Preparation Principles

Listed below for your information are some basic preparation principles. Items listed are certainly not all inclusive but touch on some of the common principles.

Meats
- Overcooking results in dry meat and loss of flavor.
- Select proper cooking method - less tender cuts use moist heat method; tender cuts use dry heat method.
- Grinding cuts the meat fibers and tenderizes the meat.
- For dishes that include ground meat (casseroles, etc.), brown meat lightly and spoon off excess fat to reduce excess calories.

Milk
- Use low to medium temperatures and avoid prolonged heating.
- High temperature causes protein to coagulate with a film covering the top of the milk and A coating on sides of the pan.
- Prolonged high heat causes off flavors and sometimes scorching.
- Milk mixtures thickened with flour or cornstarch need constant stirring during cooking to prevent lumping.

Cheese
- Heat briefly at low to moderate temperature. High temperatures and long cooking makes cheese tough and stringy and causes fat to separate.
- Blends more readily with other ingredients and melts more quickly if it is shredded or diced first.

Egg Cookery
- Cooking time and temperature important in egg cookery as over cooking shrinks the protein and makes egg white tough and yellow mealy.
- Cool hard cooked eggs in cold water for 15 minutes to prevent yolk. Turning green.
- Use care when adding raw egg before putting egg into container of hot food.

Breads
- Quick breads - Correct oven temperature important - not hot enough causes muffins to have flat top; too hot causes muffins to be lopsided.
- Important to avoid over - mixing - mixing too long develops the gluten in the flour resulting in quick bread being tough. Over - mixing also causes texture to have large air holes and irregular shape.
- Yeast Breads -Yeast needs to be exposed to lukewarm temperatures only as high temperatures will kill action of yeast.
- The purpose of kneading the dough is to develop the gluten which is desirable with breads.

Fresh Fruit
- Some fruits - apples, peaches, pears, banana - turn brown if allowed to stand after being cut or peeled. To minimize discoloration, dip these fruits into citrus juice or use ascorbic acid or a commercial product to limit discoloration.
- Sugar - fruits placed in sugar syrup will not turn brown as air cannot reach fruit. Sugar syrup helps fruit hold shape. Too much sugar causes fruit to shrink as sugar draws moisture out of fruit.
- To maintain shape, cook fruits slowly.
- Rapid cooking causes fruit to lose its natural shape.

Vegetables
- Take care to prevent loss of nutrients, especially Vitamin C.

1) Use small amount of cooking water or liquid.
2) Do not overcook.
3) Cover most vegetables while cooking - so can use small amount of liquid and still cook quickly. Green vegetables such as broccoli, Brussel sprouts, cabbage should be cooked a few minutes uncovered to allow acids in vegetable to vaporize into air. If lid is used, the acid drips off the lid and turns the vegetables a dull olive green. Baking, steaming, cooking in the skins - good method to preserve nutrients.

Function of Ingredient

Ingredient	In Baking	In Frying	How to Measure
Eggs	add flavor; yolk helps emulsifying oil and liquid elements of batter; provide moisture and help bind other ingredients together; aid in browning; serve as thickening agent; serve as leavening agent.	Help coating to adhere to surface of food for proper frying.	Unless another size is designated in the recipe, use large eggs for cooking.
Fats and Oils **butter** **margarine** **shortening vegetable oil** **olive oil**	tenderize; add moisture; maintain freshness and extend keeping quality; shortening is a carrier of emulsifiers which help the oil and water in a batter to combine to make a smooth, creamy solution; help produce a tender and/or flaky product; add flavor. Fat is added to a recipe for richness, flavor, and tenderness to baked products. Fats come in two forms solid and liquid. Oils are Liquid Fats and shortening, lard and butter are Solid Fats. Solid and liquid fats cannot be substituted for each other.	prevent foods from sticking; help transfer heat; add flavor; moisture and a degree of brownness.	Solid fats - use nested cups - scoop fat from container with rubber scraper; press into cup firmly; level off with spatula; or, pour cold water into a cup up to the measure which will equal one cup when the desired amount of shortening is added. Drain off the water. Liquid - pour into proper measuring spoon.
Flour **regular or all - purpose** **enriched flour** **cake flour** **self-rising** **pre-sifted** **whole grain**	provides framework or structure; starch in flour absorbs and holds liquid; serves as a thickening agent; adds flavor	helps thicken products because starch particles absorb and hold liquid and then swell; used to coat food before frying; aids in developing a crust.	If instructed, sift by passing flour through a sieve or fine mesh to add air which was forced out as flour settled or packed during storage,; sifting insures accurate measurements; next scoop gently into nested cup of designated size; level off top with spatula.
Leavening Agents **baking powder** **baking soda** **eggs**	react with moisture or with sweetening agents to produce carbon dioxide which causes small bubbles to form within the product and make it rise or increase in volume. Air beaten into eggs acts as leavening agent. provide air, steam or gas to help baked products rise. This makes the baked product less compact and gives it a softer texture.	Same function as in baking for specialty fried items such as doughnuts.	Scoop with correct size measuring spoon; level off top with spatula.
Liquids water milk - whole evaporated, skim, dried, condensed juices - fruit, vegetable	add moisture; helps ingredients to react with each other; bind ingredients together.	Used to coat foods for frying	pour into a graduated measuring cup; read at eye level; scrape cup with a rubber spatula after pouring.
Sweetening granulated sugar, white brown sugar, light or dark confectioners or powdered sugar corn syrup honey molasses	adds flavor; provides tenderness, crispness and brownness as it melts during cooking due to caramelizing.	None	granulated sugar - spoon into nested measuring cup; level off with spatula. brown sugar - pack firmly in a nested measuring cup; level with a spatula. confectioners or powdered sugar - sift, then spoon into nested measuring cup; level off with a spatula. syrups - (liquids) - pour into a graduated measuring cup.