



CALIFORNIA STATE SCIENCE FAIR  
2014 PROJECT SUMMARY

<b>Name(s)</b> Srijani Saha	<b>Project Number</b>  34387
<b>Project Title</b> The Use of Nanotechnology in the Aftermath of Oil Spill	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of my project was to experiment the use of magnets and ferrofluid (to make the oil magnetic) as a viable oil spill cleanup method.</p> <p><b>Methods/Materials</b> The procedure began with two petri dishes in which a set amount of oil and water was present. During the tests different amounts of ferrofluid (0.5 mL and 1 mL) were added to see the effects of the amount of ferrofluid on the results or the volume of the solution after the magnet was hovered over the solution. The remaining solution was then poured into the graduated cylinder, measured for volume in mL, and then recorded as the results.</p> <p><b>Results</b> The efficiency was measured in a ratio of the altered volume divided by the original volume of the oil-water solution. Adding 1 mL of ferrofluid to the oil proved to be more potent as a cleanup method than adding 0.5 mL shown in the average efficiency of 0.75 rather than 0.53.</p> <p><b>Conclusions/Discussion</b> The results achieved by the experiment supported my hypothesis. Using magnets and nanotechnology (the study of particles the size of 1 billionth of a meter) can magnify the success of the cleanup of oil that sinks beneath the surface and later allow companies to sell their oil in the future. With more research and study, the possible pollutions can be found and the 40 billion dollars of profit lost by BP in the gulf oil spill could be avoided.</p>	
<b>Summary Statement</b> My project experiments with different amounts of magnetic liquid (ferrofluid) and a neodymium magnet in effort to find a new viable oil spill cleanup method.	
<b>Help Received</b> My father helped me in procuring the materials, my mother helped with my report, and my science teacher mentored me.	