



**CALIFORNIA STATE SCIENCE FAIR  
2015 PROJECT SUMMARY**

<b>Name(s)</b> <b>Khushali Desai; Aayushi Kapadia</b>	<b>Project Number</b> <b>J1009</b>
<b>Project Title</b> <b>Ocean Rescue 911</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Use ferrofluid and a neodymium magnet to help separate oil from water and see if increasing the amount of ferrofluid will improve the efficiency of the oil spill cleanup.</p> <p><b>Methods/Materials</b> Take 3 Petri dishes and label them 0, 1, and 5 for the number of ferrofluid drops to be used. Put 9 ml of colored water in all 3 Petri dishes and add 2.5 ml of mineral oil in the middle of the water using a pipette. Put 0, 1, and 5 drops of ferrofluid in the matching labelled Petri dishes. Take the neodymium magnet and put it in a Ziploc bag, and move through the contents of the Petri dish labelled 0. Take the magnet out of the plastic bag and put it in a new bag for the Petri dishes labelled 1 and 5. Now empty the contents of the Petri dish into a graduated cylinder and let the oil set on the top. Record the volume of leftover oil for each Petri dish. Repeat the above procedure 2 more times, and calculate the efficiency using the formula: efficiency equals 1 minus volume of leftover oil over 2.5 ml.</p> <p><b>Results</b> The average efficiency of the oil spill cleanup using no ferrofluid was 12%, 1 drop was 36%, 5 drops was 44%.</p> <p><b>Conclusions/Discussion</b> Using ferrofluid and a neodymium magnet helped to separate oil from water. But increasing the amount of ferrofluid did not make a significant difference in the efficiency of the oil spill cleanup.</p>	
<b>Summary Statement</b> Ferrofluid and a neodymium magnet can help separate oil from water and help marine oil spill cleanup.	
<b>Help Received</b> Our helped us us in driving us to shop for materials, supervising the experiment, and disposing the hazardous materials	