



Background: Baking Techniques

Flour mixtures, e.g., muffins, cakes, cookies and breads, make up a large portion of our daily diets. These products are also an important part of our culture and how we celebrate events in our lives.

To be able to enjoy these products and become accomplished at preparing them, students need to know the proper procedures for combining basic ingredients to produce the variety of food products in this area.



Safety First

Follow all directions for using appliances safely. Refer to appliance manuals for kitchen equipment. Only use appliances for their intended purposes.

- Water and electricity do not mix. If an appliance falls into water, unplug it immediately.
- Never use an electrical appliance near a sink, if the cord is trailing through water, with wet hands, while standing on a wet floor or on a wet surface.
- Do not clean electrical appliances in water unless directed to do so in the owner's manual.
- Clean appliances with a clean, damp cloth, only after unplugging them.
- Inspect cords to ensure that the wires are not exposed.
- Ensure that cords are not trailing across hot surfaces or dangling over the edge of counters.

Baking Terms

Bake	cook by dry heat in an oven, in either a covered or uncovered container (meat cooked in an uncovered container is being roasted)
Batter	mixture of flour and liquid, usually combined with other ingredients, that can be stirred with a spoon and is thin enough to pour or drop from a spoon
Beat	make a mixture smooth using either a brisk over-and-over motion with a spoon or wire whisk or a rotary motion with an electric mixer
Blend	combine two or more ingredients until they are soft and smooth
Cream	soften a fat with a spoon or mixer, either before or while mixing it with another ingredient, usually sugar
Cut in	distribute solid fat in small pieces evenly through dry ingredients, using two knives or a fork or a pastry blender in a cutting motion
Dough	mixture of flour and liquid, usually combined with other ingredients (thick enough to knead or roll and too stiff to stir or pour)
Fold	blend delicate ingredients gently using two motions, one to cut vertically through the mixture and the other to turn the mixture over by sliding it across the bottom of the mixing bowl
Knead	work dough with the hands, first using a pressing motion, then folding and stretching
Mix	combine ingredients in any way that causes a distribution
Preheat	heat an oven to a desired cooking temperature before putting in the food
Stir	mix ingredients with a circular motion to blend them or make a uniform consistency
Whip	beat rapidly to incorporate air and increase volume (foods most often whipped are egg whites, cream and gelatin)

Baking Terms: Adapted with permission (pending) from Heather Csikos, *Baking Basics* (Calgary, AB: Home Economics Educational Supplies, 1996), pp. 5–16.

Ingredients in Quick Breads

Leavening Agents

Leavening agents make batters and doughs rise during baking, giving them their porous, light, tender texture. Baking powder (a mixture of baking soda and acid) forms carbon dioxide in combination with liquids. The bubbles cause the batter to expand during resting or baking.

The three leavening agents are air, steam and carbon dioxide.

Air is incorporated into foods by beating or sifting. During baking, the air expands. Omelettes and angel cakes are leavened by air.

Steam is produced when the moisture in food is heated.

Carbon dioxide is produced by:

- yeast that grows and gives off carbon dioxide
- baking soda mixed with an acid food; e.g., sour milk or molasses
- baking powder mixed with a liquid.

Flour

Bread flour, e.g., all-purpose or whole wheat, contains protein (gluten) that, when combined with liquid, stretches to form an elastic framework around the increasing number of carbon dioxide bubbles produced by the leavening agent. Baking sets the framework in its expanded state.



Liquid

Water, milk, cream or fruit juices are blended with dry ingredients to cause the formation of gluten. Liquids also make possible the leavening action of baking powder or baking soda. In some batters, e.g., popovers or cream puffs, the large quantity of liquid adds another leavening agent—steam.



Ingredients in Quick Breads: Adapted with permission (pending) from Heather Csikos, *Baking Basics* (Calgary, AB: Home Economics Educational Supplies, 1996), pp. 7–8.

Sugar

Granulated (table) sugar is usually used in quick breads. Brown sugar, molasses and corn syrups are also used for their characteristic flavours.

Sugar makes quick breads tender and adds flavour. It also causes the tops of muffins and other breads to brown and crisp.

Fat

Fat or shortening makes quick breads tender. It also gives them their fine texture, aids in browning and helps keep the finished product moist.

Eggs

Eggs bind ingredients together. Beaten egg whites add air, another leavening agent, to the mixture. The protein in eggs coagulates when heated to strengthen the structure of batters and doughs and the fat in egg yolks makes the product tender.



Methods of Mixing Ingredients

Muffin Method

Sift the dry ingredients together in a large bowl. Mix liquid ingredients together and add them to the dry ingredients.

Mix only until the dry ingredients are moistened. Overmixing creates tunnels in the product, decreases its volume and tenderness and keeps it from browning properly.



One Bowl Cake

Place all ingredients in a bowl and beat them with an electric beater.

Conventional Cake

Cream shortening and sugar together. Add eggs and blend. Add the sifted dry ingredients alternately with the liquids. Fold in flavouring, nuts and fruits at the end.



Biscuit Method

Sift the dry ingredients together in a large bowl. Cut the solid fat into the dry ingredients until the mixture has a coarse texture. Add the liquid, a bit at a time, and stir gently. When the dough forms a soft ball, knead it gently for about 20 seconds to blend the ingredients. The pieces of fat will form layers throughout the dough, making the biscuits flaky.



Methods of Mixing Ingredients: Adapted with permission (pending) from Heather Csikos, *Baking Basics* (Calgary, AB: Home Economics Educational Supplies, 1996), p. 9.

Baking Tips

Cookies

The many different kinds of cookies are usually grouped according to the consistency of the dough: soft or stiff.

1. Preheat the oven.
2. Measure the ingredients accurately.
3. Use baking sheets that fit in the oven. Centre them in the oven for even baking.
4. Lightly grease the cookie sheets.
5. Chill the dough for easier rolling. Lightly flour the counters to prevent the dough from sticking to them when rolling.
6. Bake a test cookie first to find out how far they spread out.
7. Test the cookies when the minimum baking time is up. If they are evenly browned, they should be done.

Muffins

1. Follow the recipe carefully.
2. Mix only until the dry ingredients are moistened. Overmixing creates tunnels in the product, decreases its volume and tenderness and keeps it from browning properly.
3. Fill muffin tins three-quarters full if the dough is thick and two-thirds full if the dough is thin.
4. Test for doneness. Are they evenly browned? Do they spring back when touched in the centre? Does a toothpick inserted in them come out clean?

Biscuits

1. Combine the flour and fat. Add the cold liquid slowly, lifting the mixture with a fork. Too much liquid will affect the tenderness of the final product.
2. Biscuits do not spread out on the pan so they can be placed close together.
3. Do not grease the baking sheet.
4. Test for doneness. Are they evenly browned?

Baking Tips: Adapted with permission (pending) from Heather Csikos, *Baking Basics* (Calgary, AB: Home Economics Educational Supplies, 1996), p. 12.

Types of Cookies	Description
Drop	<ul style="list-style-type: none"> made from a soft dough dropped from a spoon onto a baking sheet less evenly shaped than rolled cookies
Rolled	<ul style="list-style-type: none"> cut from a sheet of stiff dough with cutters of various shapes evenly shaped and usually thin
Refrigerator	<ul style="list-style-type: none"> cut from a roll of dough that has been chilled until stiff less evenly shaped than rolled cookies and are either thick or thin
Molded	<ul style="list-style-type: none"> made from small portions of a stiff dough that is shaped or moulded with the hands may be left in the shape of balls or slightly flattened
Pressed	<ul style="list-style-type: none"> made from a stiff rich dough that is forced through a cookie press of various shapes
Bar	<ul style="list-style-type: none"> baked in a shallow pan, then cut into oblong or square shapes

