



# The Proposal of Air Pollution

Prepared for: All Children

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## PROJECT OUTLINE

1. Project Background
2. Introduction
3. Mission Statement
4. My Proposals
5. Spread My Word

## PROJECT BACKGROUND

Beijing, the capital of China, is suffering from serious air pollution. Clear air is very precious, Blue sky is very rare, Magnificent stars is unfamiliar in Beijing. What do air pollutants include? Primary sources of pollutants include exhaust emission from Beijing's more than five million motor vehicles, coal burning in neighbouring regions, dust storms from the north and local construction dust.

In the name of the air, all of us declare the war against the air pollution.

## INTRODUCTION

As a resident of Beijing, I have responsibility to protect the air. In my mission, I designed the two tools to test the air pollutants. With these tools, I made some experiments. I have interviewed people to know what they have known about air pollution. According to the results of the experiments and interviews, I took out my proposals for protecting the air.

## MISSION STATEMENT

The mission is to let people know about the air pollution, what are the air pollutants consist of, How to test the air pollutants, and increase the awareness of the protection of the air.

I'm only a student of primary school, but I devote myself to the protection of the air. I do my best to do what I can do. Let more people join me to protect our blue sky.

These days, I tried my best to learn, do, think and made progress!

Because I have faith . Beijing will change better.

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## Preparation



Search the information via Google



Reading the literatures



Making the tools

## Theory and Practice

According to the literatures, air pollutants can be divided into two parts. One is gas pollutant .the other is particulate matter.

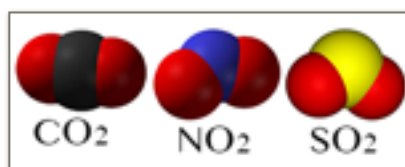
The gas pollutants include carbon dioxide, nitrogen dioxide, sulfur dioxide and others. The three is major pollution.

### *CO<sub>2</sub>(Carbon Dioxide)*

CO<sub>2</sub> is emitted by industrial processes and vehicles and contributes to global warming. While plants absorb CO<sub>2</sub> as part of photosynthesis. Carbon Dioxide is made up of one carbon atom and two oxygen atoms (Pictured Left).

### *NO<sub>2</sub> and SO<sub>2</sub>*

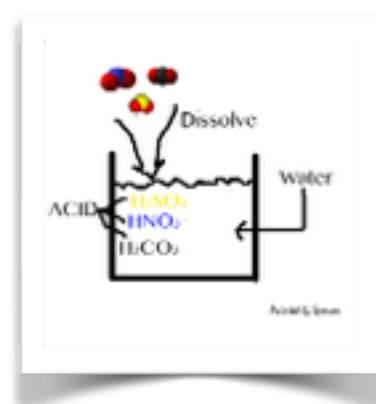
Nitrogen Dioxide and Sulfur “smog”, precursors of ozone, for irritating the lungs of or emphysema. NO<sub>2</sub> composed atom(Pictured Middle). CO<sub>2</sub> sulfur atom.(Pictured Right)



Dioxide are responsible for the brown and acid rain. Which can be responsible people who suffer from asthma, bronchitis of two oxygen atoms and one nitrogen compose of two oxygen atoms and one

These chemicals are very dangerous and no special smell and color. How can we find them? I designed a tool to make them reveal. They can dissolve into water. In the water, they will make chemical reactions. CO<sub>2</sub>,NO<sub>2</sub> and SO<sub>2</sub> will change into carbonic acid(H<sub>2</sub>CO<sub>3</sub>), nitric acid(HNO<sub>3</sub>) and sulphuric acid. we can test the acidity of the water. So we find the gas pollutants indirectly.

According to this theory, I put the pure water in which there is nothing into a big container. I put the container in the air for enough time (maybe 8 or 10 hours). Then I test the acidity of the water.

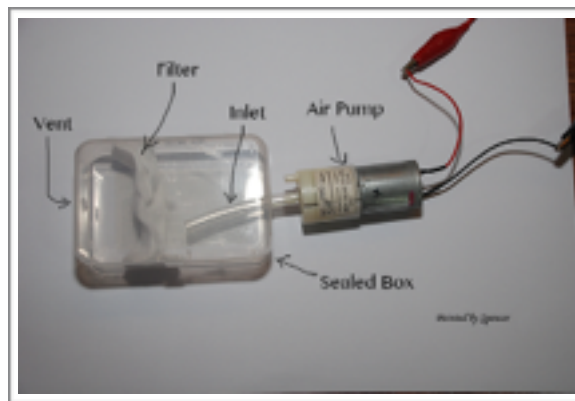


### *Particulate Matters(PM)*



PM is the term for a mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye. Others are so small they can only be detected using an electron microscope.

But, I have not an electron microscope. How to find the PM? We can change our mind. One is very tiny, but much more them are gathered become bigger to be seen with the naked eye. I designed a tool to realize this theory. I put a clean filter into a box and seal the box. There are two holes on the box. One is inlet, the other is vent. When the air flow through the filter, the pm will stay on the filter.



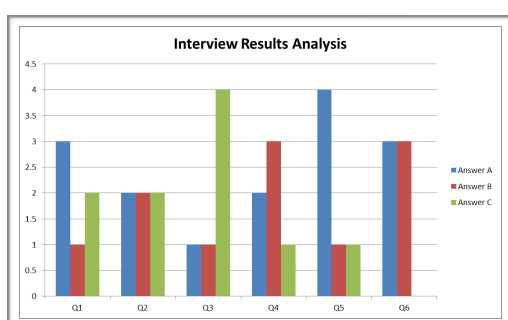
I use an air pump to accelerate the air flowing. The time of collecting will be shorted. Before the switch on, you can find the clean filter in the box (Pictured Left). In order to collect enough PM, I have kept the pump running for 8 hours. With the naked eye, I can find the dirt on the filter (Pictured Right).



Chinese idiom says Good tools are prerequisite to the successful execution of a job. With the help of the tools, The invisible enemies are revealed on our eyes.

## Interview people

According to the manual, I interviewed six people. I asked them each one six questions about air pollution. In my interview, I showed my results of the test with my tools. It is very surprise that the air pollution is so serious. They think that we are in danger. They want to do something about protecting our air. They asked me “What shall I do?” “How can I do?” We were talking about other topics except the manual, such as the consist of air pollutants, the source of dust blown, the increment of the vehicle and etc.



I found all of people have known it is necessary to control the air pollution. Most of the people consider that the vehicle and burning trash should be major source of the air pollutants in the city. The people can consciously reduce the driving car and increase the chances to riding the bike and taking bus.

## MY PROPOSALS

1. Plant more trees.
2. Ride bike and take bus more.
3. Reduce the quantity of vehicles.
4. Improve the technology of industry and construction.
5. Take the surgical mask.

## SPREAD MY WORDS

*The war is began. We are all solders. We have faith to win the war.*

*Let all of the city join in to fight for a blue sky.*

## REFERENCE

1. <http://www.epa.gov/pm/basic.html>
  2. <http://aqicn.org>
  3. <http://www.usembassy-china.org.cn>
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