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An Air Pollution Science Project

Introduction:

In eighth grade, I did a science fair project concerning the quality of air in Houston. In order to do this, I chose several different locations in or around the city, near areas with different conditions for pollution. One of these, for example, was in a lower- to middle-class neighborhood next to a fairly busy intersection; another was downtown, near where the new baseball stadium was being built.

Method:

I intended to compare the quality of the air in different parts of the city by spreading petroleum jelly on index cards and hanging them in these locations for a day each, for a week. Pollution particles floating in the air, such as those either kicked up by machines or given off by them, would attach to the sticky petroleum jelly, changing it from its original clear appearance to a dirty color that looked, well, polluted. According to how dirty the cards appeared, I would judge how badly that area of Houston was polluted. My parents helped me, since I obviously couldn't drive to the locations myself; besides, I had to go to school. I also recruited my grandmother for the project, asking her to hang a card a day outside on her balcony next to the street.

To provide background, as well as become more informed myself, I did research. I went to the EPA website and found information on air pollution: how it is formed, what causes it, what dangers it poses, etc., etc., etc. I discovered these things, as well as some others (for example, how sunlight affects air pollution). Using this information, I could draw conclusions from the data I gathered from the index cards.

Results:

My results showed me much about how polluted the air I breathe is. I ranked the cards on a scale of one to five, with one being the least polluted and five being the worst air quality. Generally, the downtown areas were worse off than locations nearer residential sections, which was likely because of the increased traffic and such. One of the worst areas was the one close to the new baseball field, which I speculated was because of the machines working nearby, tearing up the road, giving off exhaust, etc., etc., etc. The best was at my house, in Bellaire, a residential area with few cars passing through and not near many major streets. Overall, however, the results were pretty dire: bluntly put, our air is awful. This fact was, of course, made public by the EPA before I performed my experiment, and was really what gave me the idea for such a project.

Conclusions:

This experiment was performed last year (2000), which leaves lots of time for improvement to have taken place. Since there is a deadline for our air to come back down to acceptable levels (Smog City is not a title to be proud of), I hope that officials are working on the situation as much as possible. Of course, we cannot rely on laws and lawmakers to clean up the air, but must all do our part. This isn't hard: everybody has heard of carpooling, walking, bicycling, right? It's healthier to walk to that dollar store down the street than to drive, both for people and the air we breathe.