



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

Name(s) Chaarvi Goel	Project Number J1112
Project Title Modifying Storm Drainage Grates to Keep Our Oceans Trash-Free	
Abstract Objectives/Goals The objective is to discover how well storm drains keep out plastic of varying sizes and then design a more effective storm drain without causing an overflow. Methods/Materials Clay, various pieces of plastic, plastic sled, 3 gallons water, two buckets, measuring cup. Placed drain in a channel and measured the amount of plastic entering two different drains made of clay and the amount of water that overflowed. Results The new drain blocked 800% more plastic than the original. So, as a thin bar was put on the drain, less plastic went in and the overflow amount remained the same because the bar didn't stop any water from entering. Conclusions/Discussion The performance of the drain with the bar was more effective than the original drain. By stopping plastic from entering the oceans, plastic pollution can be stopped, which opens the path for efforts to clean the ocean. The new drain served its purpose by catching more plastic than the other drain without causing an overflow. It is concluded that the original drain is not adequate and a grate with a thin bar stops much more plastic from entering without causing water to overflow.	
Summary Statement By modifying the design of current storm drains with a simple bar across the original grate pattern, the amount of plastic entering oceans will be reduced significantly.	
Help Received None. I designed, built, and performed the experiments myself.	