

LilyRae Martinez
Rocketology: Lift Off

I did our science fair project because I wanted to do a project involved in the physics category. Also I am very interested in the study of rockets. I did this to learn more about chemical reactions, which I was a little confused on and why they react the way they do. I worked with baking soda and vinegar. I found out that because baking soda is a sodium bicarbonate, and that each molecule contains a sodium atom, a hydrogen atom, oxygen atoms, and carbon dioxide molecules. Vinegar is an acetic acid. Each molecule contains a hydrogen atom. The problem I investigated was, "Will the rocket fly higher if we add more baking soda or vinegar?" For the procedure, I used a small canister, and in each trial, I added a different amount of baking soda or vinegar. Then I measured the height that the rocket shot up, and in the end I averaged up all of my totals. My results were that when we decreased the amount of vinegar, the rocket went higher. This happens because the baking soda dissolves and reacts with the acetic acid in the vinegar to produce CO₂ bubbles. I met my hypothesis because when I decreased the amount of vinegar, the rocket shot up higher. This can be used in the future to use it as a cleaning supply, because of the ingredients in the baking soda and vinegar, or if you get a college degree, you can design new experiments or to examine what else the two can be used for.