LEAVENING AGENTS

Ingredients that make baked products rise.
Leavening agents produce \( \text{CO}_2 \)

Causing batters and doughs to become…..

Light and Porous
LEAVENING GASES USED IN COOKING ARE:

- AIR
- STEAM
- CO$_2$
Without gases, baked products would be:

- THIN
- Flat
- Hard
- Compact
- Dry
Most products are leavened with: MORE than one leavening gas.

For steam to be a leaven: WATER MOLECULES MUST BE PRESENT.
WAYS TO INCORPORATE AIR

- CREAM FATS AND SUGAR
- BEAT EGGS
- SIFT FLOUR
- FOLD IN INGREDIENTS
- BEAT BATTERS
Steam is produced when:

Water molecules get hot enough to change from liquid to gas.
PRODUCTS USING STEAM AS A LEAVENING

Éclairs
Cream puffs
Popovers
Carbon dioxide is formed when leavening agents are added to batters and doughs.
Batters and Doughs

Reacts with

To produce $\text{CO}_2$
QUICK BREADS

USE and

Because they are FAST ACTING
BAKING SODA IS ALKALI; PRODUCES A DISAGREEABLE FLAVOR AND COLOR

TO AVOID, USE WITH ONE OF THESE ACID INGREDIENTS:

MOLASSES   CITRUS JUICES
APPLESAUCE  VINEGAR
BUTTERMILK  HONEY
BROWN SUGAR
BAKING POWDER

SINGLE ACTING

• USED MOSTLY BY BAKERIES

• RELEASE ALL THEIR CARBON DIOXIDE DURING BAKING

DOUBLE ACTING

• USED IN MOST HOME COOKING

• RELEASE SOME OF THEIR CARBON DIOXIDE WHEN MOISTENED

• RELEASE MOST OF IT WHEN HEATED
USING BAKING POWDER

• USE EXACT AMOUNT

• TOO MUCH PRODUCES TOO MUCH CARBON DIOXIDE CAUSING PRODUCT TO COLLAPSE.

• TOO LITTLE WON’T PRODUCE ENOUGH CARBON DIOXIDE CAUSING PRODUCT TO BE FLAT AND HARD.
LONG-ACTING LEAVENING AGENT

- A microscopic, single celled plant
- Requires moisture, warmth, sugar, and time to produce carbon dioxide and ethyl alcohol
- Process is called FERMENTATION
YEAST FORMS

COMPRESSED

• Made from fresh, moist yeast cells
• Must be refrigerated
• Highly perishable

ACTIVE DRY

• Dried, granulated
• Available in foil packets or jars
• Keeps at room temperature
• Refrigerate after opening

FAST RISING

• Made from highly active yeast strains
• Granules are smaller than active dry
• Comes in foil packets
• Stays fresh on shelf up to one year