



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> Vandana Reddy; Kanika Seth	<b>Project Number</b> <b>J1020</b>
<b>Project Title</b> Goo Be Gone: Absorptivity of Different Sorbents to Clean Up Oil Spills	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Our goal with the experiment was to figure out how some common inexpensive material can help cleanup oil spills. Also, we wanted to find out if some shapes are more efficient in absorbing oil than others. We hypothesized that tweed will absorb the most oil because tweed is made up of cotton and wool and it is loosely woven together. We also think that the rectangle shape would absorb the most oil</p> <p><b>Methods/Materials</b> Using measuring cups, pour 300mL of water and 100mL of oil into beakers. Cut various fabrics to standard size and place them in individual beakers. Wait 15 minutes before removing the fabric. Read the levels of water(A) and oil(B) and compute remaining water(A) and oil(C) [A-B]. Pick an absorbent fabric for the shape experiment</p> <p><b>Results</b> Part A: Material Absorptivity: Based on the average of 2 trials, we found that flannel, which absorbed 22.5 mL, absorbed the highest amount of oil followed by tweed which absorbed 17.5 mL, wool which absorbed 15 mL, and cotton which showed the least absorption for motor oil, absorbed 5 mL of oil. Part B: Shape Absorptivity: The results of 3 trials were averaged for the different shapes of tweed. It was seen consistently that when tweed was cut into a donut-shape or a rectangle-shape, it absorbed the most oil. They both absorbed 11.6 mL, followed by the circle which absorbed 10 mL of oil, and the star which absorbed 6.6 mL of oil.</p> <p><b>Conclusions/Discussion</b> Our hypothesis was not proved to be correct for Part A. We thought that tweed would absorb the most oil. However, we found that flannel absorbed the more oil than tweed. Tweed absorbed only slightly less than flannel. Our hypothesis was proved correct for Part B. The experiment showed that the fabric cut into a rectangular shape absorbed the most amount of oil. However, the fabric shaped like a donut matched the rectangle's absorption. Our experiment brought out some additional questions, such as, boom cross sections, oil absorption but water repulsion and comparison with highly specialized materials.</p>	
<b>Summary Statement</b> Investigating absorptivity of common inexpensive materials on oil	
<b>Help Received</b> Parents helped with the board and Excel charts. Science teacher reviewed project.	