



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

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Project Title Ice and Sawdust as Insulation?	
Objectives/Goals My experiment is to determine if sawdust, mixed with water, and froze; act's as a better insulator than regular ice. My hypothesis is that the combined mixture will act as an insulator and create a barrier against the outside air. Wood is a natural insulator in other environmental applications and I believe that if a barrier is created the core temperature will be maintained for a longer period of time.	
Abstract	
Methods/Materials Two identical 1 gallon plastic milk cartons, cut in half, are filled with the same portions of water. In one of the water filled milk cartons 1000ml. of sawdust is added to the container. Each holds a smaller (500ml.) container, filled with 200ml of water in the middle of the carton. This creates a capsule of air within the water to be frozen. Therefore, an area is formed to take the temperature with two identical digital thermometers at thirty minute intervals for eight hours.	
Results The container filled with ice and sawdust, became colder, and lasted longer than the pure, untreated ice.	
Conclusions/Discussion In conclusion, I proved my hypothesis is correct. The sawdust filled container stayed colder. I discovered that inside the sawdust and water ice capsule, I could keep things colder for longer periods of time. Sawdust does insulate ice!	
Summary Statement Combining sawdust with water, and freezing creates a better insulating barrier in an ice capsule.	
Help Received Father helped drill holes in lids of the 500 ml. bottles, and helped cut the milk cartons.	