# CALIFORNIA STATE SCIENCE FAIR
## 2002 PROJECT SUMMARY

**Name(s)**
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**Project Number**
**J0808**

**Project Title**
## Oil Spill: Microbes vs. Synthetic Sorbents: Which Removes Oil from Water More Efficiently?

**Abstract**

**Objectives/Goals**
The objective of test was to determine whether a synthetic sorbent was faster and more efficient in removing oil from salt water than an organic microbe sorbent product.

**Methods/Materials**
First, construct a shallow container (4'by 2' by 4") that holds water. Add salt water solution to tap water to recreate ocean water. Add motor oil to water. Test Seafit synthetic sorbent, West Marine Premium Bilge Cleaner (a mircrobial sorbent) and several homemade products: shredded plastic bags, wood chips, bubble gum and peat moss.

**Results**
The homemade products did not work and were extremely messy, the mircobes worked very slowly and appeared not to work at all in the first test (2 days)and after the second test (five days) only removed 50% of the oil. The synthetic sorbent worked very fast and efficiently removing 95% of the oil. Unfortunately the synthetic sorbent itself become a waste product which had to then be disposed of whereas the microbes did not add more pollution.

**Conclusions/Discussion**
In conclusion we found the man made product removed the oil from the water almost immediately and with great efficiency. However, the microbes did not have to be removed from the water and did not create a further clean up problem. Removing the oil from the water using a synthetic sorbent only moved the pollution from one area to another, it did not solve the ultimate problem of cleaning the environment.

**Summary Statement**
Our project evaluated the efficacy of various types of oil removal products (sorbents).

**Help Received**
Isaac's father did all of the driving and Isaac's mother helped with the typing.