



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.) Falcon A. Christy	Science Fair Use Only <h1 style="margin: 0;">S0312</h1>
Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) Moo...What Happened to My Milk?	Division <u>S</u> Junior (6-8) <u>S</u> Senior (9-12)
Preferred Category (See page 5 for descriptions.) 3 - Biochemistry / Molecular Biology	
<p>Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.) Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.</p> <p>Objective: The objective of our project is to test the rates between 3 different centrifuges.</p> <p>Investigative Question: Our investigative question is out of the 3 centrifuges which one will spin faster than the other and will different types of vinegar react differently to the milk creating a different texture of the protein?</p> <p>Hypothesis: Our Hypothesis is that the homemade centrifuge will spin faster than the hand cantrifuge and the store bought centrifuge will spin faster than the home-made centrifuge. For the different types of vinegar we think that they will all react similarly when making the milk protein.</p> <p>Methods and Materials: For this project we needed a blender, saw, drill, microcentrifuge tubes, tuperware container and lid, pvc pipe cap 1/8 inch thick, hand centrifuge and a sator bought centrifuge. For the different liquids used you will need water, vinegar(red wine vinegar, sesame and white wine vinegar) and milk. I designed a kitchen centrifuge, and I'm comparing the rates to a store bought centrifuge, and a hand centrifuge. Filling two microcentrifuge tubes with 1ml of milk, you add vinegar to one and water to the other. Since the vinegar is 5% acetate it removes the Ph from the milk. After spinning it for 3 minitues, you check the two different elements mixed in each tube.</p> <p>Results and Conclusion: You will find that the milk and water mixed, but the vinegar took the Ph out of the milk leaving us with a protein substance that resembles cottage cheese. Our hypothesis was correct and the homemade centrifuge did work better. The two different types of vinegar reacted similarly as we predicted. We are furthering our testing and runng additional trials to verify our results and add more data analysis to our project.</p>	
Summary Statement (In one sentence, state what your project is about.) I designed a kitchen centrifuge, and I'm comparing the different rates to a store bought centrifuge and hand controlled centrifuge.	
Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4. I borrowed the hand and store bought centrifuge, microcentrifuge tubes and a beaker.	