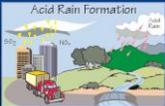


That's a lot of info...
 Let's look at 3 pollutants
 in greater detail:
Sulfur Dioxide
Particulate Matter
Ground Level Ozone

Sulfur Dioxide causes acid rain... yikes!

- Pollutants in the air combine with water in the atmosphere and form acids.
- That acid gets in our rain/snow and falls back to earth, harming our lakes & ponds, and all the organisms that live there.



What is particulate matter?

- Tiny particles of dust and smoke in the air.
- These particles make it hard to breathe. (especially for and young kids)
- These particles also cause haze and visibility.




View of Chicago on 2 different days (one clear, one hazy)



Wait – isn't OZONE a good thing?

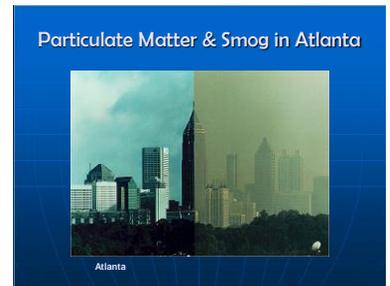
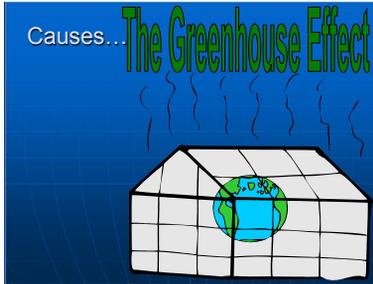
- The ozone layer in the stratosphere protects us. **GOOD**
- BUT ground-level ozone makes **SMOG**. **BAD** (an UNHEALTHY brown haze)



These things together form.....
SMOG

- Combination of gases with water vapor and dust
- Combination of words smoke and fog
- Forms when heat and sunlight react gases (photochemical smog)
- Occurs often with heavy traffic, high temperatures, and calm winds



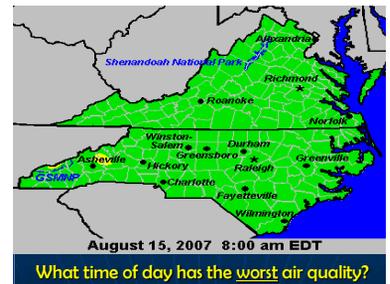


The air quality index of this classroom is rated as healthy for sensitive groups.

How can you protect yourself from air pollution?

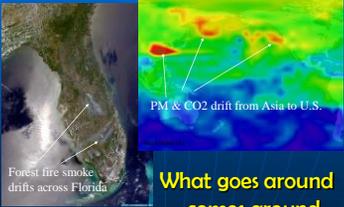
- Check your local Air Quality Index (AQI) every day.
- The AQI is a color-coded system that tells you how clean the air is.

AQI INDEX VALUES	HEALTH CATEGORIES
0-50	Good
51-100	Moderate
101-150	Unhealthy for sensitive groups
151-200	Unhealthy
201-300	Very Unhealthy
301-500	Hazardous



Interesting Air Pollution Facts...

Air Pollution can travel far...



Forest fire smoke drifts across Florida

PM & CO₂ drift from Asia to U.S.

**What goes around
...comes around**



Air Pollution kills people...

Annual Deaths due to:

Air Pollution = 23,000

Drunk Driving = 17,000

Murder = 20,000

North Carolina summers are not good
for your health!

In NC, air pollution causes an EXTRA:

240,000 Asthma Attacks

6,300 ER Visits

The "Worst 25" Cities for Ozone

Atlanta	6 th
Knoxville	8 th
Charlotte	9 th
Raleigh-Durham	13 th
Nashville	18 th
Memphis	19 th
New York	20 th
Birmingham	21 st
Greensboro-Winston	21 st
Macon	24 th
Chattanooga	24 th

Let's take a closer look at particulate matter...

Airborne Junk

- 1) In your science notebook, write the following question:
What does particulate matter look like?
- 2) Examine the samples with the magnifying lenses and stereoscopes.
- 3) **Draw what you see for 2 samples. Be sure to note where the samples came from...**

Airborne Junk

In your science notebook, answer the conclusion questions:

- 1) Which locations had the **most** particulate matter?
- 2) Which locations had the **least** particulate matter?
- 3) Why would certain locations have more than others? **EXPLAIN!**

So, What can YOU do?

- Ride your bike
- Tell your friends and family about pollution
- Make sure your parents get pollution checks on their cars
- Ride the school bus
- Use Public Transportation



- Learn more; stay up to date
- Join a group to stop pollution
- Encourage your parents to carpool to work
- Switch off lights, fan, heat, etc. when you leave the room



We only have one world.....
Do you want it like this?



Answer the questions in complete sentences.

1. What is air pollution?
2. What causes air pollution?
3. What is an example of air pollution you just learnt?
4. What is at least one negative outcome of air pollution?
5. How can air pollution be prevented?
6. What is something you could do to reduce air pollution?



1. What is air pollution?

➤ Air pollution is the addition of gases, chemicals, and particle matter into the atmosphere.

2. What causes air pollution?

➤ Air pollution primarily comes from burning fossil fuels such as natural gas, petroleum, and coal.

3. What is an example of air pollution in the text?

- Industry, including factories and power plants, burn large quantities of fuel.
- Burning coal and petroleum releases sulfur oxides and nitrogen oxide into the air.
- Airplanes, boats, and cars burn petroleum, releasing carbon monoxide and carbon dioxide.
- The waste in landfills releases methane.
- Animals emit carbon dioxide when they breathe, and volcanoes release sulfur oxide.

4. What is at least one negative outcome of air pollution?

➤ A study has listed air pollution as the cause of four percent of the deaths in the United States

5. How can air pollution be prevented?

➤ By modifying human activity to burn a smaller quantity of fossil fuels.

6. What is something you could do to reduce air pollution?

- using less power (thus putting less demand on power plants);
- using cars less frequently;
- diminishing the amount of garbage so there will be less waste in the landfill.