CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY

Name(s)
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Project Number
J2216

Project Title
The Search for the Ultimate Biscuit

Abstract

Objectives/Goals
The objective is to determine how changing the amount and type of baking powder affects the height of biscuits in centimeters. It is hypothesized that 2x the control amount of SAPP baking powder used in biscuits will rise to the greatest height. This is hypothesized because SAPP is double-acting, and this particular variation has double the control amount of baking powder.

Methods/Materials
A brief procedure of the experiment follows. Sixty-five biscuits were baked, each following the different amounts of baking powder specified in the procedure. They were the control amount (as stated in original recipe), no baking powder, and A½, 1A½, and 2 times the control amount. There were thirteen different variations, and five trials of each, using three different types of baking powder: SAPP, Tartrate, and SAPP w/ct (SAPP baking powder with added cream of tartar). The height of the biscuits was measured in centimeters once they were fully cooled. Data was taken and recorded.

Results
The results of the experiment did not support the hypothesis. Although the SAPP baking powder did result in the greatest numbers on average, the control of SAPP rose the greatest, not 2x the amount of SAPP as hypothesized. The control of SAPP rose to a height of 2.86 cm on average while 2x the amount of SAPP only rose to a height of 2.26 cm on average.

Conclusions/Discussion
The experiment validated that the amount of baking powder specified in the particular recipe used throughout the experiment is the optimal amount to create the greatest rise in the biscuits.

Summary Statement
To determine which type and specific amount of baking powder creates the greatest rise in biscuits, sixty-five biscuits were made and measured in centimeters using three different types of baking powder with multiple variations.

Help Received
Parents bought supplies and helped to sift dry ingredients.