



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.) Kari L. Lentz	Science Fair Use Only
Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) Savings Watts	J1020
Preferred Category (See page 5 for descriptions.) 10 - Materials Science	Division J Junior (6-8) J Senior (9-12)
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>Objective: My project was to determine how effective recyclable materials are as heat retainers. Although, I believed that the commercial fiberglass product would outperform the recyclables as an insulator, I wanted to see how they compared.</p> <p>Materials and Methods: A wooden, two box apparatus was designed so that one box would fit inside the other in such a way, that there was an 1.5 inch air space on every side of the inner box. I tested six different materials using this apparatus. Each type of material was fit into the air space between the boxes and tested using the following procedure. The air in the inner box was heated to 45° C and then allowed to cool to 20° C. Temperature measurements were recorded every minute. Each test was repeated three times.</p> <p>Results: Tire, glass, plastic, and styrofoam acted as poor insulators but the paper did surprisingly well against the fiberglass.</p> <p>Conclusion: My hypothesis was only partly supported by my results. The paper did much better than I expected. I had to conclude that shredded paper was a close second to the fiberglass insulation in this test. Finding this out, may have a very practical application for my family, because with the high cost of energy, we are looking to add more insulation to what already exists in our house. Perhaps, we should consider cellulose insulation.</p>	
Summary Statement (In one sentence, state what your project is about.) My project tried to determine how effective recyclable materials are as heat retainers, compared to commercial fiberglass insulation.	
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. Mr. Wartburg/Mr. Funkhouser advised me. Mrs. Orlandini helped with transportation. Mr. Benzinger critiqued it. My grandpa helped me build the boxes. My dad helped me with backboards. My friend and my brother helped me with materials. My mom helped with testing and this application. The Rotary Club/ Co. Office of Ed. sponsored the Humboldt Co. Science Fair.	