



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

Name(s) Emily E. Aguilar	Project Number 34178
Project Title My Room Is Making Me Sick	
Abstract Objectives/Goals In this project, I used agar plates to test if HEPA filters actually remove mold spores and bacteria from the air. I was interested in this project because I am highly allergic to mold, and my allergist recommended that I try using a HEPA filter in my house. Methods/Materials I first placed 3 agar plates in my bedroom for 48 hours, without a HEPA filter running in the room. I also ran the experiment in my bathroom and living room. After the 48 hours were over, I collected the plates and taped them shut, and every 2 days I counted the number of bacteria and mold colonies, and take notes on their color, size, and shape. I then repeated the procedure with a HEPA filter running in each room while the plates were being exposed to the air for 48 hours. Results My results suggested that HEPA filters do remove most, if not all, of the mold and bacteria in a room. Conclusions/Discussion After looking at my initial results, I discovered that the most mold in my house was in my bedroom. I repeated my experimental procedure twice more, first leaving my bedroom door open while the agar plates were being exposed, and then again by removing my fish tank and its humidity. Neither trial produced the low mold count I wanted, so my parents and I finally decided to redo the floors in the upstairs bedrooms, thinking that there was probably mold underneath my carpet. Now that I have a new wood laminate floor in my bedroom, I am sleeping better, waking up less congested, and not getting sick as often. I went back to my allergist and discovered that my lung capacity has also greatly increased since I eliminated the mold from my bedroom.	
Summary Statement I conducted an experiment to determine whether HEPA filters are effective in removing mold and bacteria from the air.	
Help Received Mother helped design display board; Father helped make graphs.	