CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY

Name(s)
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Project Number
J1201

Project Title
Icebreakers

Abstract

Objectives/Goals
My project was to test the strength and durability of ice. I believe that ice can be made stronger and more durable by adding various substances to it.

Methods/Materials
Three half-gallon cartons were filled with tap water, three with an identical water/flour mixture and three more with an identical water/wood shavings mixture. Once all nine containers were frozen, three strength and durability tests were conducted on each group. The first was a Heat/Melting Test utilizing an electric skillet, the second was a Drop Test (from a height of 5'10") and the third, an Impact Test, involving a 16 lb. sledgehammer being dropped onto each block from a height of 3'4".

Results
The results of the Heat/Melting Test showed that the wood shavings ice block by far outlasted both the flour ice block and the tap water ice block. The results of the Drop Test showed the flour ice block outlasting both the wood shavings ice block and the tap water ice block. The results of the Impact Test showed the flour ice block and wood shavings ice block similarly outlasting the tap water ice block.

Conclusions/Discussion
My conclusion is that by adding various substances to ice, it can be made stronger and more durable as the the ice blocks made with flour and with wood shavings out-performed and outlasted the tap water ice block in all three tests.

Summary Statement
My project tested for increased strength and durability of ice after adding various substances to it.

Help Received
My dad helped me with the things my mom didn't allow me to do on my own; My sister let me use her scapbooking stuff for my board; and my mom proof-read and typed my report AND let me use her electric skillet, which will never be the same after the Heat/Melting Test.