"Oven Spring"	Final, Rapid Fermentation
4 Factors that influence Vegetable cooking time	Maturity Form/Size of pieces degree of doneness State: fresh/frozen/canned
A Desirable End Product in Batters and Doughs Requires	Accuracy in measurement (sift, then measure) Skill in and right amount of manipulation for product Careful control of temperatures and times-ingredients and baking Information about kinds and proportions of ingredients
Aflatoxin	Toxicc mold in raw rice and peanuts

All-purpose flour	most used by consumers lower in protein bleached and enriched
Amendments to the Drug and Cosmetic Act of 1938	Food Additive Amendment Delaney Clause Pesticide Amendment
Amount of Fat in Yeast Loaf or yeast rolls	Loaf: 1-1.5 T Rolls: 2-4 T.
Amount of Salt in Yeast Loaf	1 teaspoon

Amt. of Sugar in A loaf of bread or 1 lb. of yeast rolls	Bread: 1.5 T Rolls: 2-4 T
Anthocyanins	Reddish blue to purple blue sensitive: needs acids to keep red tones add acid to maintain natural look sensitive to metals like tin very water soluble
Bacteria	most concerning, pathogenic make soured/ cultured products favor neutral pH, not really acidic food Are aerobic and anaerobic spore form is partially heat resisitant Favor 68F to 131 F
Baking Powder	Baking Soda + dry acid + small amount of starch 1.5 tsp/cup of flour Single acting/ double acting S.A.S.

Baking Yeast Breads	1. Final, Rapid Fermentation 2.Temperature of interior rises until yeast and enzymes are destroyed and fermentation has stopped 3. alchol developed is volatilized 4. Gluten becomes fixed crumb (elastic to solid) 5. Crust is formed (mainly due to Maillard Rxn)
Basic Leavening Agents	1. Incorporate air 2. Steam 3. Form gas by interaction of Ingredients- CO_2
Batter and Dough Mixes	Unique ingredients: emulsifiers and preservatives Consider quality, convienance and time, and ability and supply Cake is the highest quality
Batter-Yeast Breads Method	Slightly faster to make Not as attractive, irregular grain

Batters	Pour Drop (cookie "dough"0 with Yeast (sponge)
Blanching	boiling water briefly to inactivate enzymes, quickly cool it
Boiling Water bath Procedure	Submerge food in hot water and cook them boil jars and lids fill jars seal lid and rings Submerge in kettle on rack for recommended time towel: leave undisturbed for 24 hours to develop a tight seal and create a vacuum
Butter Cake	Contain a lipid ingredient -Standard butter cake -Pound Cake

Cans in Canned Goods	Steel cans w/tin lids and different inside enamels Store at a fairly cool temperature and try to use w/in a year
Carbohydrate in Milk	Lactose: least sweet of all sugars Dissacharide Breaks down then milk is "soured"
Carotenoids	carotene: not water soluble, hold color well lycopene: yellow or orange-red
Change concentration when:	you are using a extra large mold, if it will spend a long time period in a warm climate, if it has acid in it, if you are whipping, or if you are adding A LOT of extra ingredients

Characteristics of Good Quality Yeast Product	Interior: thin cell walls, smooth in grain Exterior: golden crust, maybe medium brown, smooth, no flour on it Well proportioned interior and exterior
Characteristics of High Quality Pastry	Tenderness, Flakiness
Characteristics of Shortening/Fats/Oils in Batter and Dough	1. plasticity 2. blending/creaming 3. shortening power
Chlorophyll	not water soluble, dark green + acid = pheophytin, yellowish-green + time = pyropheophytin + alkali = chlorophyllin (ruined texture, destroys b vitamins, bright green)

Code of Federal Regulations	published standards of identity
Collagen:	protein, softens and converts into gelatin with heat or moisture
Commercial Leavening Agent in Cakes	Baking Soda or Powder too much: cake collapses too little: cake is dense and heavy
Compressed (cake) yeast	110-115 F Moist like clay, yeast cells with starch, crumble into warm h2o to soften

Conventional Cake Method	Sugar + Shortening (creaming) + eggs one at a time + dry ingredients/liquid - 1/3 dry, 1/2 liguid, 1/3 dray, 1/2 liquid, 1/3 dry
Conventional Cake Method	Cream mixture + sugar + shortening + eggs Then add dry ingredients
Corrections to baked goods to high altitudes	Cakes: reduction on amount of leavening product Sponge Cakes: decrease sugar, increase flour More liquid Lower oven temperature
Crumb	The whole inside of the batter or dough

Defined texture of A batter and dough	cell wall: crust: thick, thin smooth air cells in b/w cells crumb and grain
Delaney Clause	any ingredient foudn to cause cnacer in lab animals should not be used in food, would be eliminated
Differences b/w Batters and Doughs	They vary in thickness, it depends on proportion of flour to liquid
Doughs	Soft (rolled biscuit dough) stiff (yeast bread)

Drop Biscuits	too sticky bumpy and irregular
Drop Cookies	greased baking sheet, like conventional cake, high in fat
Dry Yeast	Doesnt need refrigeration lasts a year Do not challenge date
Egg Functions in Batter and Doughs	1. Incorporate air (angel food cake) 2. steam formation 3. add flavor and color 4. forming emulsion 5. protein coagulate to form cell walls

Eggs Whites in Angel Food Cake	Fresh; Completed separated from yolk, beat until moist peaks, steam is the most important leavener
Eggs in Cakes	Give color, emulsify, give protein to the cells walls
Environment requirements for microorganisms	food moisture favorable temperatures
Enzymes	Protein catalysts w/in plants Make plant products tough; over ripening in fruit Favor room temperature

Essential Steps for High Quality Frozen Foods	Quality Product Maturity Quick Processing Appropriate Prepartion (blanching and ascorbic acid)
Extracts/Flavorings in Batters and Doughs	Vanilla/almond Spices
Fat in Milk	Cholesterol Partially saturated Breed of cow can have varying levels of fat
Fat in Yeast Breads	Usually butter and margarine 1. increases tenderness, interfers w/gluten developm. 2. enhances keeping quality (adds moistness to inside) 3. small amounts improve volume 4. improves flavor

Flavor Constituents in Fruits	Esters- aromatic/flavor Organic acids- tartness Sugars- fructose (sweetest) Tannins- underripe product Oils in Skins- fruit flavor extract
Flour in Batter and Dough	Most wheat flour, bran and germ is removed Is bleached and enriched with folic acid, thiamin/niacin, iron, and riboflavin
Flour in Yeast Breads	Bread or all-purpose flour
Flour in cakes	All purpose or cake flour Gives protein, gluten, dry starch

Food Additive Amendment	1958- b/c of more convienance foods, any ingredient added to fod needed to be tested as safe
Food Spoilage (Chief Causes)	Bacteria, Enzymes, Oxidation, Infestation, Mechanical Spoilage (brusing)
Food, Drug & Cosmetic act of 1938	Main Food Law, still exists Provisions: illegal to sell decomposed/unsanitary food, to intentionally decieve the buyer is illegal, label statements must be true and factual, should follow standards of identity (% lipid)
Forms of Yeast	Compressed (cake), dry, and Starter

Functions of Cream of Tartar in Angel food Cake	Whiten crumb Stabilizes foam Prevents Exteme Shrinkage Tenderizes Cake
Gluten	Strong Elasti framework of product A yeast bread has extra gluten A pie crust has minimal gluten
Goals in Vegetable Preparation	Maintain or develop palatability maintain optimum testure maintain attractive appearance retain mineral/vitamin content improve safety improve digestability
Government Food Agencies	FDA USDA US Public Health Service State, City and County Health Departments

Gras List	generally recognized as safe long used additives
Ingredients in cakes	Sugar, shortening, eggs, flour, liquid, commercial leavening agent
Ingredients of Angel Food Cake	Egg Whites, Flour, Sugar, Cream of Tartar, Salt and Extracts
Irradiation	treating food to carefully controlled amounts of ionized radiation for a specific period of time sterilizes food

Kneading	Push, Pull back, turn For 10 minutes Dough gets smoother and soft Develops gluten
Lamb and Mutton Flavor	Strong acid type of odor Long cooking helps volatilize these odors Exterior meat browned flavor: due to maillard reaction
Liquid in Cakes	Milk or water
Liquid in Yeast	Milk (richness in flavor, makes bread crumb more white) H2O (french bread) Potato Water (high in starch) Whey (better than h2o, more nutrients)

Liquids (not fats or oils) in Batter and Dough	Hydrate Starch Transforms protein into gluten Dissolve certain ingredients (i.e. baking soda/powder)
List for changes that occur during ripening:	increase in tenderness, better browning, improvement of flavor/juiciness, loss of red interior color at a lower cooking temperature
Merengue Method	An alternative sponge cake method: start adding sugar as whipping egg whites don't Need t ofold sugar in later
Metmyoglobin:	a brownish color that occurs in older meat that is a signal to cook it or freeze it.

Milk and Yeast Breads	Should be scalded to destroy enzymes which interfere w/fermentation (undesirable softening if not scalded), it melts solid fat, and helps provide a warm temperature for yeast growth
Mixing Methods for Batters and Doughs	Muffin Method, Pastry Method, Conventional Cake Method
Mixing Methods for Yeast Breads	Straight Dough Method Sponge Method Batter- Yeast Breads
Mixing Methods in Cakes	Conventional Cake Method Modified Conventional Method Modified Conventional Sponge Method Muffin Method Quick Mix or One-bowl Method

Modified Conventional Method	add only the yolks off the egg, the whites are whipped and folded in
Modified Conventional Sponge Method	Uses a formula low in lipid Used in lean mixtures 1/2 Sugar reserved and beaten with whites
Molds	aerobic; heat sensitive favor 68F to 95F Fuzzy, cottony, spots not necessarily bad: not usually hazardous Toxic in raw rice or peanuts
Muffin Method	Produces a poor cake, not mixed enough

Muffins	2 parts flour: 1 part liquid mffin pan at 400 F 20 or 30 minutes
Myoglobin:	a purplish red color of muscle tissue, it's smaller than hemoglobin
Nutrient Catagories in Vegetables	carbohydrates/starch proteins water and minerals Vitamin A *also fiber
Objectives in Mixing Dough and Batters	1. uniform distribution of ingredients (no lumps) 2. minimum loss of leavening agent 3. optimum blending to produce desired texture or optimum development of gluten for various products

Overfermentation of Yeast	Too much yeast, too much time, cells walls are large, has a yeasty taste
Oxymyoglobin:	a bright cherry red color that occurs when meat is exposed to oxygen
Panning or Shaping Yeast bread	Do after the first rising Add extra ingredients Put in pan or hand shape it
Pastry Ingredients	3:1 Flour:Liquid

Pastry Method	Flour + Salt blend with electric mixer Then Shortening Then Liquid
Pastry Mixing Techniques	Traditional, Paste Method, Stir and Roll or Oil Method
Pastry-Flour	middle protein content (8-9%)
Peaks in Muffins:	Too much beating, heat uneven, too much stirring, insufficient leavening

Popovers	irregular, hollow, steam leavened 450 F in muffin pan 375 F high egg Moist inside, crusty inside
Possible and Optimal Yeast Growth Temperatures	Possible: 33-129 F Optimal: 79-99 F
Pound Cake	No commercial leavening agent (no baking powder/soda), just steam/air More compact and dense
Preparation of Equipment for Shortened Cakes	1. Prepare oven: check racks to be in very middle of over, 350 F for 20-25 min. 2. Prepare Pans: grease or flour

Preventing Soaked crust	Special Challenge: custard pies (b/c of high protein filling) Brush crust w/melted fat Use High oven temperature 3 eggs/2 cup of milk, scald milk For fruit pies, thicken the filling before adding to crust
Pricking Pastry	when cooking w/out filling pierce bottom and side with fork liberally
Problems with the Delaney Clause	could be over or under protecting ourselves humans are not the same as lab animals no amount in specified
Procedures of Sponge Cakes	Whip Whites (electric mixer) with cream of tartar unti moist peaks Fold in sugar first, then flour with a plastic scraper, then add in whites Bake @ 350F 35-40 min.

Protein in Milk	Incomplete Casein - in the milk solids portion Lactalbumin - in the whey portion Lactoglobulin- in the whey portion
Proteins in Batter and Dough	Glutenin (moisten) and Gliadin (stirring, folding) form gluten
Quick Mix or One-bowl method	Formula high in sugar or lipid Have all ingred. at room temperature Stage 1: sift all dries, add fat, all or part of liquid, flavoring and mix Stage 2: add unbeaten eggs or whites and any liquid w/held and mix
Refrigerator Yeast Rolls	dough designed to keep a day or two in the refrigerator; moderate amount of yeast, higher ratio of sugar

Ripening/Aging of Meat:	Increases tenderness, increases flavor and juiciness, gives better browning, loses redness earlier, it lasts 7-10 days only occurs in beef
Rising-Fermentation-Proofing	let rise until dough doubles in volume, punch it down, let it rise until it doubles again, shape it for baking
Rolled Biscuits	Southern classic, smooth on top, very tender (flakey), manipulated very little
Rolled Cookies	Crisp or soft, use minimal flour, 1/4" thick

Rolling Pastry	want diameter circle 2" + pie plate size 1/8 inch in thickness
S.A.S.	Sodium Aluminum Sulfate 2 dry acids, the first acts as moistened the second acts when heat is applied
Salt in Yeast Breads	Inhibits yeast fermentation, has a good effect on texture (otherwise it tastes flat and dull), is important to flavor
Shortening in Cakes	Tenderizing by shortening gluten strands, airates well (a solid lipid), gives color and flavor Should be at room temperature to cream well

Shortening in Pastrys	Tenderizes, gives flakiness, should be at room temperature
Sodium Bicarbonate	B. Soda + acid = gas 1/2 tsp baking soda + 1 cup sour milk; or 1 cup of Buttermilk or 1 tsp baking soda and 1 cup of molasses
Spanish Cream	gelled egg custard bland flavor, good with fruit
Sponge Cakes	Do not have a separate lipid ingredient

Sponge Method in Yeast breads	Make sponge, allow to ferment, add partial flour, add fat, salt, then remaining flour Gives a stronger flavor
Staling of Yeast Bread	Amylopectin becomes less soluble, wrap in foil and put in over at 350F Freeze to prevent staling
Standard Butter Cake	co2 leavened: baking p./s. + air soft velvety crumb even grain crust thin and tender
Starter Yeast	Mix of yeast and sugar, then add h2o and flour

Storage of cookies:	air tight container or plastic bag, are freezable
Straight Dough Method	Scald milk, add ingredients, cool, add yeast, add flour in portions
Sugar Functions in Angel Food Cake	Interfering agent with maillard reaction Helps with yellow tones of flour
Sugar Functions in Batter and Dough	Sweetening Adds bulk and volume Helps to tenderize Browning (maillard rxn) Adds to moistness inside product Yeast foods

Sugar in Cakes	Tenderizer, mix a longer amount of time Too much sugar and the cake "falls" and becomes gummy
Sugar in Yeast Breads	Speeds the rate of Fermentation, Serves as Yeast food, Adds sweet flavor, gives browning
Traditional Pastry Method	1. Flour and salt 2. Add shortening, cut in with pastry blender until coarse cornmeal consistancy 3. Add liquid (water) carefully: sprinkle for maximum exposure
Types of Sponge cakes	White Sponge, Yellow Sponge, Modified Sponge (chiffon)

USDA	U.S. Department of Agriculture inspection of meat and poultry
Underferment ation of Yeast	Won't get enough co2 or volume, it won't be tender
Use of Low Oven Temperature (325 F)	1. Lowers cooking losses 2. Gives more juicy meats 3. Meat more evenly done, tender 4. Typical meat flabor more obvious 5. Adequate browning
Ways to Aid Fermentation	Turn electric overn on at 400 F for 1 minutes, then turn off Put covered bowl of dough on top rack of over while boiling water on the lower rack, close the door Simmer water in a skillet on range top, cover with a cookie sheet and place pan with dough on top covered with a cloth Put covered bowl in very warm water in the sink

What are 5 objectives in Meat Cookery?	To improve appearance, conserve and develop flavor, to improve safety, to keep tender cuts tender and tenderize the less tender cuts, and to conserve nutrients
What are gelatins uses in food preparation?	A gelling agent A foaming agent in confection or candy products Interfering agent in candy or frozen desserts It interfers with large sugar crystal formation Smoothing agent
What are the contributions of fat?	Flavor and tenderness Engergy, cholesterol, saturation of fat
What are the nutritive contributions of meat?	A complete protein (20% muscle 75% water), and saturated fat with cholesterol.

What minerals are in meat?	iron (liver), copper, zinc
What vitamins are in meat?	Niacin and tryptophan (precursor) Thiamin (E) in pork especially Vitamin b12
Whole-wheat or bran Flour	browner, less tender product, nutty whole grain, more dense usually combined with another flour
Yeast Changes During Fermentation	1. yeast + sugar = Co2 2. Starch split to maltose 3. Enzymes to organic acids 4. Gluten Quality Changes

Yeast in Yeast Breads	Enzyme flour + sugar + h2o + alcohol = fermentation
Yeasts (microorganisms)	Food production Like sweet, moist products, ferment inside Favor 68F to 95F Destroys flavor; not really hazardous
anthoxanthins	sensitive to metal like high carbon steel, they turn ivory, enzymatic darkening when oxygen is added submerge in h2o to prevent
grain	the whole pattern of air cells across the whole product

pH determines canning technique	< 4.4 (acidic) boiling water bath >4.5 pressure canning