces cream cheese
- 1 ounce semi-sweet baking chocolate, melted
- 3 tablespoons granulated sugar
- 2 tablespoons all-purpose flour
- 1 egg yolk
- 1/2 teaspoon vanilla extract
- 1/8 teaspoon nutmeg

Chocolate glaze directions follows.

### Directions

1. Mix about one cup of the flour, the yeast, and the heated water until smooth. This will hydrate the instant yeast. If you are using other than instant yeast, hydrate the yeast separately.
2. Add the brown sugar, cocoa, butter, salt, and egg and mix. Add enough of the remaining bread flour to make a soft but not tacky dough. Knead until the gluten is developed, about four minutes with a stand-type mixer at medium speed. Set the dough in a greased bowl, cover, and let it stand until doubled, about one hour.
3. To make the filling, beat the cream cheese until soft and smooth. Add the melted chocolate while it is still hot and mix until smooth. Add the sugar, flour, egg yolk, vanilla, and nutmeg and mix until smooth.
4. Once the dough has risen, use a knife to divide the dough into three equal pieces. Roll the dough pieces with a rolling pin to rectangles 15 inches by 5 inches. Spread one-third of the filling down the center of each leaving a one-inch border with no filling. Roll the rectangle into fifteen-inch long ropes with the filling inside. Pinch any seams together and roll the ropes with your hands on the counter until smooth.
5. Braid the three ropes as if you were braiding pigtails and as shown in the picture to the right. (The dough shown is not chocolate.) Some people find it easier to create a symmetrical shape if they start braiding from the center. When you get to the ends, wet them, pinch them together, and tuck them under. You should have a neat, symmetrical loaf when you are through. You can shape the loaf somewhat with your hands. If you don't like how the loaf looks, simply pull the braids apart and start again.
6. Prepare a large baking sheet by greasing it and sprinkling it with cornmeal. Place the loaf on the pan, cover the loaf, and let it rise until doubled, about one hour.
7. Preheat the oven to 350 degrees. Bake the bread for 20 minutes then cover the bread with a large sheet of aluminum foil and bake for another ten to fifteen minutes to until done. The bread should “thump” when tapped on the bottom and the interior of the loaf should register 190 degrees with an insta-read thermometer. Let the bread cool on a wire rack.



8. While the bread is cooling, make the glaze. With a hand-held mixer, beat one ounce cream cheese with one teaspoon vanilla. Add 1 1/2 cups powdered sugar and 2 tablespoons cocoa with enough warm water to make a glaze of drizzling consistency. Drizzle the chocolate glaze generously over the bread.

*Baker's notes: To quickly bring an egg to room temperature, place it in a cup of warm water.*

## Chocolate Peanut Butter Drops

This recipe makes a great kids' cookie.

It's packed with chocolate and almost confection-like but is so packed with energy and hearty oats that you won't mind giving your youngster a few. This cookie is best with a tall glass of milk.

This is an easy recipe and elicits emails from readers. One added nuts to the recipe with excellent results. Another added miniature marshmallows.



This is a range-top cookie. Because it is a no-baker and so full of energy, it makes a great camping cookie.

### Ingredients

2 cups sugar  
1/2 cup milk  
1/4 cup butter  
1/3 cocoa  
2 1/2 cup quick oats  
1/2 cup peanut butter  
1/2 tablespoon vanilla extract

### Directions

1. Combine sugar, milk, butter, and cocoa in a medium saucepan. Cook over medium heat, stirring occasionally, until the mixture comes to a boil. Cook for two more minutes stirring constantly and then remove the pan from the heat.
2. Stir in the peanut butter and vanilla, then the oats.
3. Let cool for several minutes and then drop spoonfuls onto waxed paper. Let the cookies cool completely before removing them from the waxed paper.



# How to Bake

## Your Complete Reference Book



Ingredients, techniques, and recipes for  
successful baking in your kitchen!

Dennis R Weaver & The Prepared Pantry