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Pantry 2 Plate Series November 2011

# The Art of Pie Making



Easy as  
Pie!

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## Pie Making

Quality pastry dough usually requires three basic ingredients that contribute to the characteristics of tenderness, flakiness, crispness and color. These are flour, fat, and liquid. (Salt or sugar may be added for flavor but are not necessary.) These characteristics depend upon the quality of these ingredients, their proportions, and the way they are manipulated.

Flakiness results when small particles of fat are coated with moistened flour/dough, then flattened into thin layers as the dough is rolled out. When baked, the fat melts and is absorbed into the dough.

Flakiness in pastry depends on:

- Character of the fat (solid versus melted or liquid fat)
- Consistency of solid fat
- Type of flour used
- Proportion of water
- Degree of mixing
- Method of mixing
- Number of times the dough is rolled

Tenderness in pastry depends on:

- The amount and distribution of gluten
- Type of flour
- Temperature of ingredients
- Type of fat
- Proportion of fat & liquid to flour
- Amount of stirring of the dough

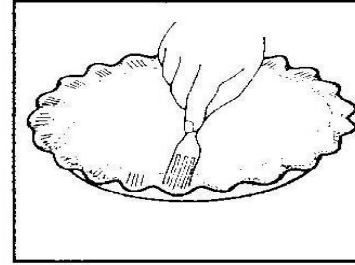
Crispness in pastry depends on:

- Thickness of the dough
- Length of baking time
- Whether it is an upper or lower crust
- Type of filling or use of the pie

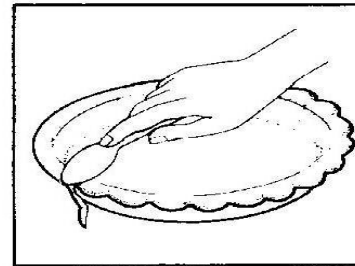
### Flour

Flour is the main ingredient in pastry and comes in two different forms: all-purpose and pastry flour. All-purpose flour has a higher protein content - about 10 to 12%. Pastry flour does not have as much protein - about 9%. Protein content is directly related to the gluten structure; the higher the protein, the stronger and faster the gluten structure can develop through kneading and working the dough.

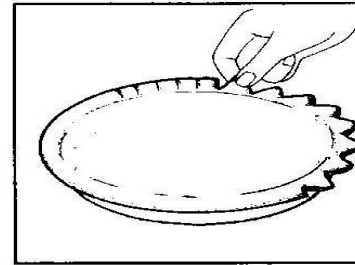
## Fancy Flutes



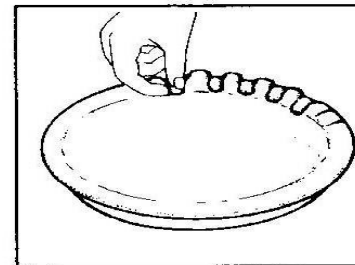
**Flower Petal Flute:** Crimp crust using the Basic Flute; then use tines of fork to make the center of each scallop.



**Spoon Scallop:** Instead of making a standing edge with pastry, lay it flat over edge of pan; using knife, trim overhang around edge of pan. Cut a scalloped edge with tip of teaspoon, laying it face down over outer edge of pan.



**Triangle Flute:** As for Spoon Flute, lay pastry flat over edge of pan; trim overhang. With a sharp paring knife, make 1-inch slits in dough all around pan edge, keeping slits 3/4 inch apart. Fold every other corner back on itself to make a triangle shape.



**Checkerboard Flute:** Make a stand-up edge as for Basic Flute. Cut slits through pastry to pan edge at 1/2-inch intervals. Fold every other strip of pastry forward onto pan edge.

From Libby's Holiday Pie-Baking Kit.

## Empanadas: Fruit-Filled or Savory

### Easy Pie Crust

- 2 cups all-purpose flour
- ½ cup vegetable oil
- ⅓ cup milk (1 tablespoon dry non-instant powdered milk or 2 tablespoons instant milk + ⅓ cup water)
- ½ tsp. salt

Mix flour, salt, and dry milk powder together. Add oil and mix until mixture is crumbly, then add water (or fresh milk if that is what you are using). Stir until mixture forms a ball of dough. Roll dough between two sheets of parchment paper to form a rectangle.

Cut dough into rectangles 6" by 5". Place filling on one half of the dough leaving ½ inch around sides. Fold over and pinch sides together with a fork to close.

Place on baking sheet lined with parchment paper and bake at 350° F. for 15-20 minutes or until golden brown.

Possible fillings: jams, preserves, prepared pie filling, beef-mushroom-onion filling, dilled potatoes, cubed chicken, etc.



When making a pie, your goal is to create a tender, flaky pastry. Overworking the dough will increase gluten strength creating a tough pastry.

### Fat

Fats tenderize the pastry as well as contribute to its flakiness. Fats waterproof the particles of flour so water has a difficult time mixing with the flour and inhibits the development of gluten.

Solid fats result in a flakier crust than melted or liquid fats, but you can still obtain an acceptable crust with these fats. Too much fat can result in a crumbly, greasy pastry. Too little fat makes it difficult to stir in the water, and too much mixing develops excessive gluten and makes a tough pastry. Use chilled fats for the best results.

Solid fats: lard, hydrogenated shortening

Liquid fats: edible oils

Softer fats: butter, margarine

¼ to ⅓ cup for each cup of flour

### Liquids

You need only enough liquid to moisten the flour — usually two to three tablespoons per cup of flour. Liquids should be ice cold before use and should be added a little at a time for best results. Liquids can include water, milk (regular, evaporated, or reconstituted dry milk), egg, vinegar, etc.

### Salt and Sugar

Salt or sugar seasons the flour and omitting it makes no difference except for taste. Use salt for savory pies and little salt plus sugar for sweet pies, if desired. One half-teaspoon of salt or sugar per cup of flour is recommended.

### Mixing

Sift salt and sugar (if using) with the flour to distribute evenly. Distribute the fat using a pastry blender, fork, two knives, etc. Cutting the fat increases its surface area so that more of the flour particles make contact with it. The mixture should resemble coarse cornmeal when cut sufficiently. It is important to not rush this step; spend enough time

thoroughly cutting the fat into the flour mixture before adding your liquid. A uniform mixture of fat and flour produces a more uniformly tender and flaky crust. Add your liquid 1 tablespoon at time, sprinkling over the dough. After each liquid addition, stir the mixture with a wide circular motion to distribute water. Stop when the dough adheres in large lumps. Gently press together to form a ball.

After mixing, wrap the dough and chill it, ideally for 1 to 2 hours. This allows the fat to re-harden and the gluten to relax. For large batches, chill overnight.

### Rolling the Pastry

Allowing the dough to stand for a few minutes increases the elasticity of the dough and makes it easier to handle or to roll. Rolling flattens out the small masses of gluten and the fat into very thin layers. For pies, roll to a thickness of  $\frac{1}{8}$  inch.

The bottom crust of a pie should be about 2½ inches larger than the diameter of the top of the pan. Rerolling of pie crusts may over-develop the gluten and result in a crust with greater shrinkage during baking. Over-stretching the pastry dough also may result in excessive shrinkage during baking.

Two-crust pies require small openings near the center of the crust to allow steam to escape; otherwise, there may be breakage due to the pressure from the steam. The crusts of two-crust pies adhere to each other better if the edge of the lower crust is moistened before placing the top crust.

### Baking the Pastry

The baking temperature depends on the pie itself. However, you may start at a temperature of 425°F for the first 15 to 20 minutes, then reduce the heat to 350°F for longer baking times. Use the recommended pre-heating and baking temperatures according to your recipe. According to kitchen research, the basic Pyrex oven-safe glass pie plate provides an evenly browned, crispy crust. The glass see-through bottom also makes it easy to determine the pie's baking progress.

## Basic Recipe

### Basic Pie Crust for a Savory Pie

3 cups plus  $\frac{1}{4}$  cup all-purpose flour  
 1 teaspoon salt  
 2 sticks cold unsalted butter, cut into  $\frac{1}{2}$ -inch pieces  
 $\frac{1}{4}$  cup cold solid vegetable shortening  
 5 to 6 tablespoons ice water

Sift the flour and salt into a large bowl. Using your fingertips, work the butter and shortening into the flour until the mixture resembles small peas. Work the ice water into the mixture with your fingers until the dough just comes together; be careful not to over mix. Divide the dough into two disks, one slightly larger than the other\*, and wrap each disk tightly in plastic wrap. Refrigerate for at least 30 minutes and up to overnight before rolling out.

\*The larger portion of dough should be used for the bottom crust of the pie.

Yield: one (9 or 10-inch) double crust pie

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Lagasse, E. (2006). *Miss Hilda's Meat and Potato Pie*. Retrieved from <http://www.foodnetwork.com>



## Making Traditional Meat Pies

Meat pies are an easy, filling dinner, lunch, or snack for your family. Use whatever ingredients are on hand and play with a variety of spices and vegetables to please your family. Meat pies can be made using a basic pie crust on top and bottom or top only; or you can use a basic biscuit recipe as the pie topper (if using biscuits, make sure the filling is very hot before topping with biscuits and bake immediately). Below are some suggestions for ways you can change up traditional meat pie recipes, use food storage ingredients, and save money, all while filling your family with wholesome and delicious food.

### The Ingredients

- Meat, ground or in small pieces: pork, beef, veal, turkey, chicken or combination, pre-cooked
- Potatoes: mashed, blanched and sliced, cubed, grated
- Onion, white, yellow, sweet, or red: chopped
- Celery: chopped (optional)
- Garlic cloves (optional) – roast or cook with potatoes
- Other root vegetables: Butternut squash (cubed), rutabaga (cubed), carrots (sliced), pre-cook to soften
- Bread: crumbs or cubes – can mellow the flavor, or use flavored croutons instead
- Spices: ground allspice, Worcestershire sauce, onion soup mix, garlic powder, Cajun spices, thyme, rosemary, basil, etc.
- Meat Extender: oatmeal, wheat berries, white or brown rice  
Don't pre-cook oatmeal; DO pre-cook whole wheat berries, white and brown rice.
- Other additions & flavor changes (as desired): crumbled bacon, chopped peppers - sweet or hot, mushroom pieces, diced tomatoes (canned or cooked slightly), garlic powder (if not using garlic cloves), etc.

### Lattice Top Pie

The dough used for a lattice-top pie needs to be a more sturdy dough. Add a little more flour and reduce the amount of fat to keep the dough from melting in the oven. The sturdier dough also makes the lattice easier to form and the strips retain their crisp edges when baked.

Roll the pie dough into a rectangle about  $\frac{1}{8}$  inch thick. Transfer to a parchment-lined baking sheet. Cut strips of dough about 13 inches long and about 1 inch wide. Slightly separate the strips. Freeze for about 20 to 30 minutes or until very firm. Place 4 to 5 parallel strips evenly across the pie. Weave 4 to 5 additional strips, one at a time, over and under the first strips. Lift the strips and rotate the pie as needed to finish weaving the strips. Let the strips thaw and soften before trimming. Trim the overhanging strips and press under the edge of the bottom crust, and flute/crimp the edges.

### To Make Ahead

Pie dough can be refrigerated, wrapped tightly in plastic wrap, for up to 2 days or frozen for up to 2 months. Let the frozen dough thaw before rolling.

### Pie Storage

- Depending on the filling, most fruit pies are best stored at room temperature. Refrigeration will turn the crisp crust gummy. The pie should last up to 2 days if wrapped well in foil.
- Custard and cream-filled pies must be wrapped tightly in plastic wrap and refrigerated. They generally last for 1 to 2 days.

## Trouble Shooting!

Problem	Solutions
Soggy Crust	<ul style="list-style-type: none"> <li>• Do not let the pie sit too long before baking.</li> <li>• Keep the amount of water in the crust to a minimum.</li> <li>• Preheat the filling.</li> <li>• Spread surface of the bottom crust with melted butter.</li> <li>• Chill dough for 30 to 60 minutes before filling.</li> <li>• Set pie pan on a metal baking sheet during baking.</li> </ul>
Flour and butter mixture becomes pasty (butter starting to melt)	Proceed as quickly as possible to moisten the dough and force the dough to accept at least $\frac{3}{4}$ of the liquid called for by gently stirring the liquid in with a fork. The dough may be excessively soft. Flour the outside of the dough generously, wrap and chill.
Large lumps of butter left in dough after moistening	<ul style="list-style-type: none"> <li>• Flour work surface and turn out dough.</li> <li>• Press dough into a rectangle about <math>\frac{3}{8}</math>" thick. This will help flatten the lumps of butter. Fold dough over on itself; gently mold it into a ball, wrap and chill.</li> </ul>
Dough is still dry after moistening	Return the dry dough to the bowl; gently tear into pieces using two forks. Scatter drops of water on it and toss with a fork till the dough adheres better. Wrap and chill.

## Helpful Hints & Techniques

- Sugar can be added to sweeten and tenderize.
- Enhance flavor of dough by adding spices such as nutmeg, cinnamon or ginger.
- Refrigerate all ingredients prior to making the dough – even the flour.
- Use an egg wash (whole egg, or egg white with a little milk or water) and brush top of pastry before baking to give it a beautiful golden-brown color.
- Sprinkle tops of fruit pies with sugar or cinnamon-sugar mixture.
- Prevent meringue from “weeping” by mixing 1 teaspoon of cornstarch into the sugar before beating it into the egg whites.

Variation: for a chocolate crust, substitute  $\frac{1}{4}$  cup cocoa for  $\frac{1}{4}$  cup of the flour.

\*This dough can be made ahead and refrigerated. Wrap it tightly in plastic wrap for up to 2 days in the refrigerator or in the freezer for up to 2 months. Let the frozen dough thaw before rolling.

\*A baked tart crust, tightly wrapped in plastic, will keep at room temperature for up to 2 days.

Adapted from *The America's Test Kitchen Family Cookbook*. (2005). Boston Common Press.



## Tart Crust

Makes one 9-inch pie

1 egg yolk

1 tablespoon milk

½ teaspoon vanilla

1¼ cups flour

⅔ cup powdered sugar

¼ teaspoon salt

8 tablespoons butter, chilled and cut into ½-inch pieces

Mix the egg yolk, milk and vanilla and set aside.

Mix the flour, sugar and salt in a food processor. Add the butter pieces and pulse until the mixture resembles coarse cornmeal. Leave the food processor running while pouring in the egg mixture. Process until the dough just comes together. Form the dough into a disk, wrap in plastic wrap and refrigerate for about one hour.

When ready to use, let the dough soften at room temperature before rolling. Fit into tart pan(s) and freeze for about 30 minutes. Place on baking sheet. Line the tart pan with foil and fill with pie weights or dry beans.

Bake at 375° F. for about 30 minutes and rotate half-way into the baking time. Carefully remove the baking weights and foil. Bake an additional 5-10 minutes or until the crust is golden brown. Place on a wire rack to cool.

## Whole Wheat Pie Crust

2 cups whole wheat pastry flour

¾ cup unsalted butter, chilled

1 teaspoon salt (if using salted butter, reduce to ½ tsp.)

5 to 8 tablespoons ice water

Sift flour and salt into a large mixing bowl. Cut butter into small pieces and rub into dry ingredients until the mixture resembles a coarse meal with some pea-size pieces. Sprinkle water over mixture, one tablespoon at a time and knead lightly just until a dough forms. Form into two balls, flatten and wrap in plastic wrap. Refrigerate for 30 minutes to 1 hour.

*YIELD:* Two 9-inch crusts

Adapted from *Bob's Red Mill Natural Foods*. Retrieved from <http://www.bobsredmill.com>

## Jana's Pie Crust

3 cups all-purpose flour

1½ scant cups shortening

¼ teaspoon baking powder

1 egg

½ teaspoon salt

1 tablespoon vinegar

About 7 tablespoons ice water

Combine dry ingredients and cut shortening in with a pastry blender or two knives. In electric blender, mix egg, vinegar and water. Add to other ingredients, stirring with a fork until pastry forms a ball. **DO NOT OVER MIX!** Divide dough for crusts and form into balls. Allow to rest in refrigerator, if desired, but warm slightly before rolling. Roll 1/8" thick, starting from center using light strokes. Roll pastry over rolling pin; unroll over pie plate, fitting loosely onto bottom and sides. Trim and crimp edges as desired.

*YIELD:* 3 to 4 single crusts

## Lard Pie Crust

2 cups flour  
1 teaspoon salt

$\frac{2}{3}$  cup lard  
5 to 7 tablespoons ice water

Sift flour and salt together in bowl. Cut in lard until pieces are the size of small peas. Add cold water a little at a time until particles just hold together. Knead slightly and form into ball. Chill for 30 minutes to an hour. Roll into desired crusts.

**YIELD:** Two single crusts or 6-8 tart shells

(Adapted from *Morrell Snow Cap Lard*)

## Trans Fat Free Pie Crust

2 cups flour  
1 teaspoon salt

$\frac{2}{3}$  cup oil  
 $\frac{1}{3}$  cup milk

Gently mix all ingredients together being careful not to over mix. Form into two balls and flatten each ball slightly. Roll dough between 2 pieces of waxed paper. Peel off top sheet and fit dough, paper side up, into pie plate. Remove paper.

For single crust pie, trim  $\frac{1}{2}$  inch beyond edge of pan, fold under, and flute edge. Prick bottom and sides well with fork. Bake at 450° F. for 10-12 minutes or until golden.

For double crust pie, trim lower crust even with rim of pie plate. Tuck top crust under edge of lower crust. Flute edge of pastry as desired. Cut slits in top crust to allow steam to escape. Bake according to individual recipe.

## Sourdough Pie Crust

Makes two 9-inch crusts

2 cups flour, sifted  
3 tablespoons water  
 $\frac{2}{3}$  cup shortening

$\frac{1}{2}$  cup sourdough starter  
 $\frac{3}{4}$  teaspoon salt

Mix  $\frac{1}{2}$  cup flour, starter and water. Set in a warm place for about 1 hour. Put the other  $\frac{1}{2}$  cup flour in a large bowl and add the salt. Cut in the shortening. Add the starter mixture to the flour/salt mixture and mix to make a dough. Roll out on lightly floured surface.

### Sourdough Starter

2 cups warm water or milk  
2 cups flour  
1 tablespoon yeast

Mix all ingredients in a large non-metal bowl or crock, cover and allow to sit in warm place for 4-7 days. Stir about once a day.

To use the starter, remove the amount called for in the recipe. Replace the amount removed with equal amounts of water or milk and flour. After replacing the amount used, leave on the counter for 24 hours and then keep in the refrigerator.



## Graham Cracker Crust

Makes one 9-inch pie  
 1 1/4 cups graham cracker crumbs (about 8-10 crackers)  
 2 tablespoons sugar  
 5 tablespoons melted butter

Preheat oven to 325° F. Mix graham cracker crumbs, sugar and butter until thoroughly mixed. Press crumbs firmly into pie plate. A flat-bottom glass or cup makes the job easier. Be sure to pack it tightly to ensure a sturdy crust. Bake about 15-20 minutes. Use warm or cooled depending on the filling recipe. The baked crust can be stored at room temperature wrapped tightly in foil for up to 2 days.

## Cookie Crumb Crust

Makes one 9-inch pie  
 16 Oreo cookies or other type of cookie, crumbed\*  
 2 tablespoons melted butter

Preheat oven to 350° F.  
 Pulse the cookies in a food processor until crumbs are uniform in size, then add the melted butter through the feed tube until the mixture looks like wet sand. Press into pie plate and bake about 15 minutes. Use warm or cooled depending on the filling recipe. The baked crust can be stored at room temperature wrapped tightly in foil for up to 2 days.

\*Suggestions: Vanilla Wafers, Pecan Cookies, Coconut Macaroons, Shortbread, Sugar Cookies, Ginger Snaps, Peanut Butter Cookies

## Gluten-Free Pie Crust

1 1/4 cup (5 ounces) almond flour (not almond meal)  
 2/3 cup (2 ounces) gluten-free oat flour  
 2/3 cup (2 ounces) tapioca flour  
 1/2 cup (2 ounces) teff flour  
 1/2 cup (3 ounces) potato starch  
 1/4 cup (2 ounces) sweet rice flour  
 2 teaspoons xanthan gum  
 1/4 teaspoon guar gum  
 1/2 teaspoon kosher salt  
 5 tablespoons butter, cold (or non-dairy butter sticks)  
 4 tablespoons lard, cold  
 1 large egg  
 6 to 8 tablespoons ice-cold water

In a large bowl, mix all of the flours and potato starch. Add the xanthan and guar gums and the salt. Mix well. Add small pieces of cold butter to the flour mixture. Then add the lard in small equal-sized portions. Mix in fats. Combine the egg with 3 tablespoons of the water and whisk together. Add the egg water to the dough. Mix until the dough starts to stick together. Wrap the dough in plastic wrap and refrigerate for about 15 minutes. Take it out and roll between two pieces of parchment paper as thin as possible. Carefully, lift the top piece of parchment paper and turn the dough upside down on the top of a pie plate. Rearrange until it is flat. Refrigerate. Preheat the oven to 325° and make the desired filling. Remove from the refrigerator and fill with the desired filling. Put several pats of butter on the top. Roll out the remaining pie dough, place over the filling and crimp the edges. Brush with an egg wash for a golden crust. Make a few small slits in the top crust. Bake until the crust is golden brown — about 40 minutes. Remove from the oven and let cool.

(Adapted from <http://glutenfreegirl.com/gluten-free-pie-crust>)

## Basic Pie Crust

1½ cups sifted flour  
 ½ teaspoon salt  
 ½ cup shortening  
 ¼ cup ice cold water

Sift flour and salt. Cut in shortening until pieces are about the size of small peas. Add enough water until all the flour is moistened and then form into a ball. Roll into desired crust.

*YIELD:* 1 single crust or 4-6 tart shells

## Rich & Flaky Pie Crust

¼ cup butter	3 cups flour
¼ cup butter-flavored shortening	
⅓ cup lard	½ teaspoon baking powder
⅓ cup vegetable shortening	1 tablespoon non-fat dry milk
1-2 tablespoons sugar	½ cup+ ice cold water
1 teaspoon salt	

Cream together the fats. Add sugar, baking powder, salt and dry milk. Add half the flour and mix well. Add water and remaining flour. Mix just until dough forms into a ball. Roll out desired crusts. Bake according to individual pie recipe.

*YIELD:* About 3 single pie crusts

Adapted from Thackeray, H. *Lion House Recipes*. (1984). Salt Lake City: Deseret Book.

## Coconut-Oil Pie Crust

¾ cup unbleached white flour  
 ½ cup whole-wheat pastry flour  
 ½ teaspoon baking powder  
 2 tablespoons maple sugar or cane sugar  
 ¼-½ teaspoon salt  
 ¼ cup coconut oil (measure it in solidified form, in a dry measure)  
 2 tablespoons butter, chilled or frozen  
 1 teaspoon apple cider vinegar  
 3-5 tablespoons ice water

Sift or mix dry ingredients together in a medium bowl. Cut the solidified coconut oil and butter with the dry ingredients, coating the hardened pieces with flour. Work into the flour with your fingers or (preferably) a pastry blender. The coconut oil and margarine should be distributed into different-size pebbles, all of them small. Break up any large clumps or pebbles into smaller pebbles; no pieces should be larger than a pea.

Add the vinegar to the ice water. Drizzle the water into the dough a spoonful at a time, mixing in each as you go. There is enough water in the dough when the dough holds together well when pinched. Do not add any more water than absolutely necessary.

Gather the dough into a ball and flatten it into a disk. Wrap disk in plastic. Chill for about 15 minutes. Roll out on floured board with floured rolling pin — or even easier, just press into pie pan evenly. Bake according to desired recipe.