



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Casey L. Karlquist	Project Number J0812
Project Title Surviving Oil Spills	
Objectives/Goals The objective of this project is to determine which filtering material works the best when filtering a mixture of oil and water to aid in oil spill clean-up.	
Abstract I made 29 filter systems using plastic cups, nylon hose, suspension sticks and 7 different filter materials (Perlite, soil, nylon, peat moss, Vermiculite, cotton, and a mixture of all the above). I then mixed 50ml of oil with 50ml of water. Next, I poured the oil/water mixture through the filter systems and let each drain for 15 minutes before removing. Then I let the filtered mixture separate for 7 days. Finally, I recorded the amount of oil recovered and the amount of the water lost. I was looking for the filter that removed the most oil and left the most water.	
Methods/Materials I made 29 filter systems using plastic cups, nylon hose, suspension sticks and 7 different filter materials (Perlite, soil, nylon, peat moss, Vermiculite, cotton, and a mixture of all the above). I then mixed 50ml of oil with 50ml of water. Next, I poured the oil/water mixture through the filter systems and let each drain for 15 minutes before removing. Then I let the filtered mixture separate for 7 days. Finally, I recorded the amount of oil recovered and the amount of the water lost. I was looking for the filter that removed the most oil and left the most water.	
Results The nylon filter worked the most efficiently. It removed 59% of the oil and left 61% of the water. The cotton filter was very close. It removed 58% of the oil and left 63% of the water. The least efficient filter system was soil. It removed only 15% of the oil. The other filter materials fell in the middle.	
Conclusions/Discussion The nylon filter and cotton filter seem to be the best at removing the oil and leaving the water in the system. My hypothesis was wrong. If an oil spill occurs, nylon and cotton appear to be the most efficient at cleaning the oil from the water.	
Summary Statement This experiment tests different filtration choices to aid in oil spill clean-up.	
Help Received Mom helped with some of the typing; Dad supervised some of the graphing.	