



## Exploring Yeast

Try these two simple experiments to understand what makes bread dough rise!

### MATERIALS:

- 2 tsp dry baker's yeast
- 1 tsp sugar
- 1 cup warm water
- 1/3 cup vinegar
- 1/4 cup baking soda
- Jar
- Spoon
- Quart-sized zip-top bag

### STEPS:

1. Gather all your materials!
2. Activate the yeast!
  - Add one cup of warm tap water to the jar. Add one teaspoon of sugar to the water and stir to dissolve. Now add two teaspoons of yeast and stir until it's well mixed. Let the mixture stand in a warm place, like a sunny window for ten minutes and watch what happens!
3. Make some gas!
  - While you're waiting for your yeast to activate, measure out 1/4 cup baking soda into the zip-top bag. Measure 1/3 cup vinegar and pour it on top of the baking soda. Quickly zip the bag closed!
4. Observe the bag!
  - Watch what happens to the bag. Do you see those bubbles? When the vinegar and baking soda combine, it causes a **chemical reaction** that produces **carbon dioxide gas!** Those bubbles are filled with gas! Since you sealed the bag, the gas can't escape, and it causes the bag to expand, or stretch out.
5. Observe the yeast!
  - Look at the jar of yeast. What do you see? The foamy bubbles that are forming are also because of carbon dioxide gas. Yeast is a **single-celled organism** that is actually a type of fungi. When yeast has the right amount of food and water and is the right temperature, it will **activate**. As the yeast gets active and eats the sugar in the recipe, it will also produce **carbon dioxide gas**.
6. Put it together!
  - The flour in a loaf of bread has something in it called gluten, which is stretchy, like a plastic bag. When the yeast makes gas, the bubbles "stretch" the dough, causing it to rise. If you look closely at a piece of bread, you can even see where some of those bubbles were!



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