



**CALIFORNIA SCIENCE & ENGINEERING FAIR  
2018 PROJECT SUMMARY**

<b>Name(s)</b> <b>Isabella M. Moore</b>	<b>Project Number</b> <b>J1120</b>
<b>Project Title</b> <b>Oil Spills and Nanotechnology</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My project's purpose was to determine the effectiveness of cleaning up an oil spill with ferrofluid and a neodymium magnet. <b>Methods/Materials</b> Materials: 6 identical Petri dishes, colored water, mineral oil, motor oil, ferrofluid, and rectangular neodymium magnets. Methods: 3 of the dishes were tested with mineral oil, the other 3 with motor oil. Each dish had 35 ML of water and either 1, 3, or 0 drops of ferrofluid on top of the 1 mL of oil. To remove the oil I dipped the magnet into the center of the "spill". I tested the various number of drops of ferrofluid 13 times each for both oil types. The oil was measured in microcentrifuge tubes. <b>Results</b> In both the mineral oil and motor oil results, the averages of oil removed increased along with the drops of ferrofluid. <b>Conclusions/Discussion</b> I concluded that using ferrofluid and magnetism is an effective method to clean up an "oil spill" of certain oils.	
<b>Summary Statement</b> I showed that certain oil spills can be cleaned up effectively by using ferrofluid and magnets.	
<b>Help Received</b> I planned and preformed the experiment myself (with some help labeling the data). I did receive some research topic ideas and suggestions for testing methods from my science teacher.	