



Culinary Institute
of America

Baking and Pastry

Best of Boot Camp



Learning Objectives

- State the five basic ingredients found in the bakeshop
- Identify which ingredients are liquefiers and which are stabilizers
- List and describe the basic mixing methods
- Differentiate between biological, physical, and chemical leaveners
- Discuss the significance of ratios and how they can be used to determine ingredient quantities
- Explain the difference between a dough and a batter
- Prepare a variety of breads, baked goods, and desserts

The Fabulous Five

Fat/Oil

Sugar/Sweeteners

Eggs

Flour

Liquids

Which components are liquefiers?

Which components are stabilizers?

Do solid fats and oils produce different result?

Fats & Oils

- Moisturize
 - Traps moisture and extends shelf life
 - Flavor
 - Butter
 - Tenderize
 - Inhibit gluten development
 - Play role in physical leavening process
- Nutritional concerns
 - Vegetable fats vs. Animal fats vs. Trans fats

Sugar

- Sweetener
- Color
 - Caramelization
- Attracts moisture
 - Hygroscopic
- Role in leavening
 - Moisture creates steam
 - Causes leavening
- Flavor
 - Brown sugar vs. Honey
vs. Corn syrup

Eggs

- Emulsifier
 - In creamed doughs and batters
- Leavener
 - Air expands (pâte à choux, sponge cake)
 - Moisture turns to steam
 - White = 90% water
 - Yolk = 50% water
- Color
 - Maillard browning Structure
 - Protein
- Tenderizer (yolks)
 - High fat content
- Toughener
 - Over-working will make end product tough
- Flavor

Flour

- Structure
 - Starch and protein
 - Gluten development
- Color
 - Caramelization
- Flavor
- Nutritional impact
 - Whole vs. processed grains
 - Carbohydrates, etc.

Leaveners

- Biological/Organic
 - CO₂-emitting organisms
- Chemical
 - Baking powder
 - Baking soda
- Physical/Mechanical
 - Mixing methods used to create structure

How is Puff Pastry leavened?

Almighty Ratios

- Allow us to:
 - Memorize basic recipes
 - Scale recipes up/down quickly and accurately
 - Provide a backbone for flavor alteration

1-2-3 Cookie Dough
1 part sugar
2 parts fat
3 parts flour

If you need 12 lb. total, how much flour do you need?

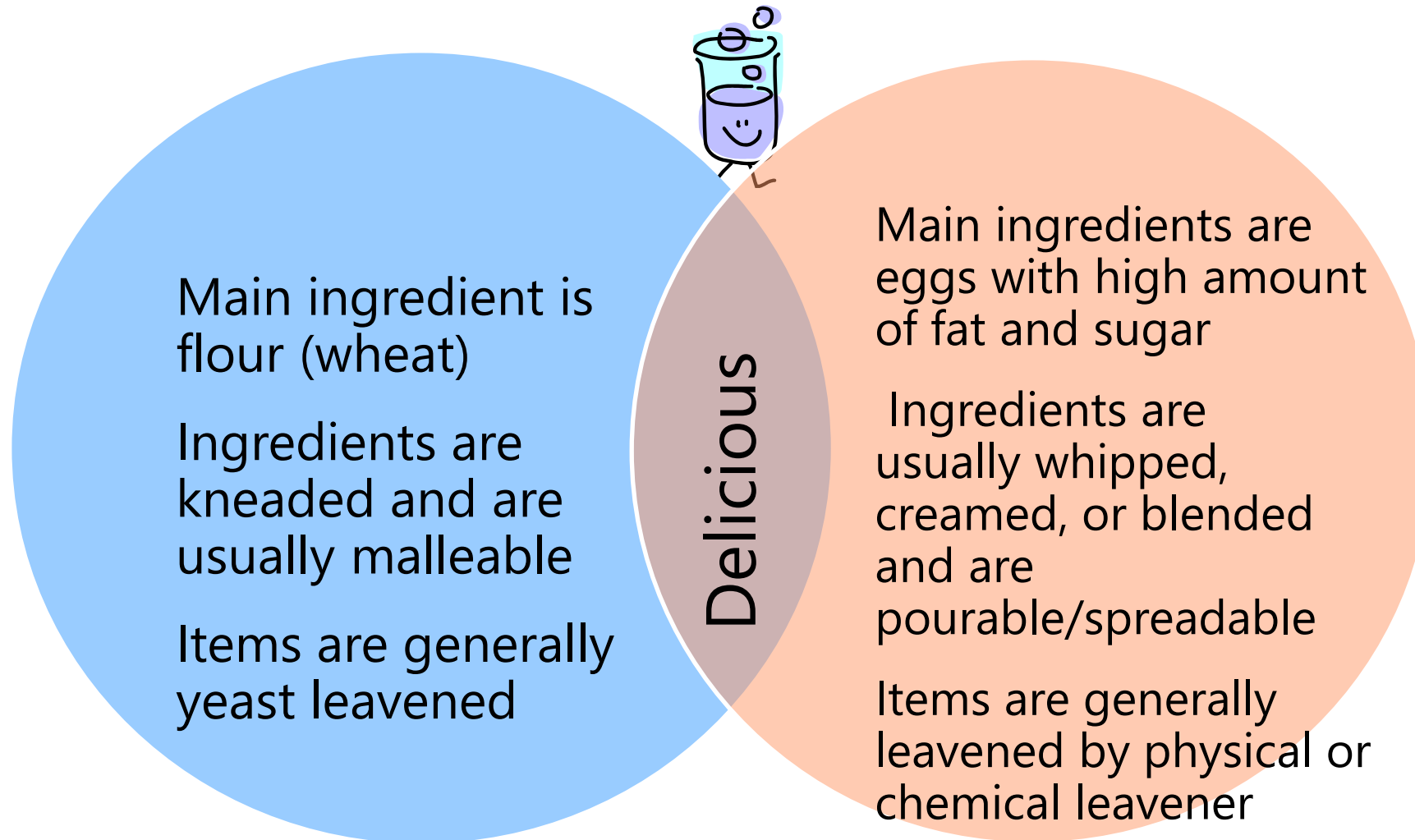
Do you know the ratio for Pound Cake?

Mixing Methods

- Straight
- Creaming
- Foaming
- Rub/Cut In
- Combination
- Blending
- Etc..

If you change the method used in a recipe, will it change the final product?

Dough vs. Batter



Straight Method

1. Sift dry ingredients together
2. Combine all liquid ingredients in a bowl
3. Add wet to the dry
4. Scale batter into/on appropriate pan
5. Bake or cook as indicated



Creaming Method

1. Cream fat and sugar together
2. Add flavorings, mix well
3. Gradually add eggs (eggs should be at room temperature)
4. Add liquid ingredients alternating with dry; scrape bowl often
5. Mix until smooth (do not overmix)
6. Scale batter into pans
7. Bake or cook the batter



Foaming Method

- Combine eggs and sugar in a mixer bowl, place over a double boiler, and lightly whip eggs until mixture has reached 110°F
- Whip egg mixture at high speed until it begins to recede
- Reduce speed of mixer to low, whip for an additional 2 minutes (Note: mix can be left at this stage for considerably longer if necessary)
- Sift all dry ingredients
- Fold sifted dry ingredients into egg mixture
- Temper in melted butter

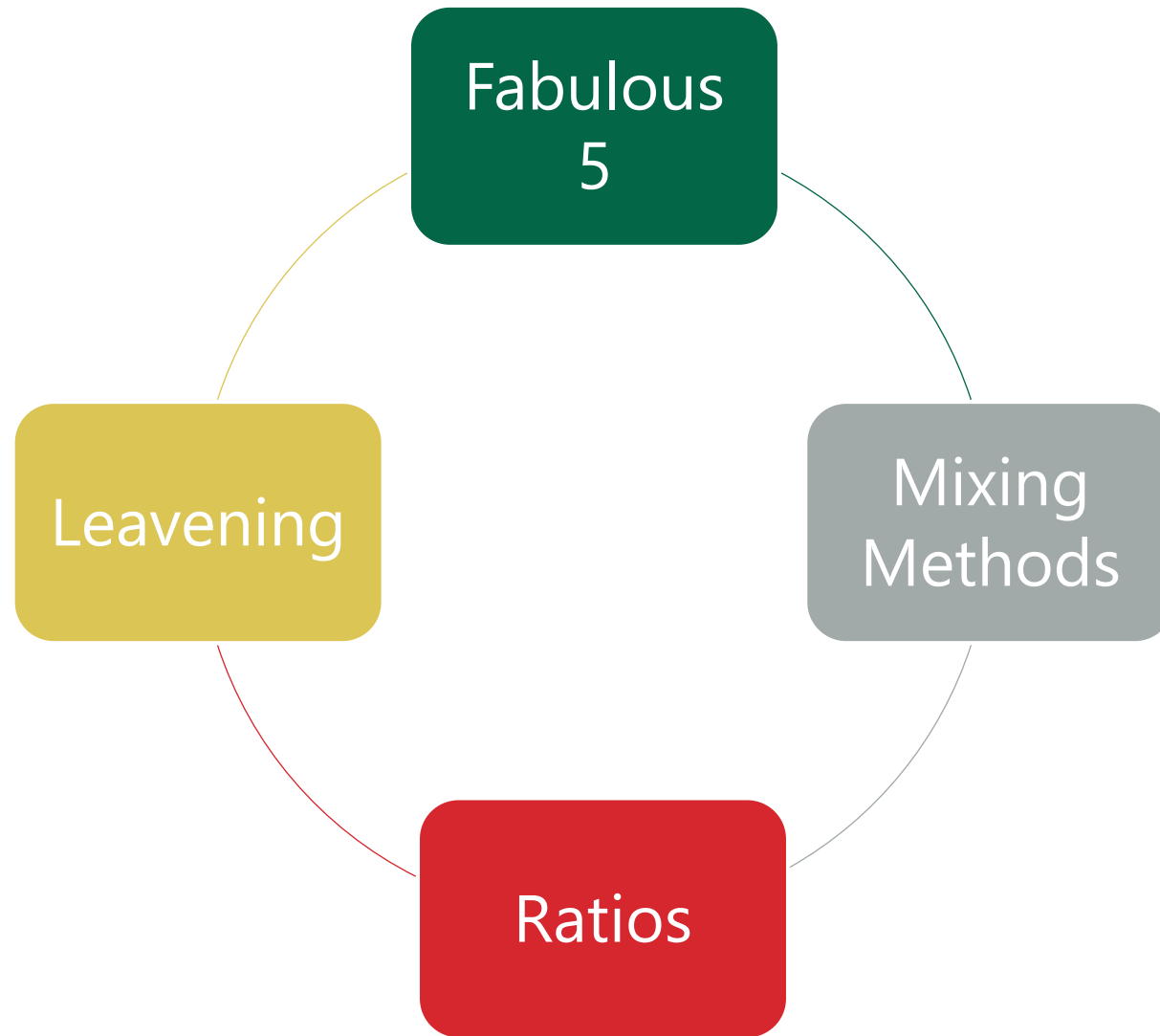


Rubbing Method

1. Sift dry ingredients
2. Toss cold fat with flour mixture
3. Cut in fat
4. Add just enough ice-cold water to moisten dough so it holds together
5. Knead two or three times to pull into a ball
6. Refrigerate for 20 minutes
7. Scale and roll as appropriate



Recap



Any Questions?