



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

<p>Your Name (List all student names if multiple authors.) Bertha Barraza; Patricia Sanchez</p>	<p>Science Fair Use Only</p>
<p>Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) What Makes the Best Oil Spill Cleaner: Hair, Cotton, or Feathers?</p>	<p style="font-size: 2em;">J0801</p>
<p>Preferred Category (See page 5 for descriptions.) 8 - Environmental Engineering</p>	<p>Division <u>X</u> Junior (6-8) _ Senior (9-12)</p>
<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. Our project is about which product can absorb the most oil that is placed in water. The products we'll be using are hair, cotton, and feathers. Hypothesis: If we use hair, cotton, and feathers, then hair will be the best oil spill cleaner. Methods: 1. Put 5g of the product into pantyhose, then tie into a circular shape. 2. Dip this into 30ml of oil and 500ml of water that have already been mixed together. 3. Leave it there for 3 minutes. 4. Hang it with a clothes pin for 5 days so all the water will drain or evaporate out of it and so only the oil in the product is left. 6. Calculate how much oil has been absorbed. 7. Repeat the trials for a total of 10 times for each product. Results: In our first set of results we found that cotton was the best absorbent material. Cotton had an average absorbency of 420% of its original weight. Feather had 195%. And hair absorbed 93% of its original weight in oil. Conclusion: Based upon my study, we lack support for our hypothesis because we said hair would be the best absorber, and it was cotton. When I compare my results to facts in background information we found that cotton's absorbency is good for picking up different colored dyes. During the experiment we found that cotton's absorbency is better than hair or feathers because it almost instantly picked up the oil. In assessing our study design, we see that we used the same mass of water, same mass of oil, same mass of the product in the pantyhose, and the same amount of time in the oil spill for a good controlled experiment. If we were to continue our investigation of this topic, we would use other materials like paper towels, fur, or sponges. This is an important topic because there have been many animals that have died because of oil spills. If a good oil spill cleaner could be found then it would help animals and help keep the water clean.</p>	
<p>Summary Statement (In one sentence, state what your project is about.) Our project is about the absorbency of oil by these products: hair, cotton, and feathers</p>	
<p>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. Crawford helped us find research; Mrs. Bennett helped provide materials and kept us going; Mrs. Cortez helped us understand our research; Partners mother helped decorate board.</p>	