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**Foods Project Leader  
Pilot Project Webinar #4  
March 6, 2012**

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**Your Presenters**

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Any questions from  
the last webinar?



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4-H Record Keeping



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4-H Record Keeping

Record keeping is an important  
life skill and all 4-H members are  
encouraged to keep written  
records of their 4-H year.

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**Warm Up:**


When we think of record keeping in 4-H as a  
life skill, what are some records that people  
need to keep in their adult life?

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- **Tip #3:** Check with your Local Extension Office about what record form or awards applications/portfolios are used in your extension unit and when they are due each year. This varies widely across Kansas. In addition to the above options, a number of units have some of their own forms/applications.
- **Tip #4:** There is a difference between records and awards



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**What are some specific records or pieces of information that should be kept related to a 4-H Foods project?**



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Please consider how you can help young people in your project group keep records this year.

Record keeping is a life skill they will use throughout their life



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**BUILDING BLOCKS OF BAKING**

Preparation tips for baked goods







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**Food Safety at the Fair**

- What is perishable?
  - High in moisture, protein and neutral acidity
  - Fillings and frostings
    - Contain egg custard
    - Contain cream cheese filling
    - Cheese fillings
  - Cream and meringue pies
  - Anything that needs refrigeration
- Herbs, vegetables, and garlic in oil
- **County Fairs that have refrigeration can allow perishable exhibits**
  - Not allowed at State Fair 4-H Foods!







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**Food Safety at the Fair**

- What is non-perishable?
  - Cream cheese incorporated as an ingredient
  - Regular cheese incorporated as an ingredient
  - Eggs as an ingredient
  - Fruit and pecan pies
  - Commercial frostings
    - Cream Cheese
    - German Chocolate





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### Modified Foods

- Should be a quality product
- Attractive
  - Good color
- Properly leavened
  - Not compressed
- Proper size or shape
- Not gummy

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### Reduced or Fat Free

- Avoid over baking
  - These bake faster
  - Use lower temperature and shorter time
- Check for doneness
  - Toothpick
  - Temperature
- If dry, may need more fat substitute
- Lowfat margarines not good substitute for baked goods

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### Fat Substitutes

(Cakes, Muffins, Quick Breads)

- Pureed fruit
  - Start with ½ as much substitute, then add
- Eggs
  - Leave one whole for tenderness
  - 2 egg whites = 1 egg
  - Ground flax seed
    - 1 T + 3 T water = 1 egg

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### Fat Substitutes

- Butter, margarine, solid shortening
  - Half as much buttermilk, nonfat yogurt, skim milk
  - ¾ as much honey, molasses, maple syrup, chocolate syrup, fruit juice concentrate, fruit spreads
  - ¾ as much cooked mashed pumpkin, butternut squash, sweet potato
- Oil
  - 1:1/3 substitute ratio (ex: 1 cup flax = 1/3 cup oil)
  - ¾ as much buttermilk, nonfat yogurt, skim milk
  - Products brown more, adjust temp and time

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### Gluten-Free

- Strive for quality
  - Moistness, not too much
  - Nice crumb, fine grain
  - Not gummy
    - Too much gum (xanthan, guar gum, gelatin)
  - Good height, not dense
- Pleasant flavor
  - No strong flavors from one ingredient
  - Usually several flours used

GF Chocolate Chip Cookies  
[www.landolakes.com](http://www.landolakes.com)

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### Gluten-Free

- Lighter color
  - Add ingredients for color
- Add fiber
  - Flax seed
  - Can cause dryness
- Cookies
  - Butter and shortening good combo
- Yeast Breads
  - Look like quick bread

GF Multi-Grain Bread  
[www.landolakes.com](http://www.landolakes.com)

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## Gluten-Free

- When substituting in gluten-free ingredients
  - Use 2-3 Tablespoons less GF flour
  - Add potato starch, tapioca starch, or corn starch to get a finer texture
  - Add 1 teaspoon xanthan gum for structure
  - May need extra chemical leavening, about 25% more
- GF batters will be runny
- GF products can stick! Use parchment paper
- For more color, bake with stoneware or glass

Thanks to Jo Maseburg and Sharon Davis  
<http://www.landolakes.com/mealideas/gluten-free-recipes.cfm>

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## Nutrition



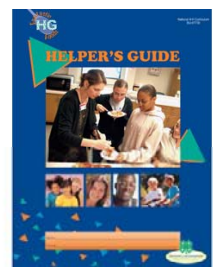
Choose **MyPlate.gov**

- Whole Grains
- Low Fat
- Fruit or dried fruit
- Portion size!
  - Bar cookies – 2-inch
  - Drop cookies – 2 half dollar coins
  - Cinnamon roll – hockey puck
  - Roll – bar of soap
  - Muffin – tennis ball
  - Biscuit – hockey puck

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## Helper's Guide

- Bite 4, Food preparation pp. 20-23
  - Baking Cakes
  - Yeast Dough
  - Pies
- [www.youthlearningnet.org](http://www.youthlearningnet.org)
  - For Project Helper
    - Additional Resources
    - Bite 4 – Food preparation



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## Baking techniques

It is important to follow exactly the directions in a recipe for baking foods. For example, some directions say to only grease the bottom of a pan. In the case of a quick bread loaf, greased pan sides cause the bread to "slip" down the pan as it is baking and result in a product that is not as high as it should be.

### Six Easy Bites

**Bite 4 - Food Preparation**

Cooking Techniques  
Quick Bread Batters and Loaves  
Microwave Cooking  
Kitchen Talk Solutions  
Extra Bite Solutions  
Extra 1 Resources

**"Grease" a pan**  
Use a small piece of waxed paper or cover your fingers with a plastic sandwich bag to dip into shortening. Do not use reduced calorie margarine or other soft spread margarine. Spread the fat evenly over the bottom, sides, and corners of the pan. Other ways to grease a pan include:

- Flour a small amount of cooking oil into the pan
- Use it with saved margarine or butter stick wrappers
- Use a "spray" coating, unless a recipe says not to.

**"Grease and flour" a pan**

- First, grease the pan.
- Then, place approximately one tablespoon of flour in the pan. (For a chocolate cake, use a little cocoa powder instead of flour so the sides of the baked cake are not white.)
- Shake the pan, tilting it back and forth, until it is coated with the flour.
- Dump out and discard any flour that does not stick.

**Selecting Baking Pans**  
Baking results are affected by the baking pan used. Most recipes recommend which type of pan and which size to use. A pan should not be more than two thirds full. To determine the pan size if it is not marked, measure from one top inside edge to the opposite inside edge.

Dark pans and glass pans absorb heat (catch and hold heat), so foods cook better. If you use a glass pan for a recipe that calls for a metal pan, reduce the baking temperature by 25°F. Foods tend to brown more quickly in these types of pans. Shiny pans do not have this problem because they reflect heat away.

This size pan	May result in a baked product that is:
Oversized	<ul style="list-style-type: none"> <li>Too thin.</li> <li>Dried out if baking time is not adjusted.</li> <li>Dull.</li> </ul>
Too small	<ul style="list-style-type: none"> <li>Overflowing in the oven.</li> </ul>

**Baking Tips**

- Use the pan the recipe suggests.

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## Six Easy Bites

**Bite 4 - Food Preparation**

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Extra 1 Resources

**Cookie Storage**

- Store cookies only after they have cooled completely.
- Basic tips on cookie storage:
  - Store crisp and soft cookies in separate containers with tight fitting lids.
  - Do not use cardboard containers unless lined with foil or plastic wrap.
  - Store frosted or thumbprint cookies in a single layer in a tightly covered container. If space is a problem, allow frosting or filling to harden a bit and then layer the cookies between waxed paper for storage.
  - Store bar cookies tight in the baking pan. Cover tightly. Some may need refrigerating depending on the frosting and/or filling, etc. The recipe indicates this.
  - Freeze baked cookies or cookie batter. Freeze in a moisture vapor resistant container or re-closable plastic bag, for no more than six months if unfrosted, one to two months if frosted.
  - Don't freeze meringue-type cookies.
  - Thaw in the package at room temperature.

This happened:	Trouble-shooting cookies
Sprawled	<p><b>Because of this:</b></p> <ul style="list-style-type: none"> <li>Liquid not measured accurately.</li> <li>Flour not measured accurately.</li> <li>Incorrect form of fat used, such as melted, whipped, or oil form.</li> <li>Cookie sheets not cooled between baking times.</li> </ul>
Dry, crumbly	<ul style="list-style-type: none"> <li>Too much flour.</li> <li>Oven too hot or baked too long.</li> </ul>
Flat	<ul style="list-style-type: none"> <li>Expired baking powder used (check the bottom of the can for the expiration date).</li> </ul>
Too dark	<ul style="list-style-type: none"> <li>Baked too long or oven too hot.</li> <li>Baking sheet or pan with dark, nonstick coating, or glass pan was used without lowering oven temperature by 25°F.</li> </ul>
Ran together	<ul style="list-style-type: none"> <li>Batter spaced too close together on baking sheet before baking.</li> </ul>
Not brown on top	<ul style="list-style-type: none"> <li>Oven rack not in middle of oven.</li> <li>If baking bar cookies, the pan may be too deep for the amount of batter in it. The pan should be two thirds full.</li> </ul>

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## Quick bread batters and loaves

**Baking Tips For Quick Bread Loaves**

- Prepare the loaf pan as the recipe indicates. Grease the sides of the pan only if the recipe indicates.
- Use the correct pan size specified in the recipe. The batter should fill half of an 8-inch loaf pan, or 3/4 of a 9-inch loaf pan.
- Using a glass or a dark metal loaf pan, reduce the temperature indicated in the recipe by 25°F.
- Baking more than one pan in the oven, make sure that pans are at least 2 inches away from each other and from the oven sides. Keep pans in the middle of the oven.
- Check doneness in one of several ways when the bread's color is medium to dark brown:
  - A wooden pick inserted in the center of the loaf comes out clean (no batter stuck to it).
  - The center crack is dry.
  - The center springs back when you touch it lightly with one finger.
- Cool the pan on a cooling rack for 5 to 10 minutes. Loosen the sides of the loaf from the pan using a metal spatula or knife.
- To get the loaf out of the pan, hold the pan with a pot holder and turn the pan upside down.
- Cool the loaf completely on the cooling rack before wrapping and storing.
- Wrap and store bread overnight before slicing. Breads are moister, slice better, and taste better the next day.

**Serving Quick Bread Loaves**  
Serve quick breads at room temperature or warmed up. To warm up, wrap in foil and reheat in a 350°F oven for 15 to 20 minutes.  
A paper towel and microwave briefly to avoid a tough texture.

This happened:	Because of this:	This happened:	Because of this:
Smooth crust	Batter mixed too much.	Tunnels and holes	Batter mixed too much.
Low volume	Pan too large. Not baked immediately after mixing batter. Oven too hot or baked too long.	Cracked and wide cracks	Batter mixed too much. Pan too small. Oven too hot.
Dry, crumbly	Too much flour in batter. Oven too hot or baked too long.	Unevenly browned	Pan not in middle of oven. Too many pans in oven. Uneven heat in oven.
Center crack wet	Not baked long enough. Oven not hot enough.	Soggy	Baked bread wrapped before completely cool. Not baked long enough.
Dipped center (batter)	Not baked long enough. Oven not hot enough.		

**Baking Cakes**

There are basically two categories of cakes.

- Shortening types
- Foam or sponge types

Shortening-type cakes contain shortening, margarine, or butter along with flour, eggs, a liquid, and a leavening agent, such as baking powder or soda. Shortening cakes are the basic white, yellow, chocolate, and pound cakes. A good shortening-type cake has:

- An uniform shape
- A slightly rounded and smooth top
- A fine grained, velvety, even texture (not crumbly)
- An evenly browned crust
- A tender crumb
- A tender, slightly moist crumb
- A pleasant, sweet flavor

Foam-type cakes depend on the air beaten into egg whites for lightness. Examples of foam cakes are angel food, sponge, and chiffon.

- Angel food cakes depend entirely on beaten egg whites to rise, no leavening agents, such as baking powder or soda, are used in addition, angel food cakes have no added shortening or egg yolks, so they are excellent choices for those concerned with weight control or heart disease.
- Sponge cakes use both egg whites and egg yolks. Additional leavening agents are sometimes used. There is no added fat in a sponge cake, fat would break down the foam created by the beaten eggs in the batter. A jelly roll is an example of a sponge cake.
- Chiffon cakes combine the lightness of foam-type cakes and the richness of shortening-type cakes. These cakes contain egg yolks, leavening agents, and vegetable oil.

There is another kind of cake, called a torte. A European torte is a rich cake made without flour. It contains bread crumbs and/or ground nuts instead of the flour along with eggs, sugar, and flavorings, fruit fillings or cream generally are spread between two to six layers of the torte. A torte can also refer to a traditional milk-soaked cake.

**Cutting Cakes**

- For shortening-type cakes and buttermilk, use a sharp, long, thin knife.
- For frosting sticks to the knife while cutting the cake, dip the knife in hot water and wipe with a damp towel after cutting each slice.

**Frosting Cakes**

Before frosting, be sure cake is completely cool, they will become sticky if covered while warm. It takes approximately 2 hours for a cake to cool completely.

Cakes should be stored in a container with a tight cover, but if a regular cake keeper is not available, invert a large bowl over the cake to keep it fresh and moist for several days. Cakes can be stored in the refrigerator, too, and likewise covered well. All cakes containing dairy products, including cream cheese, when frosting must be refrigerated.

**Tasty Tidbits**

**Bite 4 - Food Preparation**

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Freezing Cakes

Cakes can be frozen either frosted or unfrosted.

- Unfrosted cakes keep longer in the freezer (4 to 6 months) than frosted cakes (2 to 4 months).
- Egg white frostings or custard-filled cakes are not recommended for freezing.
- Butter cream frostings freeze best.

A good freezer packaging method:

- Place cake on a stiff foil or waxed paper covered cardboard. A bakery box can be used, too.
- Wrap over cake or box with moisture-vapor resistant material. Or slip a freezer bag over it or wrap in foil. Place a frosted cake in the freezer so frosting can harden before rewrapping.
- Seal with freezer tape.
- Store in a box to protect cake from crushing during storage.

**Thawing Cakes**

The best method to thaw a cake depends on whether the cake is:

- Unfrosted, thaw at room temperature, covered, 2 to 4 hours and then frost or serve as desired.
- Frosted, thaw loosely covered overnight in refrigerator, or thaw uncovered at room temperature.

What can you do with leftover egg whites?

- Use leftover egg whites for foam-type cakes, meringues, or certain frostings.
- Freeze leftover egg whites. Lightly beat and place in plastic freezer containers. Freeze. Thaw frozen egg whites in the refrigerator. Use like fresh egg whites. One egg white measures two tablespoons.

**Frosting and Glazes**

The following characteristics make up a good frosting:

- Has a smooth consistency
- Holds swirls
- Is soft enough to spread on a cake without running down the sides

Cakes baked in fluted or plain tube pans, such as angel food, chiffon, or pound cakes, are often glazed. A glaze should be thin enough to pour or drizzle

**Tasty Tidbits**

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Special Hints for Frosting

- Fuffy frostings (made with corn syrup, sugar, and egg whites) are not as stable as cream frostings made with powdered sugar, milk, and butter or margarine. They should be prepared with caution in humid or rainy weather. When it is humid, slightly reduce the amount of water in the recipe, and be aware that the beating time will be longer. There is no hard-and-fast rule for how much to reduce water because it is dependent on the area's humidity levels, equipment used, and the water.
- If a creamy frosting is too thick, it can pull and tear the cake surface being frosted. Thin the frosting with a few drops of water or milk.
- For the best-shaped frosted cake, use upward strokes, bring frosting up high on the sides of the cake.
- Use a flexible rubber spatula and a light touch when frosting cakes.

**How to Frost a Two Layer Cake**

- Brush loose crumbs from the sides of cooled cake layers.
- Place one cake layer rounded side down on a serving plate. To keep the serving plate clean, arrange four strips of waxed paper under the edge of the cake layer.
- Evenly spread approximately 1/3 cup frosting to within 1/2 inch of edge.
- Place second cake layer, rounded side up, on the frosted layer.
- Spread sides of cake with a very thin layer of frosting to seal in crumbs. Use approximately 2/3 of remaining frosting to spread a thick layer over the sides; use upward strokes. Make a rim approximately 1/4-inch high around the top.
- Spread remaining frosting over the top of the cake, just to the built-up rim.
- Carefully remove waxed paper strips.

**How to Glaze a Cake**

- Brush loose crumbs from the sides of the cooled cake.
- Place the cake rounded side down on a serving plate.
- Pour or spoon a small amount of glaze on top of the cake.
- Spread glaze, allowing some to trickle unevenly down the sides of the cake.
- Repeat the above steps until all glaze is used.

**Alternatives to Frosting and Glazing**

Cakes do not have to be frosted or glazed. There are other easy cake decorations that can be used instead:

- Drizzle melted chocolate around the top edge of the cake to make a border effect.
- Sift powdered sugar onto the cake.
- Make a beautiful lace pattern on the cake by placing a paper doily on the cake, and sprinkling powdered sugar over the entire top of the doily. To remove the doily, carefully lift it straight up.

For a printer-friendly version of the **Shaping Dinner Rolls** chart, click on the icon to download. Note: Must have Acrobat Reader.

**Yeast dough**

For a printer-friendly version of the **Shaping Dinner Rolls** chart, click on the icon to download. Note: Must have Acrobat Reader.

For a printer-friendly version of the **Trouble-Shooting Yeast Breads and Rolls** chart, click on the icon to download. Note: Must have Acrobat Reader.

Bread making is a skill that is learned best with a reliable recipe and lots of practice. It can lead to wonderful homemade breads and rolls instead of store bought. Many people make bread as a hobby; enjoy the pleasant aroma provided by a freshly baked loaf of bread.

There are two basic yeast doughs: batter and kneaded.

Batter breads are really a shortcut way to make breads; they require no kneading. Kneaded breads require more time and energy than batter breads. However, both types of yeast dough must rise before shaping an loafing. This allows the yeast to activate.

Batter dough	Kneaded dough
The flour is beaten into the dough with an electric mixer instead of being kneaded.	Shape is symmetrical and well-proportioned with a rounded, smooth top.
Batter dough is thicker because less flour is used.	Color of crust is an even golden brown, slightly darker on top than on sides and bottom.
The batter is spread in a pan instead of shaped into loaves or rolls.	Crust is tender, smooth, crisp, and free from cracks.
There is usually only one rising time.	Size is large but not airy in proportion to weight.
Batter dough results in breads with a coarser texture and pebbled surface.	Inside color is creamy white and free from streaks.
	Texture is tender, soft, slightly moist, not crumbly or doughy.
	Flavor is pleasing with a mild yeast overtone.

**Bread Ingredients**

The baker can create breads of different textures, flavors, and colors just by knowing the nature and purpose of certain ingredients in breads.

**Liquids**

**Water**

Water is not really "water"; it has different characteristics depending on where it comes from.

- Soft water may make a bread dough slightly sticky.
- Hard water may toughen the dough, the rising period will be longer.
- Chlorinated water may add an objectionable flavor, let the water sit overnight so the chlorine dissipates. Very heavily chlorinated water may actually inhibit yeast.
- Instead of tap water, try juices or the vitamin-rich water made when vegetables are cooked.
- Cooked vegetables may be mashed and used, if mashed potatoes and/or potato water.

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**Milk**

There are two important points to make about using milk or milk derivatives as the liquid in a yeast dough:

- Yeast is reluctant to dissolve in whole milk because of the fat. Try skim milk instead.
- Milk solids make the gluten connections in the dough slightly weaker. This creates a bread that has a more tender crumb and a mellower taste. Cultured milk products, such as buttermilk, yogurt, and sour cream, produce most breads with a flavor similar to sourdough breads.

Use the following options, if milk is your preferred choice of liquid:

- Use warmed skim milk (no fat).
- Dissolve yeast in 1/4 cup water, add the balance of the liquid as milk, slightly warmed.
- Add 3/4 cup of non-fat dry milk to the dry ingredients; more can be added to increase protein content.
- Dissolve yeast in 1 cup warm water and then add 1 cup of evaporated milk.
- Use 2 cups of liquid whole milk and add the new quick-rising yeast directly to the dry ingredients.

**Eggs**

Eggs can be used as another "leaven" in bread recipes. Eggs add extra protein, color, richness, and structure (just like the gluten in flour).

- One extra large egg is approximately equivalent to 1.4 cup liquid, when one or more eggs are added, subtract an equal amount from the other liquids.
- To make an extra light loaf of white bread similar to traditional French bread, substitute 2 eggs whites for 1.4 cup of the water in the bread recipe. Beat the egg whites into peaks and fold them into the dissolved and bubbling yeast mixture before the flour is added. Beaten egg whites contain many air bubbles which expand in the oven's heat to help leaven and lighten the loaves.

**Fat**

While most bread recipes call for fats or oils, they are not necessary to make bread. However, there is a trade-off. Bread made without fat stays very quickly. Adding a couple tablespoons of butter, margarine, or vegetable oil to the yeast dough makes a bread more tender and it will stay fresh for a longer time.

**Salt**

There are two important points about the use of salt in bread making:

- Salt is not necessary to make bread. Herbs and spices substitutes can be used for flavor.
- Yeast does not like salt. Bread dough actually rises faster when it is made without salt. To slow the rising process there are two options: use a bit less yeast, or put the bread dough in a cooler place so it rises slower.

**Sweeteners**

Sweeteners have two functions in bread doughs; they provide:

- Food for the yeast to help it get started growing, and
- Flavor (table sugar the yeast, through the cross-reactions, stronger flavors of brown sugar, honey, maple sugar, light, dark, and blackstrap unsulfured molasses). Using any sweetener helps the baked bread stay moister longer.

If honey is used in a recipe that calls for one of the other sweeteners, lower the oven temperature by 25°F because honey tends to scorch, extend the baking

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Time 5 to 10 minutes

Sweet dough recipes call for a much larger proportion of sugar than a basic bread recipe. One would think that with so much sugar available, the yeast would grow uncontrollably. But the reverse actually happens. The yeast "dormant" on the sugar, the chemical balance becomes upset. Hence, it takes a significantly longer time to double the bulk of the dough. To compensate for this problem, most sweet dough recipes specify twice the usual amount of yeast.

**Yeast**

There are three types of yeast available:

**Cake or Compressed Yeast**

This is an early form of "domesticated" yeast developed in the 19th century that was especially suited for bread rather than beer. Cake yeast can still be found in some grocery stores. Some people feel it produces the breads with the best flavor.

Compressed cake yeast will keep in the freezer for a few months, defrost in the refrigerator before using. One cake of compressed yeast weighs slightly more than 1/2 ounce, and it can be used instead of 1 scant tablespoon or 1 packet of active dry yeast.

**Active Dry Yeast**

This is the most common form of yeast available. It has all the moisture removed so it can be kept for several months at room temperature or in the refrigerator, indefinitely in the freezer. Dry yeast becomes active when it is dissolved in liquid that contains a bit of sugar and flour.

One packet of active dry yeast is equivalent to 1 scant tablespoon of bulk active or 1 packet of compressed yeast.

**Quick-Rising Yeast**

This is a higher protein strain of yeast that has been recently developed. Just like other dry yeast, it can be stored for a long time if kept cool and dry. It is blended with the other ingredients in the recipe and activated with very hot (120° to 130°F) water. This eliminates the "proofing" process where the yeast is activated by dissolving it in warm water. In addition, the rising process is speedier because the initial temperatures are warmer due to the very hot water.

One packet of quick-rising yeast can be used in place of 1 packet of active dry yeast. Keep in mind that bread flavor develops under a long leavening period; this may not be the best choice of yeasts since it speeds up the rising process.

**Flour**

There are many types of flour available on the market, however, wheat is the only grain whose protein produces significant amounts of gluten when it comes in contact with liquid. Gluten is the protein in the flour that forms the structural framework. It forms a complex interlocking network of elastic strands when it is kneaded in dough. These strands capture the carbon dioxide bubbles created by the growing yeast, that is what allows the dough to expand or "rise".

The flavor and texture of breads can be altered by substituting the flour indicated in the recipe with other flours such as rye, buckwheat, triticale, barley, amaranth, and soy. Partially processed grains also can be substituted; they include cornmeal, oatmeal, steel-cut oats, cracked wheat, wheat germ or bran, barley flakes, or even cooked rice or millet. Some tips for using other grains in yeast doughs follow:

- For beginning bakers just learning to use whole wheat flour, start with a ratio of 1 cup whole wheat to 3 cups all-purpose unbleached white flour.
- When a grain is substituted that does not contain gluten, the bread dough will not be able to trap as many carbon dioxide bubbles; it will not rise as high. Use enough whole flour, 2 or 3 parts for each part of nonwheat flour, to make sure the dough has enough capacity to trap the carbon dioxide bubbles.
- Start with 1 part non-wheat flour or grain to 3 to 4 parts of wheat flour, either unbleached all-purpose or whole wheat.

The following are some ideas for basic bread dough additions to make specialty breads.

### You're the Chef

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#### Finishing Touches for Bread

Try one of the following finishing touches to "dress" up bread that is risen and ready to bake.

For Bread With A Crisp crust	Do This
Shiny bronzed crust	Brush loaf gently with cold water before baking.
Shiny crust	Brush loaf gently with 1 egg beaten with 1 tablespoon water before baking.
Golden crust	Brush loaf gently with 1 egg white beaten with 2 teaspoons water before baking.
Soft, tender, bronzed crust	Brush loaf gently with milk before or after baking.
Softer, richer flavored crust	Brush loaf gently with a little melted butter before or after baking.
Slashed top	Just before putting the loaf in the oven, slash an oval loaf diagonally three or four times approximately 1/4 inch deep with a serrated knife. Slash a round loaf twice one way and twice again at right angles across the first cut.
Sprinklings	Brush loaf gently with 1 egg white beaten with 2 teaspoons water before baking. Sprinkle on one or more of the following: Kosher or course sea salt, herbal salt substitute, sesame, sunflower, or poppy seeds; brewed garlic or onion; ground hard cheese, or chopped nuts.

For a printer-friendly version of this chart, click on the icon to download .  
Note: Must have Acrobat Reader.

#### Refrigerating Yeast Dough

Yeast dough made with water (except plain bread dough) can be refrigerated up to 5 days. However, if milk and at least 1/4 cup sugar was used, refrigerate for no longer than 3 days; the milk could sour. Mix dough as usual, place in bowl. Grease top well. Cover with moisture proof wrap, then a clean, damp cloth. Keep cloth damp during the storage time. When ready to bake, shape the dough, let it rise until double (approximately 1 1/2 hours). Bake as recipe indicates.

#### Shaping Bread Dough for Loaves

- Roll dough into a 14x7 inch rectangle.
- Starting with the shorter side, roll up tightly.
- Pinch pinch edges and ends of the dough to seal.
- Place seam side down in prepared pan.
- Allow dough to rise in a warm place for as long as the recipe indicates.
- For French Bread: Make 1/4-inch deep slashes across the loaf at 2-inch intervals.

#### Yeast dough baking tips

- Bake bread in a preheated oven.

### Pies

For a printer-friendly version of the **Trouble-Shooting Pies** chart, click on the icon to download .  
Note: Must have Acrobat Reader.

For a printer-friendly version of the **Fixing Mistakes** chart, click on the icon to download .  
Note: Must have Acrobat Reader.

The dough is a simple combination of flour, fat, salt, and a little liquid.  
The dough is one of the five basic types of classic pastries which include:

Type of dough	Characteristics
Mealy or short flake pastry	produces a crisp but not flaky crust.
Medium flake pastry	the crust separates into flakes instead of breaking "clean" when a piece is broken off.
Long flake pastry	somewhere in between medium flake and a true puff pastry; an example is tartif.
Puff pastry	pastry made in a unique manner; a layer of flour is expanded to a layer of butter and the sequence is repeated.
Choux paste	logically mixture that expands into a "shell" three times its original size.

For a printer-friendly version of this chart, click on the icon to download .  
Note: Must have Acrobat Reader.

American pie crust is made with a medium flake pastry.

The following are characteristics of a good pie:

- Crust is evenly browned and golden brown around the edge, somewhat lighter brown on bottom.
- Crust is flaky and tender.
- Filling is firm, smooth, and adequately cooked.
- Flavor is well blended, with the filling characteristic for that kind of pie.
- It holds its shape when served.

Note:  
Two of the most important steps when making pie crust are: use chilled ingredients, and do not overblend.

#### Preparing Dough

- Handle dough lightly. This will incorporate air and keep the gluten from being developed.
- Handle a mixture of fat/cream or eggs from all directions from opposite walls. If it is important to use cold butter, avoid the salt.

### Foodworks

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#### and tenderize the dough

- Never skimp on quality for the sake of price when it comes to pie ingredients. Bargain brands in shortening are often made from hydrogenated oil; there is a real sacrifice of quality and flavor. Read the label. Be sure it indicates the shortening is pure, all-vegetable, and is recommended for baking.
- Cut half the shortening in at a time; make sure it is chilled.
- Use ice water to keep the shortening solid and to minimize the development of gluten. Use just enough water so the dough will just stick together. Too little will make the crust crumbly; too much will make it tough.
- The kind of fat used affects the tenderness, flavor, and nutrition of a dough.

Fat	Effect on dough
lard	flaked crust
butter	tender flavored crust; not as tender because butter contains some milk solids; has the most cholesterol and saturated fat
vegetable shortening	light and flaky crust due to the air contained in lard shortening itself; no cholesterol

For a printer-friendly version of this chart, click on the icon to download .  
Note: Must have Acrobat Reader.

#### Rolling Out Dough

Chilling the dough is very important before rolling it out. If the shortening is too warm, it combines with flour and water too easily and results in a tough crust. The shortening used in pastry should never be completely incorporated into the flour; instead, the cutting in process allows the shortening to be broken into many medium-sized pieces that are coated with flour. This creates a dough with multiple pieces or pockets of shortening. When this mixture is rolled out, the little pieces of shortening are flattened, and they bake into layers, or "lakes." This is what forms a flaky crust.

- Chilling the dough also makes it easier to roll out and less likely to stick. It also helps resolidify the shortening to ensure flakiness, releases the gluten and helps prevent shrinkage during baking.
- To prevent the dough from sticking, anchor a pastry cloth around a board with tape and use a cloth cover (stocknettes) for the rolling pin; rub flour on both. The flour will not be absorbed by the dough.
- Or, oil dough between two sheets of floured wax paper; this gives a lot more control and makes it easier to transfer the dough to the pie plate.
- Roll from the middle out to the edges. This enlarges the dough without making it "stretchy," which is what happens when a back and forth motion is used. Rolling from the middle out helps minimize shrinkage during baking as well.
- If the patch has a tendency to tear at the edges during rolling, it is for one of two reasons:
  - the person rolling the roller may be bearing down too heavily on the dough, or
  - the dough may be too dry.
- If the dough tears or splits, patch it. Cut a strip from the edge of the dough. Dip a finger in water; lightly moisten the tear and press the patch over it. Roll to seal. This is important because the filling will leak through any tears or holes in the bottom crust, making pieces more difficult to cut and remove from the pan.

### Baking Pies

- It is not necessary to grease pie plates or pans because of the amount of fat in pastry and crusts.
- Never use a shiny pie pan; the pie will have a soggy bottom crust.
- To prevent shrinkage of the sides of an unfilled pie shell, chill unbaked crust for 20 to 30 minutes and bake in a preheated oven set at 425° to 475° F.
- Notchick pie pans can cause pastry to shrink excessively when baking one crust pie shells. To remedy this problem, be sure pastry is securely hooked over the edge of a notchick pan.
- Do not place the pie pan on a baking sheet before placing it in the oven, unless the recipe indicates to do so. This tends to disperse too much heat away from the bottom crust; it can result in a soggy, unevenly baked pie.
- If the filling will be juicy, first brush the crust lightly with egg white or melted butter or shortening. This keeps the juices from soaking into the crust and making it soggy. Then sprinkle the lower crust with a mixture of sugar and flour before adding the fruit. Bake the filled pie on the lower oven shelf.
- To protect a baked crust when heating a filling in it, put the pie still in the original pan into an extra pan. This prevents overbrowning.

#### Finishing Touches

##### How to Make a Lattice Top

- Prepare pastry for two-crust pie, except leave a 1-inch overhang on bottom crust.
- Roll out remaining dough as if making a top crust; cut into 1/2-inch wide strips. Use a pastry wheel for a decorative edge.
- Decide on a simple or woven lattice top, or a diamond top.

##### Simple Lattice

- Lay 5 to 7 strips (depending on the size of the pie) across filling in pie plate, approximately 3/4-inch apart. Place more strips at right angles, forming a crisscross pattern.

##### Woven Lattice

Note: (To save time, do not weave strips; simply lay the second half of strips across the first strips and trim ends.)

- Begin as with the simple lattice, but instead of placing strips at right angles to each other, fold back every other strip just to the middle of the pie. See illustration A.
- Lay another strip at right angles to three strips across the middle. Straighten out the strips that were pulled back and cover the new strip. Then take the alternate strips and fold them back as far as possible. See illustration B.
- Lay down a second strip. Straighten out the strips that were folded back. Repeat this pattern until the end of the edge; then, turn the pie around and follow the same pattern for the other side. See illustration C.
- Fold the innermost edge of the bottom crust up and over the ends of the lattice work.
- Pinch together and flute to build a higher edge which is especially necessary if the pie is a juicy fruit pie. It helps hide the edges of the lattice and keep pie juices in the pie.

### Foodworks

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#### Pie Toppings

The best looking pies have a finishing touch - a special topping to complement the filling. See chart below.

Pie Toppings	
For a Two-Crust Pie With:	Do This:
A shiny glossy top	Brush with slightly beaten egg; sprinkle with sugar; if desired. An egg white wash will be clear; the whole egg or egg yolk wash will be bronze.
A golden-brown, shiny top	Brush with milk, cream, or a mixture of 1 egg yolk and 1 tablespoon water; sprinkle with sugar; if desired.
Pastry cutouts	Roll scraps of leftover dough. Cut out shapes with cookie cutters or a knife. Moisten the back of the cutout with water, and place the moistened side down on top of the crust. An extra coating of an egg wash will make cutouts darker and more visible.
Cut-out design	Use a knife or canape cutter before placing top crust over filling.

For a printer-friendly version of this chart, click on the icon to download .  
Note: Must have Acrobat Reader.

#### Pie Doneness

There are two ways to determine whether the pie filling is done.

With a berry pie, the surest method is to simply look at it. If the filling is clearly bubbling through the slits in the top of the crust and the crust is evenly browned, the pie is done.

Pies that contain sliced fruits, such as apples or peaches, should be additionally tested with a fork or toothpick inserted through the slit into the fruit itself to ensure that the fruit is tender.

#### Storing Pies

Pies containing eggs and dairy products (such as milk, sour cream, whipped cream or topping, ice creams, yogurt, and cream cheese) must be refrigerated or frozen as appropriate.

If the room temperature is excessively warm, refrigerate a baked fruit pie.

#### Troubleshooting pie chart in there somewhere - pdf it

#### Fixing Mistakes

Every once in a while, an ingredient presents a problem. Usually it may be that a particular ingredient is missing from the pastry or spice shelf. Other times, it may be the opposite problem - there's too much of an ingredient in the dish! The chart linked at the top of the page may help remedy common kitchen "disasters."

### KSTATE Research and Extension

## Other Resources

- What went wrong and why?
  - Judge's Guide for Foods and Nutrition Exhibits
  - [http://www.ksre.ksu.edu/libr ary/4h\\_v2/4h488.pdf](http://www.ksre.ksu.edu/libr ary/4h_v2/4h488.pdf)

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# PRACTICE!!!!

Just as in sports, music, showing livestock, and other activities...

It takes PRACTICE!!!



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- Next webinar
  - March 20, 2012
  - 7:00pm
- Topic
  - Canning

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