CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY

Name(s)
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Project Number
31974

Project Title
Scents and Celsius

Abstract

Objectives/Goals
This project asked, "Is it possible to synthesize scents? If so, then are these scents affected by temperature?" The author hypothesized that when the artificial scent is placed in a freezer it would have the strongest scent over all.

Methods/Materials
All the esters that I made were all the same (all from the same batch), and that the wooden sticks all have the exact same ester on them. Each wooden stick is the same, and each plastic bag is the same. I put some wooden sticks (with my ester on them) in 790 F, the ones on the counter. I also put some in a freezer, and I heated some up. I want to see if these wooden sticks can be smelled after being heated up, and frozen. I will have my volunteers use the Odor intensity scale to judge the scents. Each volunteer will judge 9 wooden sticks. In the end each stick will have 6 people who judged it (3 boys, 3 girls). I will do my experiment 5 times. I will make the ester once, but use many different wooden sticks as the different trials.

Results
Results showed that that the ester placed in room temperature and the one that was heated had the strongest scent of 3.5 (on an odor intensity scale 0-6).

Conclusions/Discussion
The author concluded that when one ester was placed in a freezer the chemical reaction reversed, causing the ester to smell like it did before the process of esterfication.

Summary Statement
The experiment#s methodology was to test if homemade artificial scents were affected by different temperatures.

Help Received
Used lab equpment at Ojai Valley School under the supervision of Mr. Inman.