

Balloon: carbon dioxide and chemical reaction



**ASSIGN
BUSTER**

There are many different ingredients in a kitchen that causes a chemical reaction. One of these is baking soda. This experiment was designed to test 4 kitchen ingredients (Omega oil, water, lemon juice, and vinegar) mixed with baking soda, to see which one will cause a balloon to expand. It was hypothesized that baking soda mixed with lemon juice and vinegar would cause the balloon to expand.

Using these ingredients the experiment was completed and the data was recorded. It was decided that the hypothesis was correct.

Baking soda mixed with vinegar and lemon juice caused the balloon to expand. There was no reaction with the balloon when the baking soda was poured into the water or oil.

The moment the baking soda hit the vinegar and lemon juice, the balloon started to expand. Adding the lemon juice to the baking soda creates a chemical reaction. The baking soda is a base, while the lemon juice is an acid, when the two combine they create carbon dioxide (CO_2). The gas rises up and escapes through the soft drink bottle, it doesn't however escape the balloon, pushing it outwards and blowing it up.

What happened when I tested the experiment was me and my mommy had to test it out and I found that two of my ingredients did not work and two did work. The one that did not work was water, and oil. The two that did expand the balloon were lemon juice and vinegar. What kitchen ingredient's mix with baking soda will cause the balloon to expand. Baking soda mixed with vinegar and lemon juice will cause the balloon to expand more.

the step-by step the researcher needs are first you got to use [4] 100z plastic water bottle, [4] balloons 1/2 cup of 011, 1/2 cup of lemon Juice, 1/2 cup of baking soda, 1/2 up of vinegar . lth oll the baking soda sat at the bottom foam up a little, I use h cup of baking soda 1/2 cup of omega oll . And with the lemon Juice It sat the bottom and foam up then It expand. with the vinegar I use h tsp of baking soda And vinegar expand the balloon -the second time I tried It I had to add a little more baking soda and the third time I used 1/2 cups of vinegar h cup of baking soda and the balloon blow-up a little bigger with the second try.

alloon were vinegar, lemon Juice.