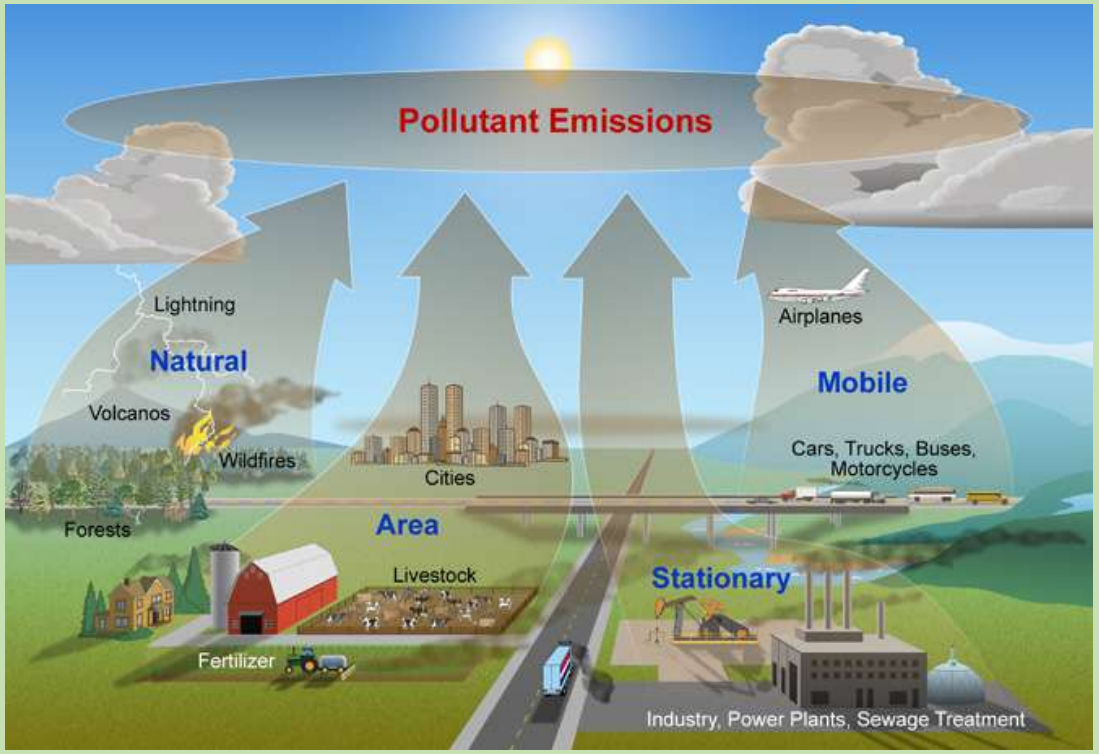
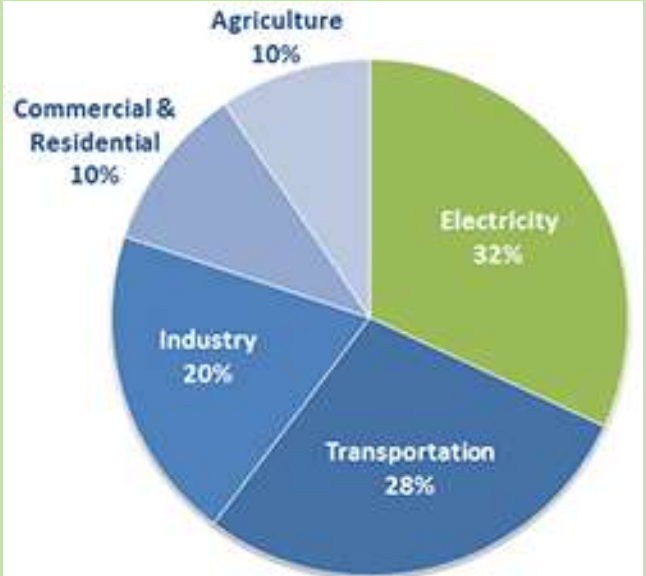
Environmental Science

Water and Air Pollution Week 11

10/26 What Causes Air Pollution? CH12.1
Obj. TSW understand the causes of air pollution and the hazards to health. P. 16 NB

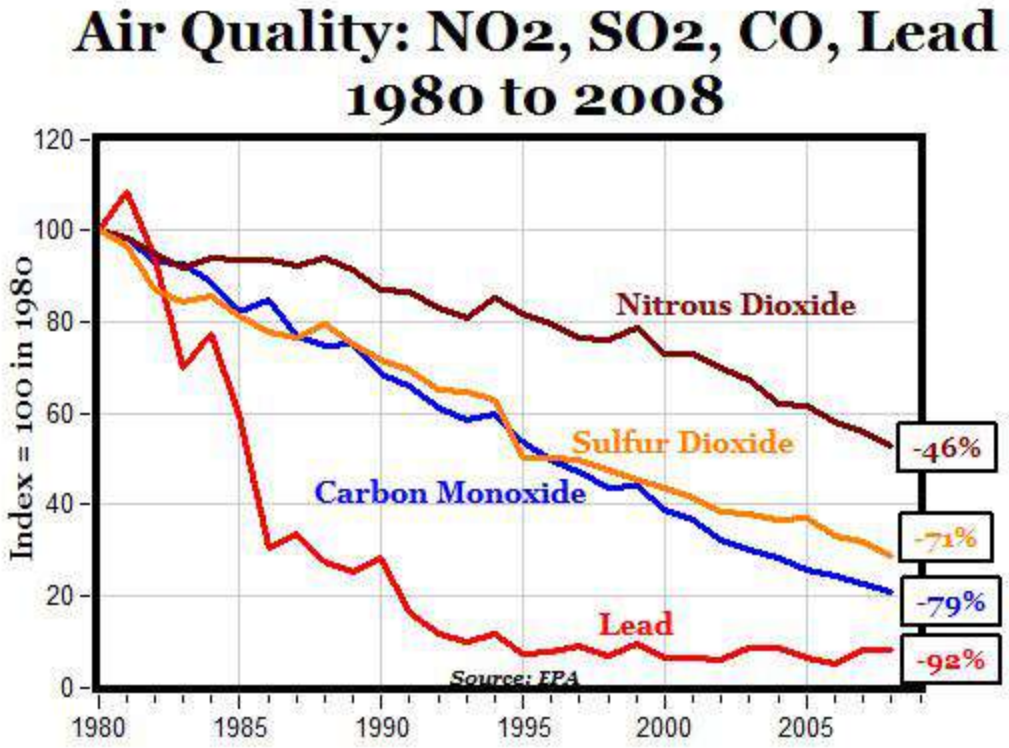


1. Name 5 primary air pollutants and give sources for each.
2. Name two major sources of air pollution in urban areas.
3. Describe the way in which smog forms.



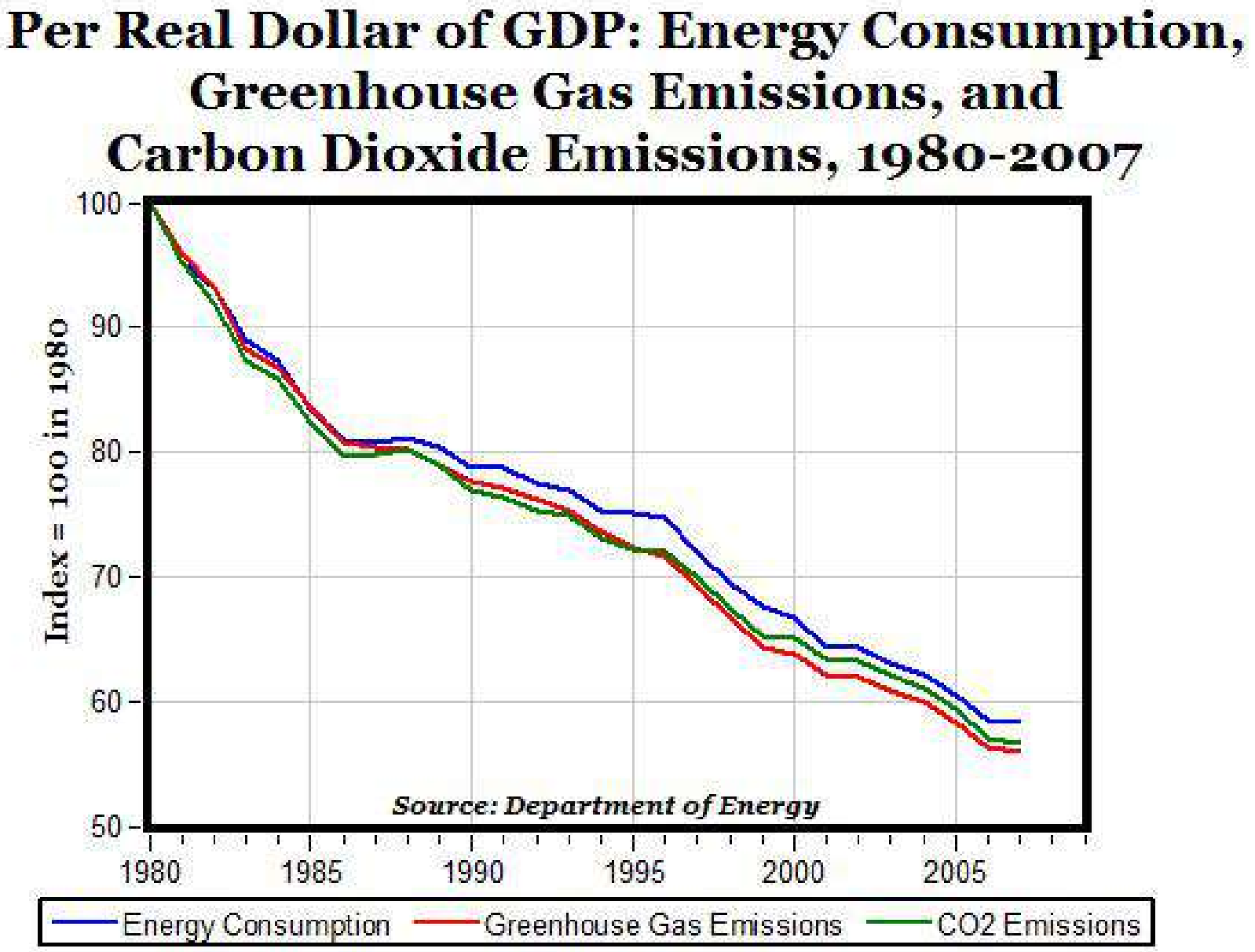
Primary Air Pollutants

- Carbon Monoxide (CO)
- Nitrogen Oxides (NOx)
- Sulfur Dioxide (SO2)
- Volatile Organic Compounds (VOC's)
- Particulate Matter (PM)



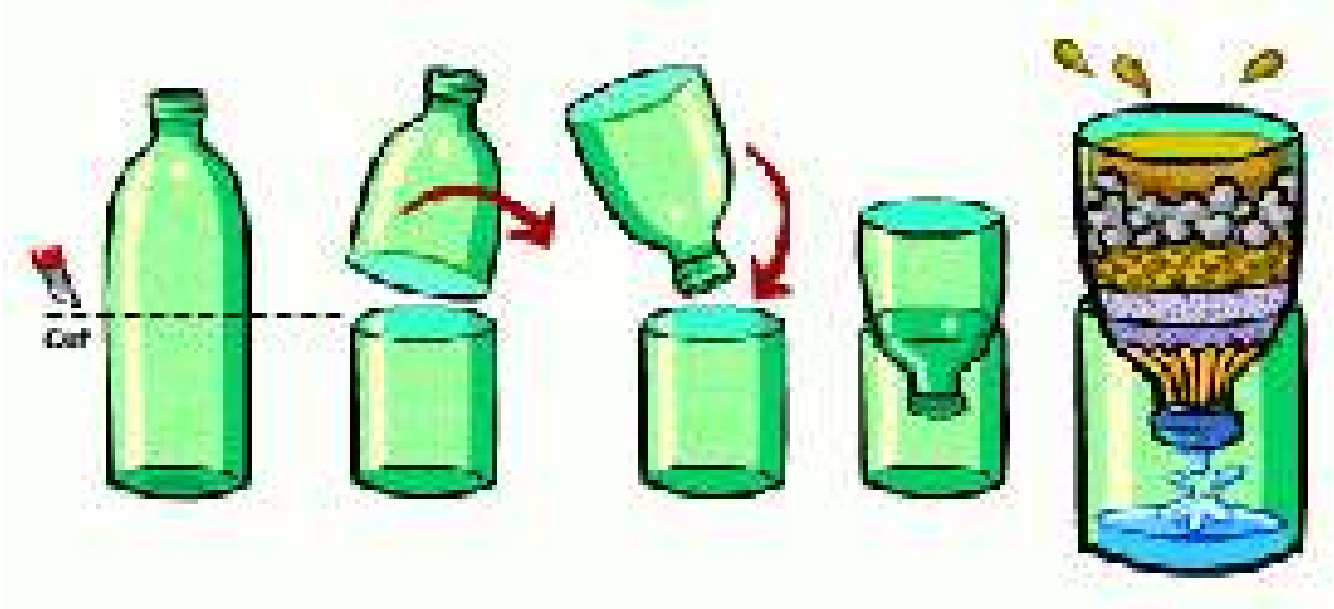
Mark J. Perry
@Mark_J_Perry
March 23, 2010 6:42 am | *AEIdeas*

- Mark J. Perry @Mark_J_Perry
- March 23, 2010 6:42 am | *AEIdeas*



Contaminant	Before Filtration Description	After Filtration Description
Water (Control)	Water Clean, no smell	Water, dirty
Water (Control)	Water, clear, clean, no smell	Water mixed, dirty, brown, smells like dirt
Sodium Chloride (Salt) 1 TSP	It is opaque, (white) smells salty, feels like denser water	Brown, feels like muddy water
Sodium Bicarbonate (Baking Soda) 1 TSP	Brown river, sewage water	Dirty green, smells like dirty sand
Food Coloring (Blue) 5 drops	Liquid Blue	Light green, yellow
Food Coloring (Green) 5 drops	Dark Green Water	Mountain Dew color, dirty green
Maple Syrup 1 TSP	Thick deep amber strong scent	Thin yellow amber, barely smells
Vegetable Oil 1 TSP	Clean water bubbles, from oil	No signs of oil, soil filtered oil

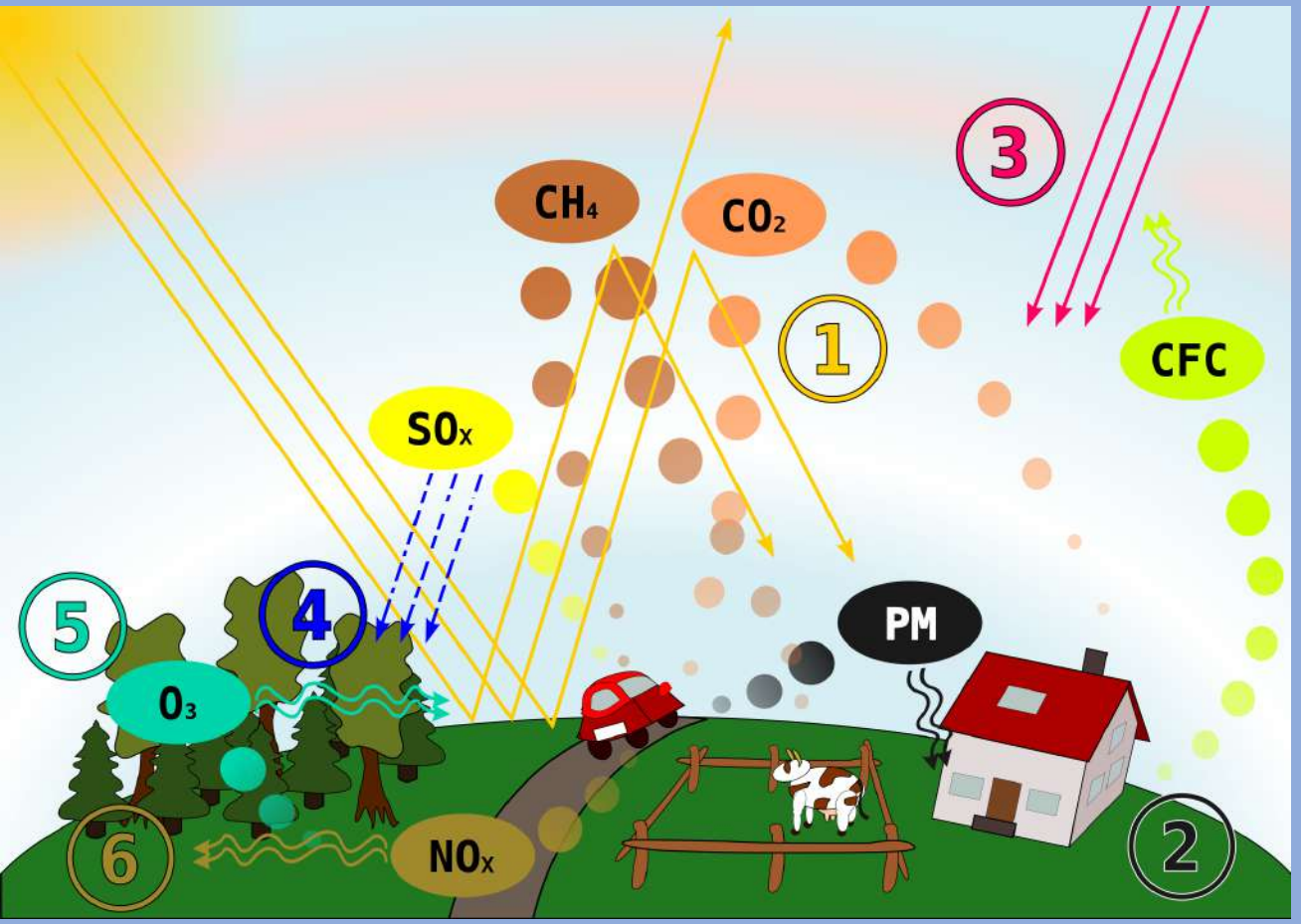
Ground Water Filters



Lab Report – Porosity and Permeability of Soils impact filtration of pollutants.

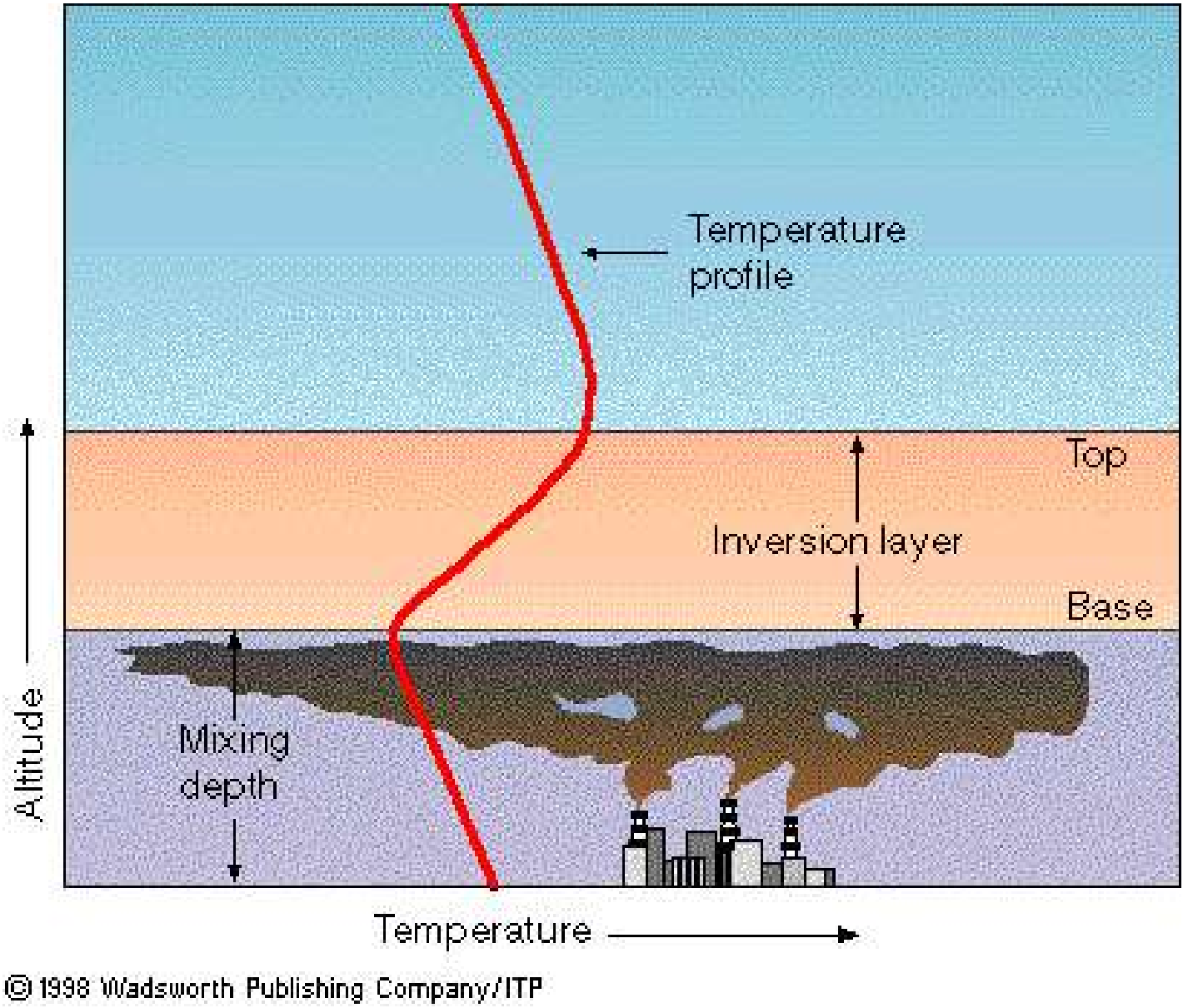
- How will you test the result of filtering your pollutant?
- What procedure will you use to test the filtration of your pollutant?
- What does the porosity and permeability of the soil mean for highly toxic substances like perchlorates? Or metals?
- How much water was filtered out the first time?
- The second time, how much water was there and how was it different?

10/27 Air Pollution CH 12.1 & 12.2
Obj. TSW learn how primary pollutants contribute to secondary pollutants. P. 18 NB



1. Describe a temperature inversion and list what cities have them.
2. What are the short term and long term effects of air pollution on health.
3. Describe some indoor air pollutants.

Temperature Inversion



Create your questions for your Quiz CH 11

- Level 1: only 1 point,   1 word, short phrase answer
- Level 2:   2 points, 1 – 2 complete sentences for an answer
- Level 3: 3 points, Includes a definition, and example and an explanation or significance

Point Source and Non-Point Source Pollution 19NB

Write an AXES Paragraph about our topic.

- Define each.
- Give an Example of how they are similar and how they are different.
- Explain what happens.
- Show why is it important to us.
- Maybe include or reference some of the Laws or Acts Page 293. ESBK

Taboo

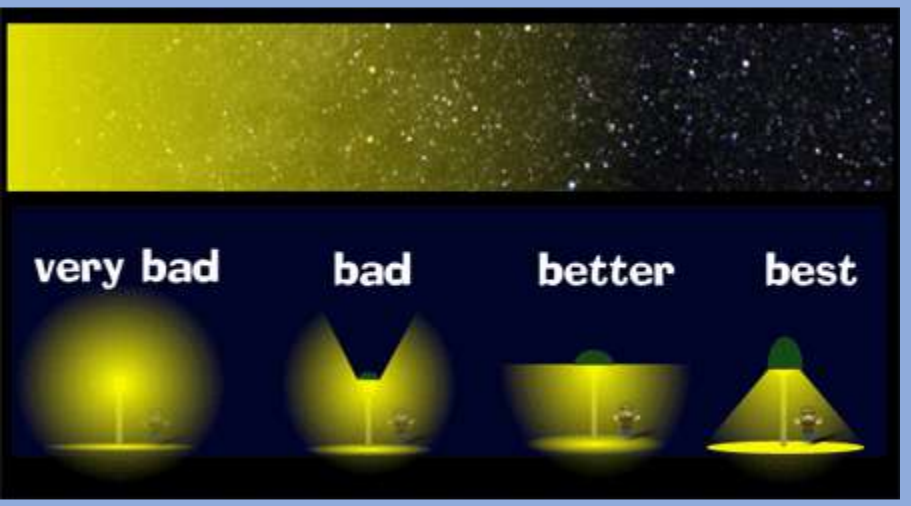
- Ground Water
- Watershed
- Potable
- Dam
- Water pollution
- Clean Water Act

Taboo

- Aquifer
- Porosity
- Permeability
- Desalinization
- Point source Pollution

Cruise Chip Discharge

10/28 Air, Noise & Light Pollution CH 12.2
Obj. TSW learn about pollution caused by noise and light. P. 20 NB



1. Describe Sick Building Syndrome.
2. Noise Pollution can cause harm, What is the threshold for pain? What are some activities that cause this?
3. Light pollution is an environmental concern. Why?

Agenda 10/29

- WU
- Go over quiz
- Finish WS
- Discuss article
- Watch How the Universe was made – cars
  - Students will write 3 open ended questions.

WS P. 21 NB

1. IV – paper clips/ Mass

DV – Distance it would fly

Control – Paper airplane w/out paper clips

Constants- Paper, paperclips

2. IV – Calculators

DV – speed working with math problems

Control – students w/o calculators

Constants- math problems, same calculators

3. IV – Ages of students

DV – Puzzle assembly time

Control - ?

Constants – Puzzle

4. IV – Amount of Coffee Grounds

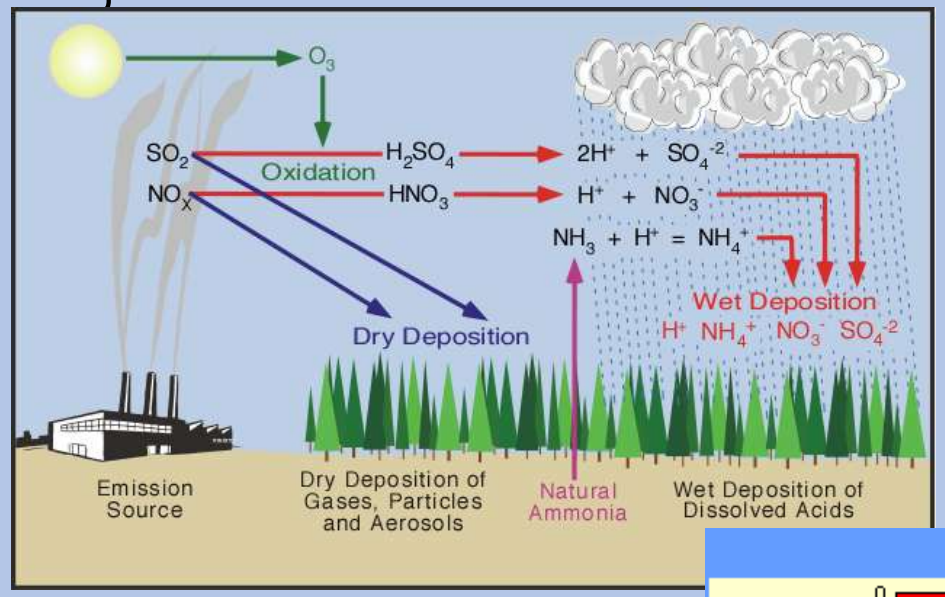
DV – the taste of the coffee

Control – The minimum amount of coffee used.

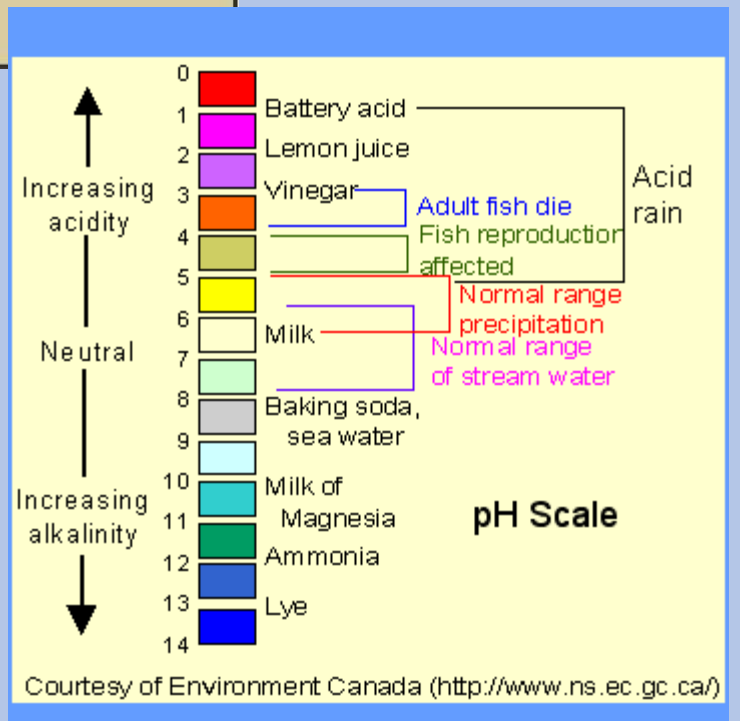
Constants- type of water, same percolator, electrical sources, coffee

10/29 Acid Precipitation CH 12.3

Obj. TSW understand the causes and effects of acid precipitation. P. 22 NB

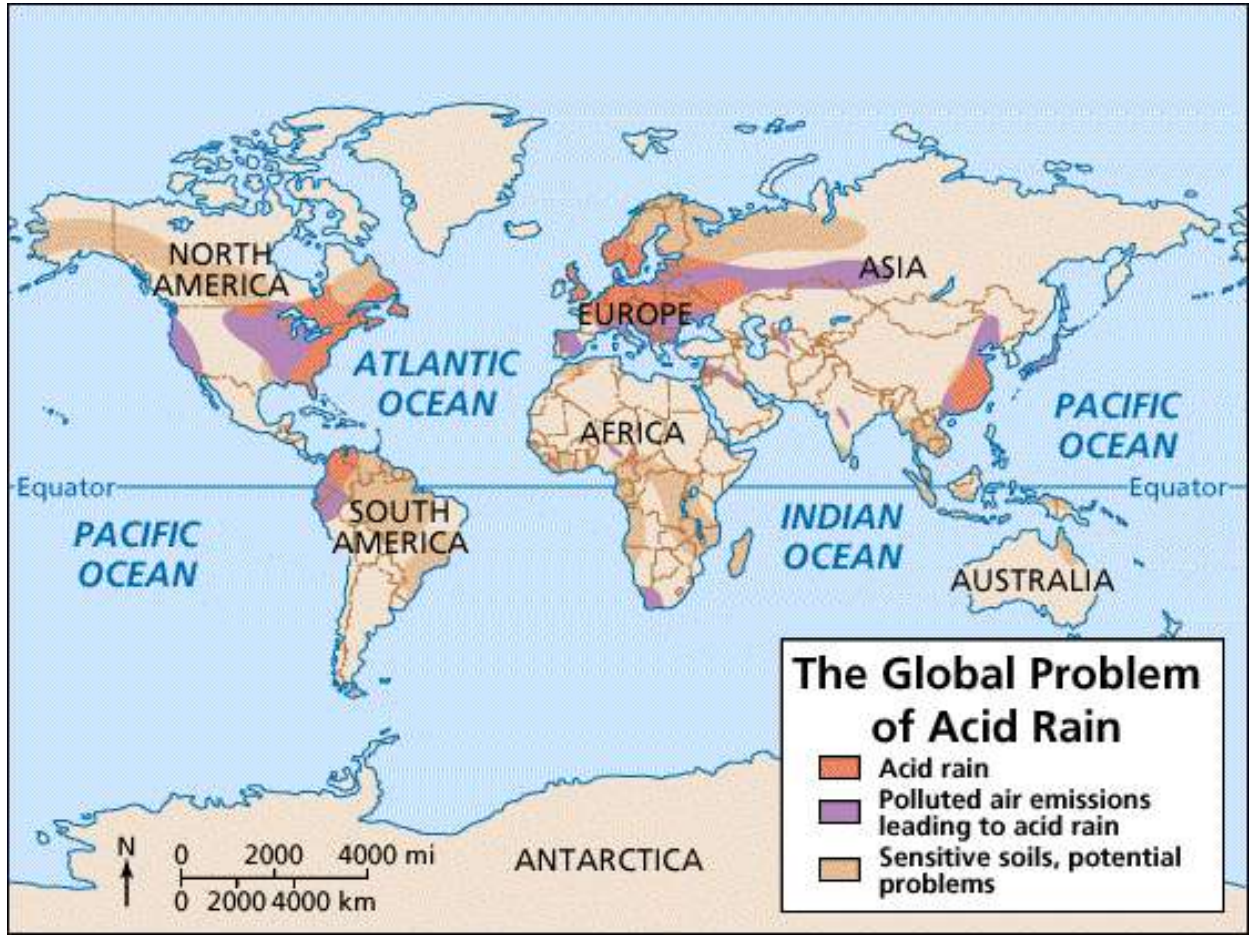


1. Explain the cause of Acid Precipitation.
2. Draw the Acid Precipitation cycle in figure 3.2.
3. Explain how acid precipitation affects plants soils and aquatic systems.



10/30 Acid Precipitation Conflicts & Cooperation CH12.3

Obj. TSW learn how air pollutants affect humans and how countries have to act together to decrease the harmful affects on the environment. P. 24 NB



1. How does Acid precipitation affect humans?
2. How can pollutants from the US produce acid precipitation in Canada?
3. What is the result of the Canada-U.S. Air Quality Agreement I 1991?

How the Universe Built your car p. 25 NB

- Create 3 open ended questions, you can not find the answer to in your book

Ground Water Filter Lab

- Introduction: Discuss Ground Water and Aquifers.