Introduction to Baking

“The ingredients and techniques used in the bake shop are incredibly versatile. The challenge to the baker/pastry chef is to use them properly to get the most perfect result.” – Thomas Vaccaro, Dean of Baking and Pastry Studies, CIA

Learning Target

- To understand that the ingredients used in baking function in specific ways and will help determine the final texture, flavor and color of baked goods.
- PT: Demonstrate understanding of ingredients used in baking, as well as measuring, mixing, shaping and baking techniques for different types of baked goods.

Standards

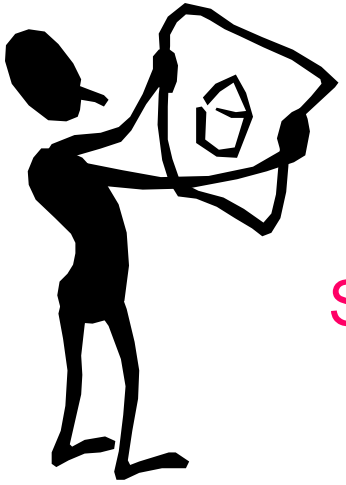
- PLC 8.0 Apply food preparation and cooking techniques to execute standard recipes for consumption.

Essential Questions

- What are the different ingredients used in baking?
- How does each ingredient used in baking affect the final outcome?

Before we begin…Is there a difference between baking and regular cooking?

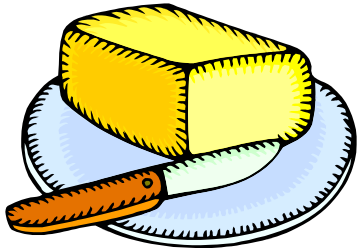
- Yes!
  1. No Changes to product can be made once it goes into the oven
  2. Requires more advanced planning- must take into consideration cooling and serving time



So this means – FOLLOW RECIPE AND MEASURE INGREDIENTS PRECISELY!!!

What are the different ingredients used in baking?

- Flour
- Eggs
- Leaveners
- Fat
- Sweetners
- Salt



Flour

- Most important ingredient
- Amount of protein (gluten) and starch determines how flour will behave in recipe.
- Gluten – protein in flour that when moistened and “worked” will develop long, stretchy strands. These strands become STRONGER the more your dough is handled.

Kinds of Flour

- All-Purpose
  - Most common type of flour
  - Blend of low and high pro. wheat
- Bread
  - Most appropriate for most yeast-bread recipes
  - Has more pro. Than A-P
- Cake
  - Used in most cake recipes, many cookie and muffin recipes
  - Provides less chewy, more tender texture
  - Less pro. Than either A-P or bread flour

Storage

- Airtight container – use within 8 mo.
- Unopened – up to two years

Eggs

- Provides dough with moisture
  - helps it stick together
  - Water in eggs expand, help to rise
- Adds protein – firmer, drier product
- Egg yolks – rich, golden color to final product
- Egg wash – glossy sheen (whites = shine, whites+yolk = golden hue)

Leaveners

- Increases the volume of a dough or batter by adding air or other gas
- 3 types – organic, chemical, physical

Organic Leavener

- Yeast
  - Tiny, single-celled organism
  - Needs moisture, warmth and food (usually sugar)
  - Yeast cells give off CO_2 and alcohol when they grow and reproduce, causing bread to rise

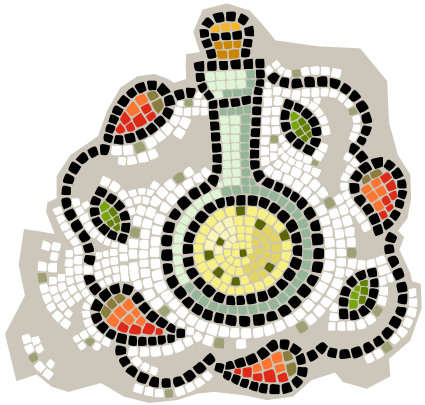
Chemical leavener

- Baking Powder
  - Reacts to moisture and heat
  - Releases CO_2 to cause dough/batter to rise
- Baking Soda
  - Similar to baking powder, but also needs an acid.
- Sift with flour/other dry ingre. To break up clumps/mixed well
  - If not = tunnels or air pockets.

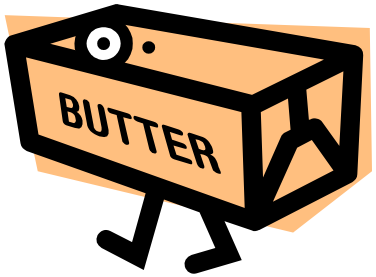
Physical Leaveners

- Steam
  - Moisture from butter, eggs or other liquids
  - Liquids heat, turn to steam, expands
- Air
  - Creaming/ whipping incorporate air
  - Air trapped result in pockets that give height as well as soft, spongy texture

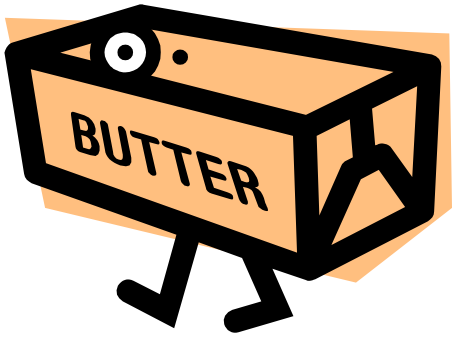
Fat



- Contribute to:
  - Flavor – some add own flavor (butter), encourages browning – extra flavor
  - Texture – type of fat and how it is worked into batter or dough determines texture – smooth to brittle
    - More fat = softer the batter/dough, causes spreading
    - Texture contrast – crisp outside, soft inside
  - Freshness
    - Extends life of baked good by holding in moisture
- Fats – solid at room temp
- Oils – liquid at room temp



Kinds of Fats



- Butter
  - Made from cream
  - Adds flavor and flakiness to pastry/biscuits
- Lard
  - Made from refined pork fat
  - Unique flavor, makes flakey pastry
  - Esp. good in pastry for savory dishes
- Shortening
  - Made from vegetable oil – processed to make it solid at room temp
  - Lacks flavor, used like butter, adds extraordinary flakiness
- Margarine
  - Similar to shortening
  - Lacks flavor, used as substitute for butter

Kinds of Oils

- Neutral oil
  - Canola, corn, safflower – lacks flavor
- Vegetable Oil
  - Belnd of neutral oils – lacks flavor
- Flavored oils
  - Nut oils (walnut, peanut, etc.)
  - Olive oils
  - Has a distinct flavor

Sweetners

- Add sweetness and flavor
- Provide texture, appealing color and flavor when sugars carmelize
- Help products rise – attract moisture, makes goods softer, longer lasting

Kinds of Sweetners

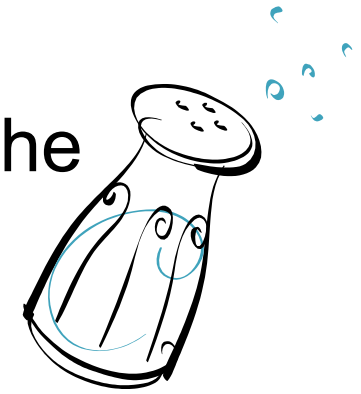
- Granulated Sugar – refined sugar cane or beets
  - ORDINARY white sugar
- Superfine aka castor/baker's sugar
  - Finely ground granulated sugar
- Confectioner's aka Powdered Sugar
  - Ground into a fine,white, easily dissolveable powder

Kinds of Sweetners

- Brown
  - Molasses + white sugar
- Molasses
  - Byproduct of sugar refining
  - Thick, sweet, brownish/black syrup
  - Distinctive, slightly bitter flavor
- Honey – bee bypoduct
- Maple Syrup – boiled down maple tree sap
- Corn Syrup – made from cornstarch

Salt

- In small amounts:
  - balances other flavors and makes them more vivid
  - Controls the growth of yeast
- In large amounts:
  - Salt's own flavor comes to the forefront
  - Will kill yeast



Summary

- Write 3-5 sentences summarizing what you have learned.