

## CALIFORNIA STATE SCIENCE FAIR 2015 PROJECT SUMMARY

Name(s)	Project Number
Dharma A. Patel	$\Delta$
	35443
Project Title	
Air Filters: Are You Getting What You Paid For?	
Abstract	
Objectives/Goals	
For my science project, I investigated how well cheap air filters and more expe	ntive filters improved
indoor air quality. I measured the air quality in my home using a range of filte used an air quality monitor that counts the amount of small particles (35) inc.	rous and large particles
(<10 microns) in the air per every ten seconds that the air is drawn through it.	My goal was to see
whether the more expensive air filters performed better than the less expensive	filters in a home setting.
Methods/Materials Lused an air quality monitor (Dylos DC1100 Air Quality Methor) to measure	the amount of small and
I used an air quality monitor (Dylos DC1100 Air Quality Monitor) to measure large particles that were present in the air. I monitored the air with a range of a	ir filters installed in my
home (Filtrete 300, Filtrete 800, Filtrete 1200 and Filtrete 1900). The kigher th	e quality of filter, the
higher its cost. <b>Results</b>	
I ran five tests per filter and for no filter, and each of the them for twelve h	ours a day for five days.
Because each of the five variables had five days of testing, there were twenty-f	ive tests. After I took down
the data, I made averages for each variable. I found out that as the quality of th	e filters increased, the
amount of small and large particles in the air significantly oscreased. Conclusions/Discussion	
My results showed that the less expensive filters improve the air through main	y decreasing the amount of
large particles in the air, while the more expensive filters improve the air by de small particles in the air. Large particles include household dust, lint, dust mite	creasing the amount of
pollen. Small particles include smog pet dander, smoke, bacteria, and viruses.	e debris, moid spores, and
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$( \neg \uparrow \land )$	
Summary Statement	
My project is about funding whether or not more expensive air filters clean the filters of a lower cost.	air more effectively than
Help Received	h - n
My father helped with expenses and construction of the experiment; science te adjustments to my project.	acher made neipful