**Foods and Nutrition**

**Unit 10: Bakeshop**

10.1 Bakeshop Ingredients/Yeast Bread

1. Bakeshop Ingredients

A. Flours

 1. wheat flour: main ingredient in baked goods

 2. gluten: firm, elastic substance that affects the texture of baked products

 3. bread flour: high in protein; produces a chewy, firm texture and a fine crumb

 4. cake flour: lowest in protein; produces a soft, tender product and fine, white crumb

 5. pastry flour: moderate protein; used in pie dough, cookies, and quick breads

B. liquids

 1. water - most common liquid; necessary for gluten to develop

 2. milk - protein, fat, and sugar of milk improve flavor and texture of baked goods

 3. heavy cream – high in fat; used to tenderize baked goods

C. Fats

 1. tenderize the baked product and add flavor, moisture, browning, flakiness, and leavening

 2. shortening – solid fat

 3. hydrogenation – process of making oil solid by adding hydrogen

 4. oil – fats from plants; liquid at room temperature; makes baked goods tender

 5. butter – use unsalted butter in baked goods; less tender

 6. margarine – similar to butter, less fat, less flavor

D. Sugars

 1. gives products golden brown color

 2. stabilizes mixture

 3. provides food for yeast

 4. retains moisture in baked goods

 5. tenderizes baked products

E. Leavening Agents

 1. substance that causes baked goods to rise by adding carbon dioxide and other gases into mixture

 2. examples: air, baking soda, baking powder, yeast

F. Salt

 1. enhances flavor of product and controls fermentation

G. Chocolate

 1. add body, bulk, and unique color

 2. Examples: unsweetened, semisweet, milk, liquid, cocoa powder

II. Mixtures

 A. Batters – equal parts of liquid and dry ingredients, usually can be poured

 B. doughs – contain less liquid than batters; work with hands, can be stiff enough to cut into shapes

 C. Baking Term Reminders – beating, whipping, blend, cream, cut in, fold in, knead, sift

III. Yeast Dough

 A. Leavens – causes dough to rise as it fills with carbon dioxide

 1. yeast must be kept between 78-82 degrees

 B. 4 types of yeast dough

 1. hard lean dough: whole grain, rye, sourdough

 a. contains 0-1% fat and sugar; made from flour, water, salt, yeast; dry, chewy product with hard crust

 2. soft medium dough: rolls

 a. 6-9% fat and sugar; soft and elastic

 3. sweet rich dough: coffee cake, cinnamon buns, doughnuts

 a. 25% sugar and fat; soft, heavy, and moist

 4. rolled-in fat yeast dough: croissants, pastries

 a. combines 10-50% fat into dough through rolling and folding action; rich, flaky texture with many thin layers

 C. Yeast dough process

 1. measure ingredients

 2. mix ingredients

 3. knead dough

 4. shape dough and rest (rise)

 5. punch dough

 6. shape dough, pan, and rest (rise)

 7. bake

 D. Testing for doneness

 1. tap the top of the bread loaf – a hollow sound means the bread is done

 2. crust should be evenly brown on the top

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**10.2 Quick Breads**

1. Quick Bread Basics

A. quick breads are products that have a bread or cake-like texture but do not contain yeast

B. examples include: pancakes, biscuits, muffins, scones, waffles

C. Basic ingredients: flour, sugar, eggs, fat, salt, leavening agent, liquid

D. 3 methods to make quick breads:

 1. biscuit method: cut fat into dry ingredients then add liquid

 2. blending method: combine liquid, sugar, fat, and eggs then add dry ingredients

 3. creaming method: mix sugar and shortening, then add eggs, and finally add dry and liquid ingredients alternately

E. Doughs vs. batters

 1. soft doughs: can be rolled or cut

 2. pour batters: more liquid

 3. drop batters: less liquid, but still sticky

F. Loaf Breads – light brown crust, tender and moist, rounded top with split down center

 1. if you undermix batter is lumpy

 2. if you overmix, you will get tunnels in your baked product

 3. leavening agents – baking powder and soda

II. Biscuits

 A. The Biscuit Method

 1. sift all dry ingredients into mixing bowl

 2. cut in shortening with pastry blender

 3. add combined liquid ingredients into flour mixture

 4. knead dough

 5. rest for a few minutes

 6. roll dough and cut into shapes

 B. Biscuits should: all be the same size, have flat tops and straight sides, have golden brown crust and be flaky (pull apart in layers)

III. Muffins

 A. Blending Method

 1. sift dry ingredients into bowl

 2. blend liquid ingredients with sugar until smooth

 3. add dry ingredients to liquid ingredients

 4. mix until dry ingredients are moistened

 B. Creaming Method

 1. sift dry ingredients into bowl

 2. combine solid fat and sugar in the bowl until smooth, fluffy, and creamy

 3. add eggs ones at a time and blend well after each addition

 4. add flour and liquid ingredients alternately

 5. mix until batter is smooth

 C. Muffins should: have dome-shaped tops, have golden brown surface, no tunnels, be tender and moist, no bitter aftertaste

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**10.3 Cookies/Cakes**

1. Cookies

A. 3 types of cookies:

 1. Crisp cookies – low moisture and high in sugar, spread during baking

 2. soft cookies – low in fat and sugar, lots of liquid

 3. chewy cookies – high ratio of eggs, sugar, and liquid, little fat

B. Cookies spread is determined by – flour type, sugar type, amount of liquid, leavening agent, type of fat, baking temperature

C. Two Mixing Methods:

 1. one-stage – mix all ingredients together at one time

 2. creaming method: mix sugar and fat first, add eggs in stages to mix well, then add dry ingredients

D. Cookie varieties

 1. drop – drop from a spoon or cookie scoop (ex: chocolate chip)

 2. rolled – roll dough out with rolling pin (ex: sugar)

 3. icebox – dough is formed into roll, chilled, and sliced (example: shortbread)

 4. molded – cookies that are hand shaped or use a mold to shape (example: many from other cultures, thumbprint cookies)

 5. bar – cookie dough is placed in a sheet pan, baked, and cut into bars or squares

E. Cookie tip – underbake cookies slightly because they will continue to bake once taking out of oven

II. Cakes

 A. Many types of cakes. A few include:

 1. pound cake - contain one pound each of butter, flour, sugar, and eggs

 2. sponge – airy, light texture because air is whipped into eggs (eggs yolks and whites are separated. Egg yolks are used in batter with other ingredients, egg whites are beaten until soft peaks form and then they are folded into batter (no oil or fat substance)

 3. angel food – eggs yolks and whites are separated, yolks are not used, whites are beaten until soft peaks form, dry mixture is slowly folded into egg whites

 4. chiffon – same as sponge cake, but the cake has oil which makes it a heavier, more stable cake

 B. Baking Cakes

 1. fill pans ½ - 2/3 full

 2. cake is done: if toothpick inserted comes out clean, center springs back when pressed, pulls away from sides of pan

 3. cool 15 minutes before removing from pan

 C. Frosting Cakes

 1. tap off loose crumbs

 2. frost top layer from center out, then spread down sides

 3. smooth surface before decorating

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**10.4 Pies/Desserts**

III. Pies

 A. types of pie dough

 1. flaky: flour is not completely blended with fat; fat is cut into the size of peas (absorbs more moisture, best for top of crust)

 2. mealy: looks like cornmeal; fat is blended into flour more completely; requires less liquid thank flaky dough (resists moisture, best for bottom of crust)

 B. Making Pie Crust

 1. Mix flour with salt

 2. cut fat into flour

 3. add cold liquid and mix

 4. flour counter and rolling pin

 5. divide dough in two, roll first half to 1/8 inch thick

 6. put dough in plan

 7. add fruit filling

 8. roll 2nd half out to 1/8” thick and put on top of pie

 9. seal pie crust edges together using fork or fingers

 10. poke holes in top to allow steam to escape

 C. Baking empty pie shells – do this if you have a cream pie

 1. pierce the dough in the pan to avoid air bubbles in crust

 2. put empty pie pan over dough

 3. bake upside down

 D. Pie Fillings

 1. ready-made fillings (purchase in can)

 2. cooked fruit fillings (cook yourself with fruit, sugar, thickening agent)

 3. cream fillings: flavored pastry cream – lemon, chocolate, banana, coconut

 4. custards: filling made with eggs – pumpkin, pecan

IV. Specialty Desserts

 A. Frozen Desserts – ice cream, frozen yogurt, sherbet, sorbet

 B. Custards and Puddings

 1. custards: desserts made from eggs, milk or cream, flavorings, sweeteners

 a. stirred custard: cooked on range in double boiler or saucepan; must be stirred constantly; does not set firmly

 b. baked custard: baked in a water bath; remove from oven when center is slightly set; firmly set when done

 2. Pudding: desserts made from milk, sugar, flavorings, and cornstarch

 a. starch thickened: boiled in a saucepan and poured into molds

 b. baked: add large amount of bread or a custard to make bread pudding or rice to make rice pudding; bake

 C. Bavarians, Chiffons, Mousses

 1. Bavarian Cream: made of whipped cream, gelatin, and flavored custard sauce

 2. Chiffons: made of meringue (beaten egg whites), gelatin, and flavored custard sauce

 3. Mousse: light and airy dessert made with meringue and whipped cream; fresh fruit or chocolate often serves as the base