CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY

Name(s)
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Project Number
31243

Project Title
Effectiveness of Oil Absorbing Materials

Abstract

Objectives/Goals
The objective was to find the most effective oil collecting material.

Methods/Materials
The material used were cell-u-sorb, hair booms, hay booms, the process of bioremediation and a pan with no material in it. Each material was placed in a baking pan filled with motor or vegetable oil and water, and left alone for 24 hours. Then the residue oil was measured in a sterile beaker where the oil and water separated and then it could be measured. The residue oil was subtracted from the starting amount. This was repeated 4 more times and then the whole experiment was repeated as well, but with vegetable oil.

Results
Most of the trials showed that cell-u-sorb left the least amount of residue oil, bioremediation left the second least, then the hair boom, followed by the hay boom, and the least effective was the pan with no material in it. Cell-u-sorb and bioremediation usually absorbed 96 to 99.5% of all the oil, the hair and hay boom usually absorbed 40 to 50% of all the oil, and the empty pan didn#t change at all.

Conclusions/Discussion
The oil collecting material that leaves the least amount of oil spilled in water is cell-u-sorb, then bioremediation, then the hair boom, then the hay boom, and the empty pan in last. The original hypothesis was that the hair boom would be the most effective material and absorb 10% or more than all the other materials, which was partly wrong because the hair boom was not the most effective material, but it did absorb 10% more than some of the other materials. In conclusion, the most oil absorbing material was cell-u-sorb.

Summary Statement
This project tested different oil collecting materials and saw which one left the least amount of oil spilled in water in a certain amount of time.

Help Received
Parents, grandma, and sister helped make booms, and take pictures.