



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Carlos Heredia; Jesus Maldonado	Project Number J1009
Project Title Efficacy of Different Materials on Oil Filtration, Water Absorption, and Cleansing of Water for Drain Guards	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective was to determine whether drain guards can filter oil from storm water run-off and prevent it from going into the ocean. Our objective was also to determine which material is most effective as a filler for a drain guard in order to absorb used motor oil, cleanse storm water and allow it to flow freely.</p> <p>Methods/Materials The study was conducted by first making a mixture of 10 ml. of used motor oil and 150 ml. of water. Then a funnel was filled with 1 of the 7 materials in the experiment. The materials tested were: saw dust, mulch, carpet padding, cotton, lint, moss and sponge. Each time the oil/water mixture was poured through the funnel and flow time was recorded, as was water absorption and water clarity.</p> <p>Results Drain guards can filter used motor oil from run-off. The most efficient filler material was moss because it had the best water clarity rating, it didn't absorb any water and it allowed the 150 ml. of water to pass through at a good rate of 33 seconds.</p> <p>Conclusions/Discussion Home-made drain guards can effectively filter run-off before it enters our oceans. Drain guards filled with moss can be placed at storm drains to filter out harmful pollutants such as used motor oil to help protect marine life and the marine environment.</p>	
Summary Statement Our project is about determining whether drain guards can effectively filter out used motor oil from run-off and figuring out which material is the most effective as a filler for a drain guard.	
Help Received Mr. Quien provided us with some of the materials we needed; Mrs. Lopez took pictures of us, helped us figure out how to create charts and let us borrow her scrapbooking materials; Mr. Heredia took us to the store to buy materials and gave us used motor oil;	