



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) William G. Carr	Project Number J1009
Project Title Air Pollution	
Abstract Objectives/Goals The objective of this project was to test which of the following areas had the cleanest air: the country, the city, or an area by the freeway. The hypothesis was that the area sampled in the country would have the cleanest air. Methods/Materials Three areas were chosen in the city of Manteca, California to perform the tests. A high-volume air sampler borrowed from the Lawrence Livermore National Laboratory, along with a set of clean filter papers were used to perform the sampling. The sampler worked off of a twelve volt car battery and had a built in timer and an air flow meter. On three separate days, the sampler was set up at each location and a thirty minute sample was taken. The car used to transport the sampler and supply the power to the sampler was turned off so that it did not contribute to what was being measured. The filters were placed into plastic bags and labeled. Later, the filters were compared to a color scale that started at white (represented by 1) and slowly progressed to black (represented by 25). Results were entered into a scientific journal. Results The results did indicate that the country area did have the cleanest air by far. All three of the country filters were ranked 1 on the color scale. The city area was the second cleanest air, in its first testing it ranked 4, on its second testing it ranked 5, on its third testing it ranked 3, and its average was 4 on the scale. The freeway definitely came in last place. In its first testing it got a 9, on its second testing a 10, on its last testing an 8, and its average was 9 on the color scale. Conclusions/Discussion In the end, the hypothesis that the country would have the cleanest air was correct. This is important information to know when choosing where you might want to live or to spend a lot of your time. While air pollution is not something that you can completely get rid of, people who are aware of the results of research like this may be able to make better choices that help to lower the amount of pollution they generate and are exposed to.	
Summary Statement This project is about air pollution and which location within a general area has the least of it: the country, the city, or by the freeway.	
Help Received Equipment was borrowed from Lawrence Livermore National Laboratory. My father drove me to sampling locations and helped connect sampler to car battery.	