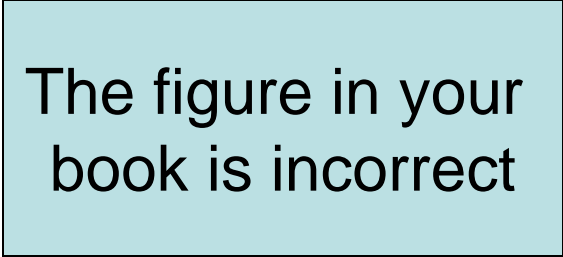


# Chapter 9 : Lesson 2 & 4

## Impacts on Land and Atmosphere

Define Deforestation: the removal of large areas of forests for human purposes

Approximately 30 million acres of tropical rainforest are cut down each year. This is equal to the size of Louisiana.



The figure in your book is incorrect

How does deforestation affect soil and air quality? Explain.

Soil erodes away and more carbon dioxide remains in the atmosphere



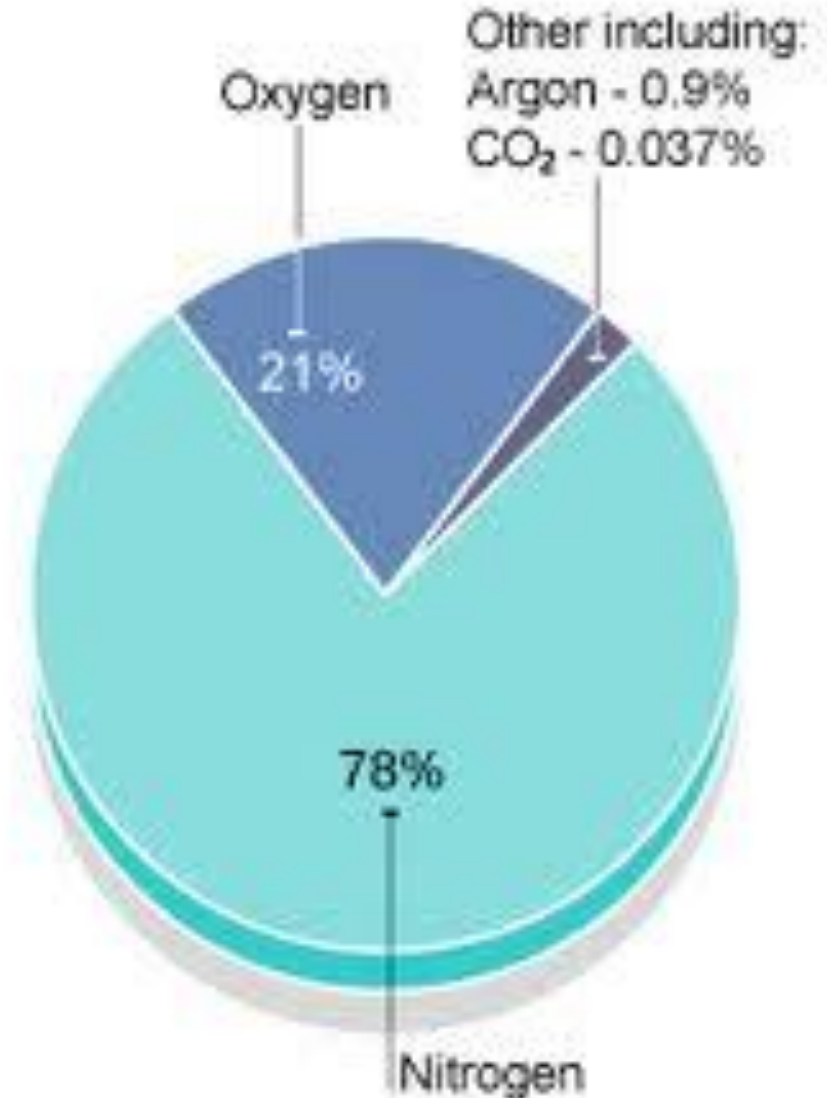
Is the population number on page 318 correct? Explain.

No, the human population is now more than 7 billion!!



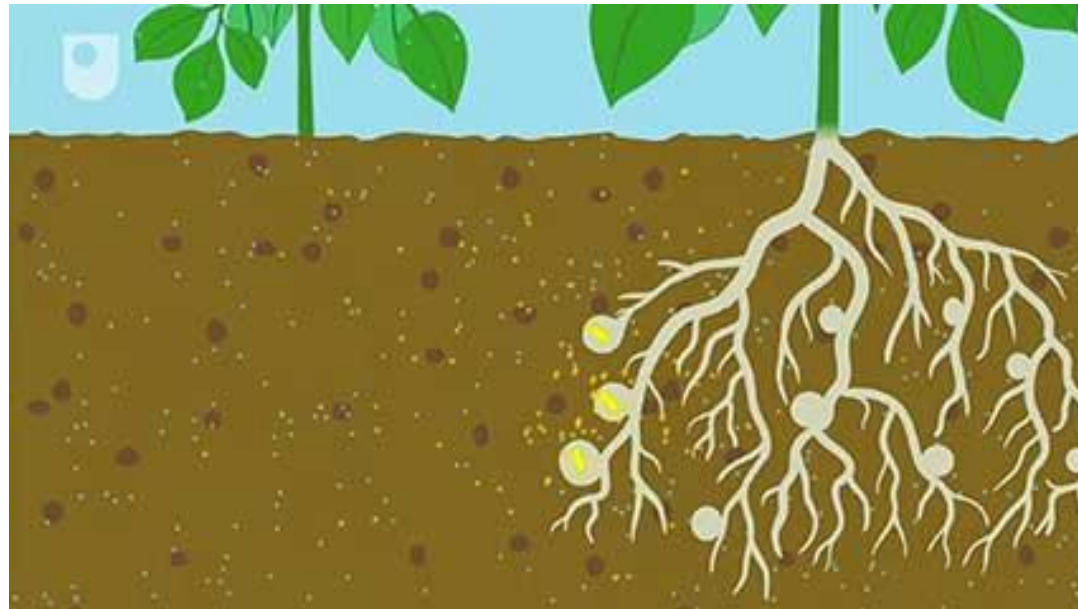
78 percent of the Earth's atmosphere is made of nitrogen

Your book is wrong again!!



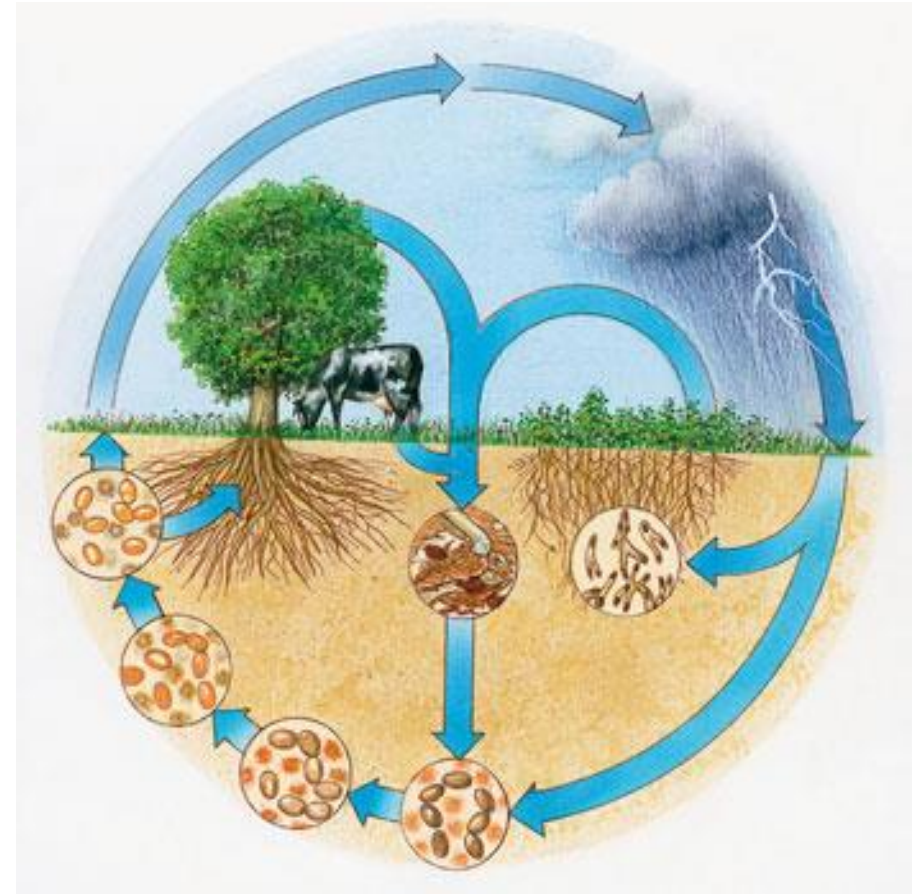
# How is nitrogen gas converted into a form that is usable by plants?

Bacteria that live on the roots of plants convert atmospheric nitrogen to a usable form for plants.



How has the manufacturing and application of fertilizers to crops affected the amount of nitrogen on Earth?

It has doubled the amount of nitrogen cycling through ecosystems!



Define Desertification: the development of desertlike conditions due to human activities or climate change

After desertification occurs land is no longer good for food production.

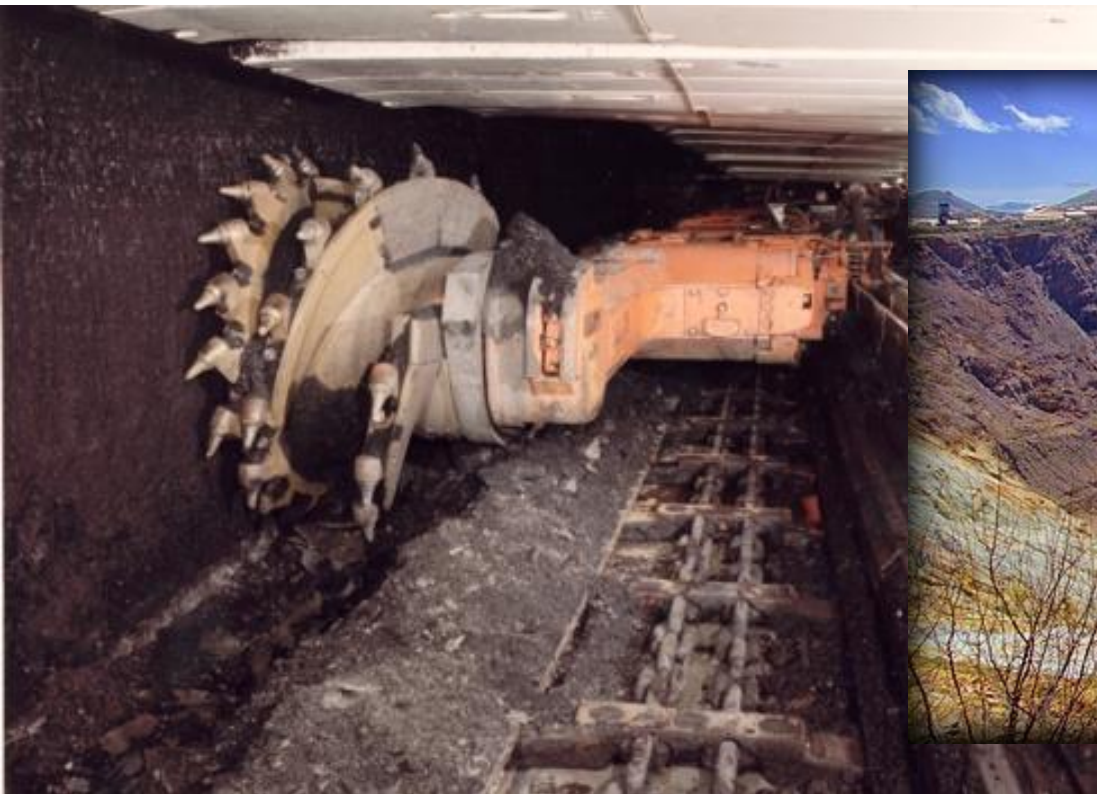




Explain the different between mining for copper and mining for coal.

Copper – surface mining

Coal – underground mining



List one positive and one negative result of mining practices.

Positive – needed for obtaining resources

Negative – disturbs habitats and nature

<http://www.sciencechannel.com/tv-shows/how-do-they-do-it/videos/how-do-they-do-it-coal-mining/>

Define urban sprawl: the development of land for houses and other buildings near a city

List four negative impacts of urban sprawl:

1. Loss of farmland
2. Noise and light pollution
3. Increasing runoff
4. Reduced water quality

# What is noise pollution?

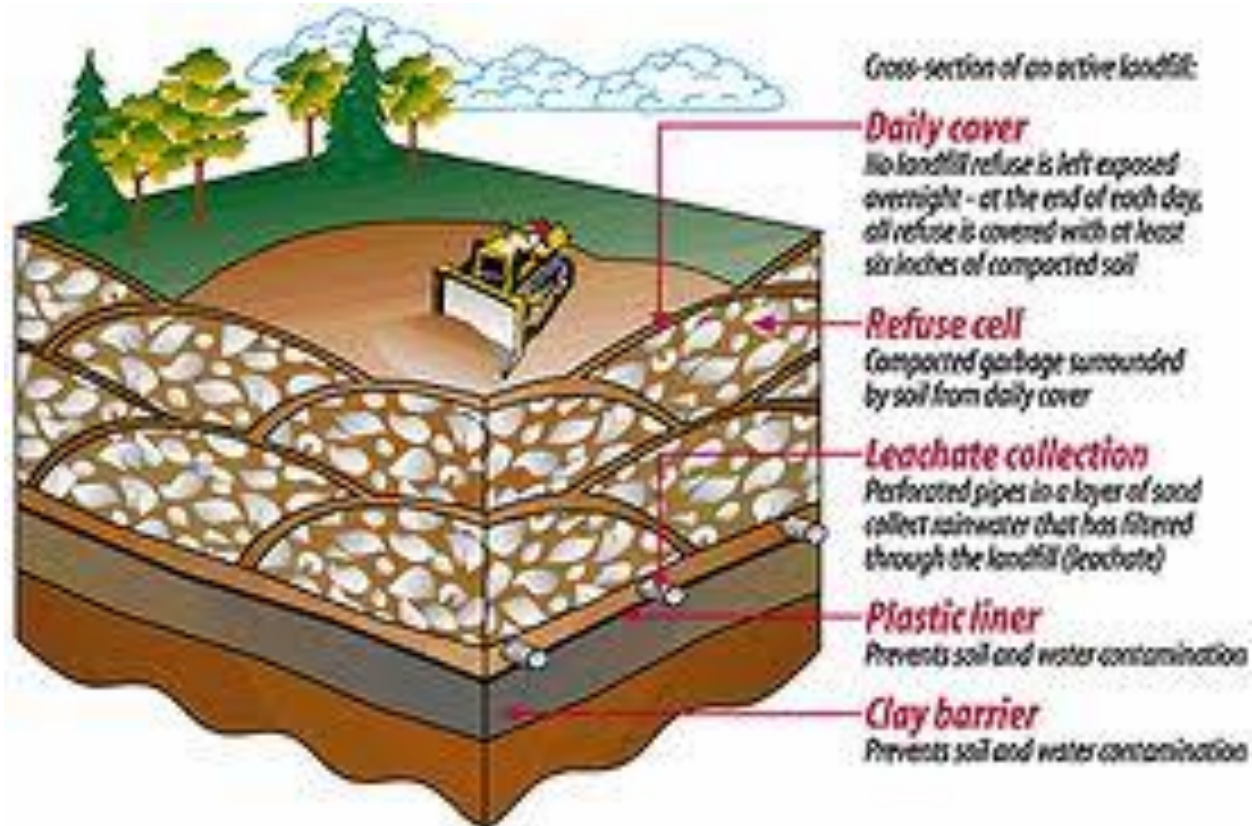
## What can it cause?

Unwanted or excess noise from people, vehicles, or machines.



It can cause hearing damage  
and disrupt wildlife.

What percent of trash is....  
recycled or composted? 31  
burned? 14  
placed in landfills? 55



# What is hazardous waste?

## Name 4 examples.

Trash that can't be placed in landfills because it contains harmful substances.



Examples: bandages, needles, motor oil, batteries, chemicals, paint

Define Reclamation: process in which mined land must be recovered with soil and replanted with vegetation.

Mining and Reclamation Video Clips

<http://www.discovery.com/tv-shows/gold-rush/videos/land-reclamation/>

<https://www.youtube.com/watch?v=sxaoTu1jlos>

<http://www.youtube.com/watch?v=3zEAicSEBME>

What are green spaces?  
How do they help the environment?

Areas left mostly undeveloped.



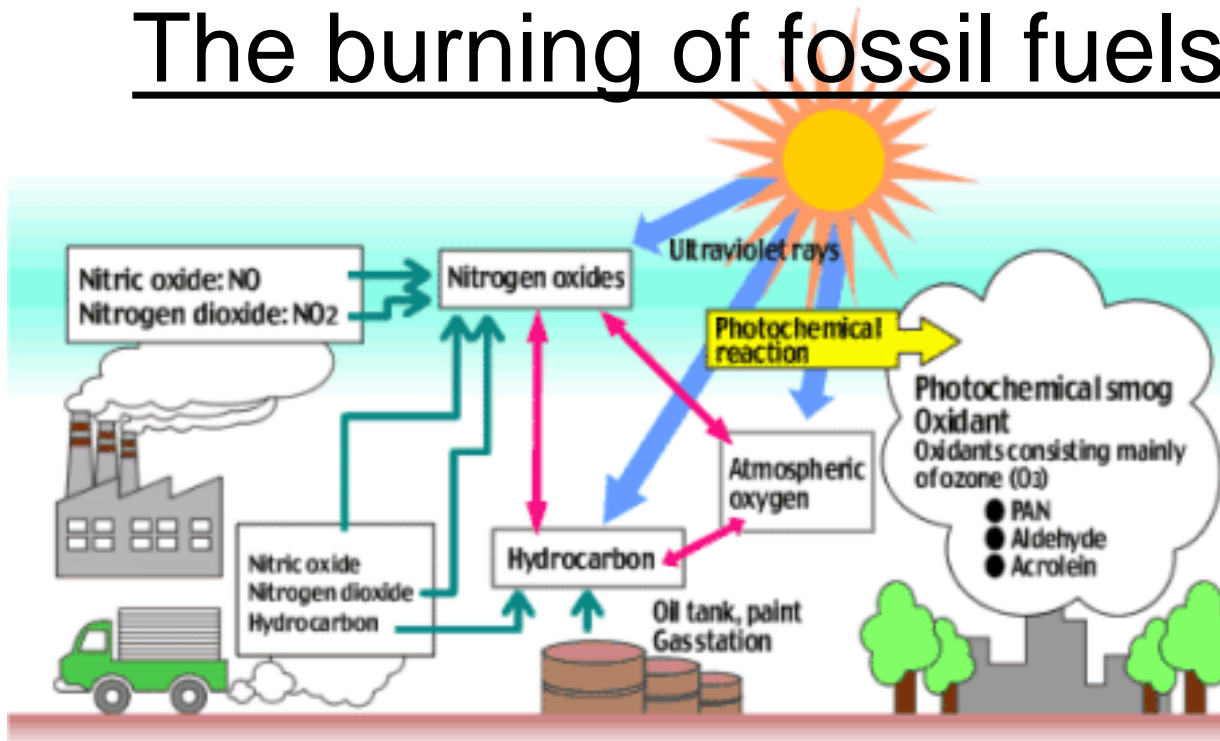
They provide shelter for wildlife, reducing runoff, and improving air quality as plants remove CO<sub>2</sub> from the air.



# Define photochemical smog: air pollution from chemicals and sunlight mixing

How do nitrogen and carbon atoms get released into the atmosphere?

## The burning of fossil fuels



# Define acid precipitation: rainwater with a lower pH than normal

The pH of normal rainwater is about 5.6.

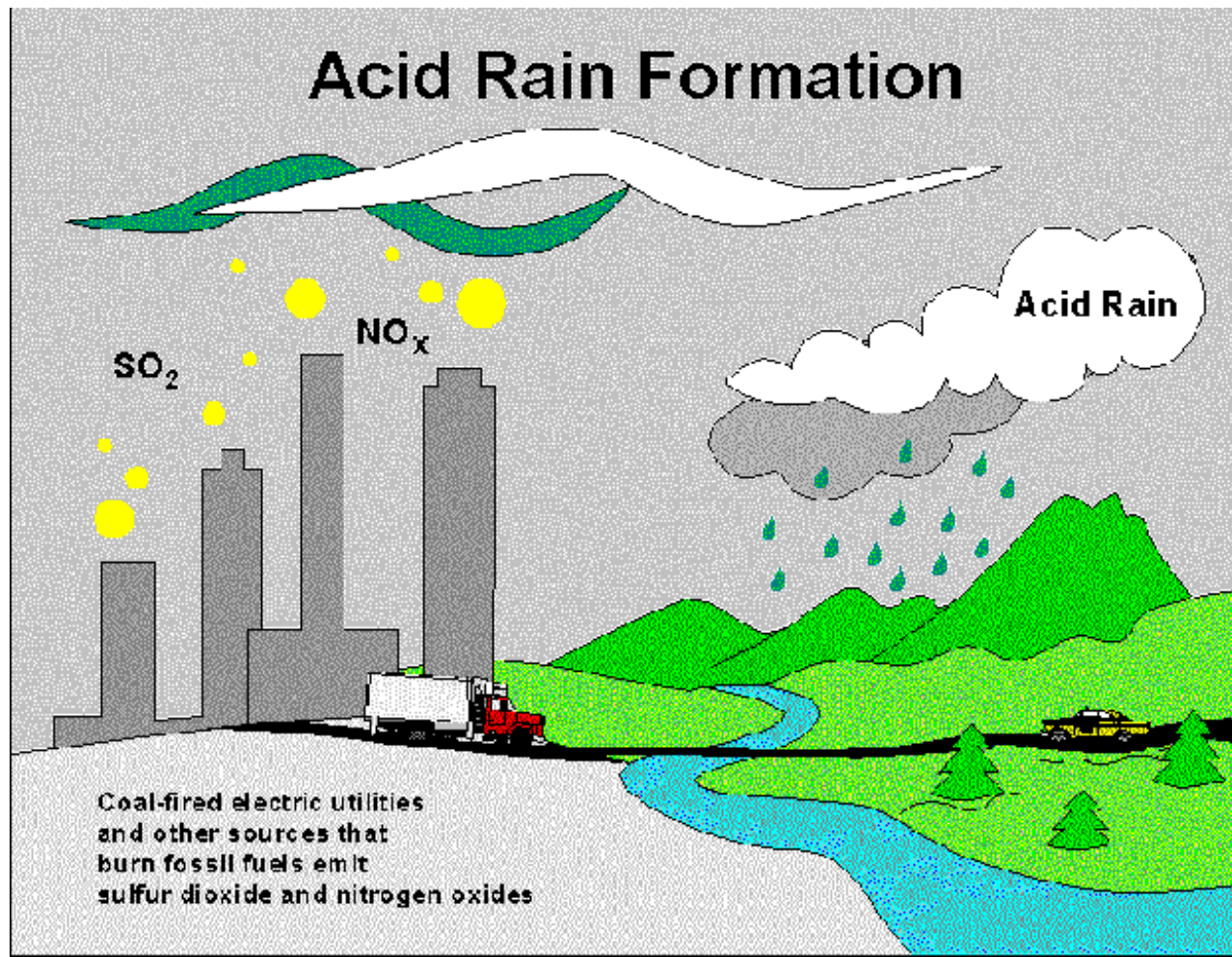
Water with lower levels cause water to be  
acidic



# What causes acid precipitation?

When gases containing nitrogen and sulfur react with water, oxygen, & other chemicals.

The burning of fossil fuels.



Define particulate matter:

the mix of both solid and liquid particles in the air.

What natural activities cause particulate matter to get into the air?

volcanic eruptions and forest fires.

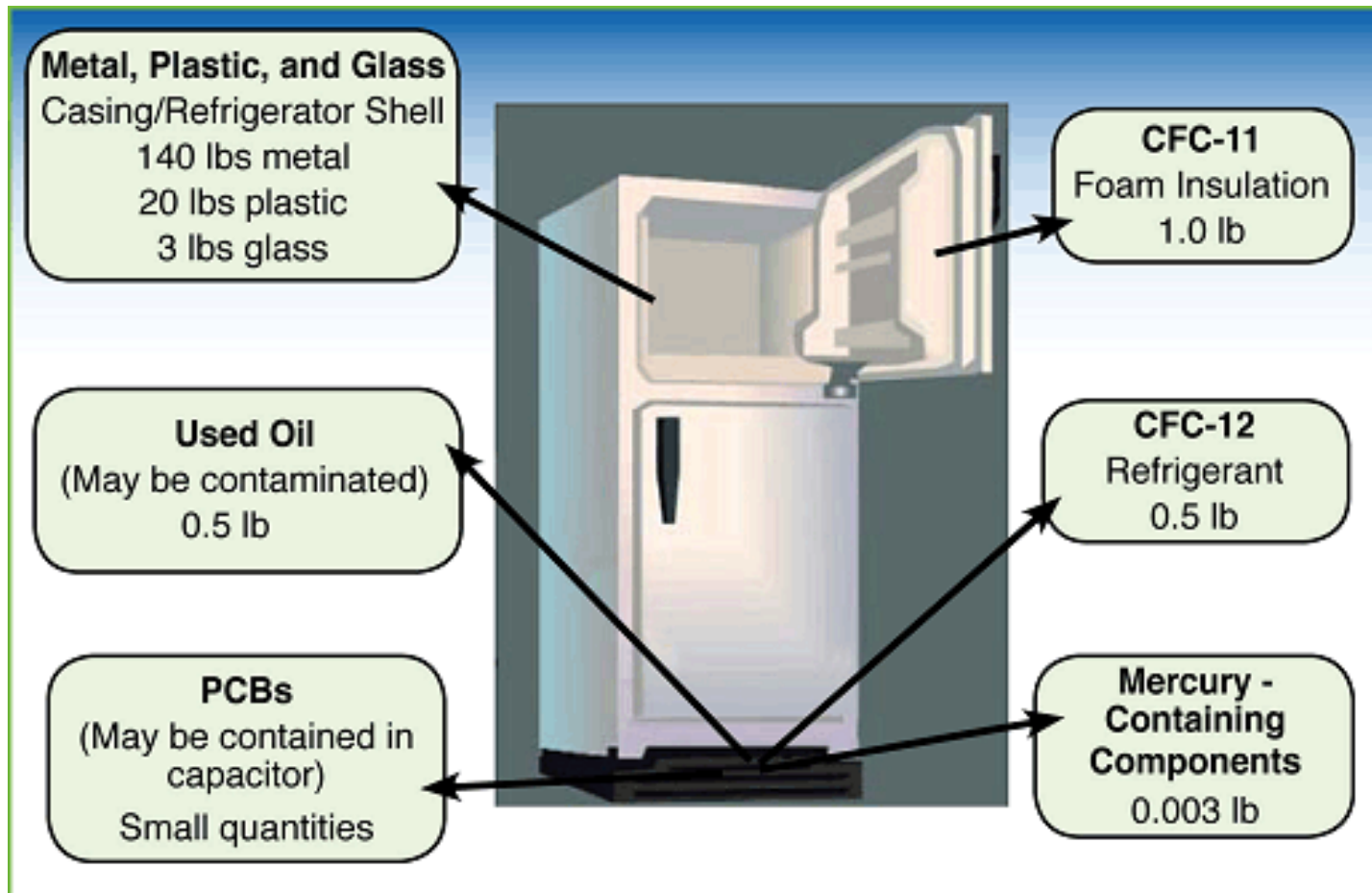


What human activities cause particulate matter to get into the air?

Burning of fossil fuels and vehicles

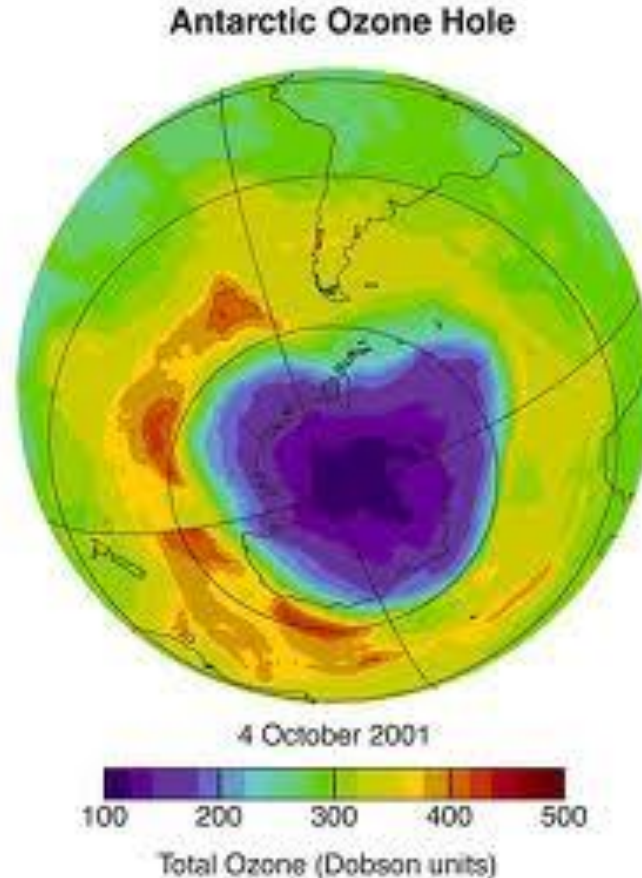
# What products are CFC chemicals found in?

## Older air conditioners and refrigerators



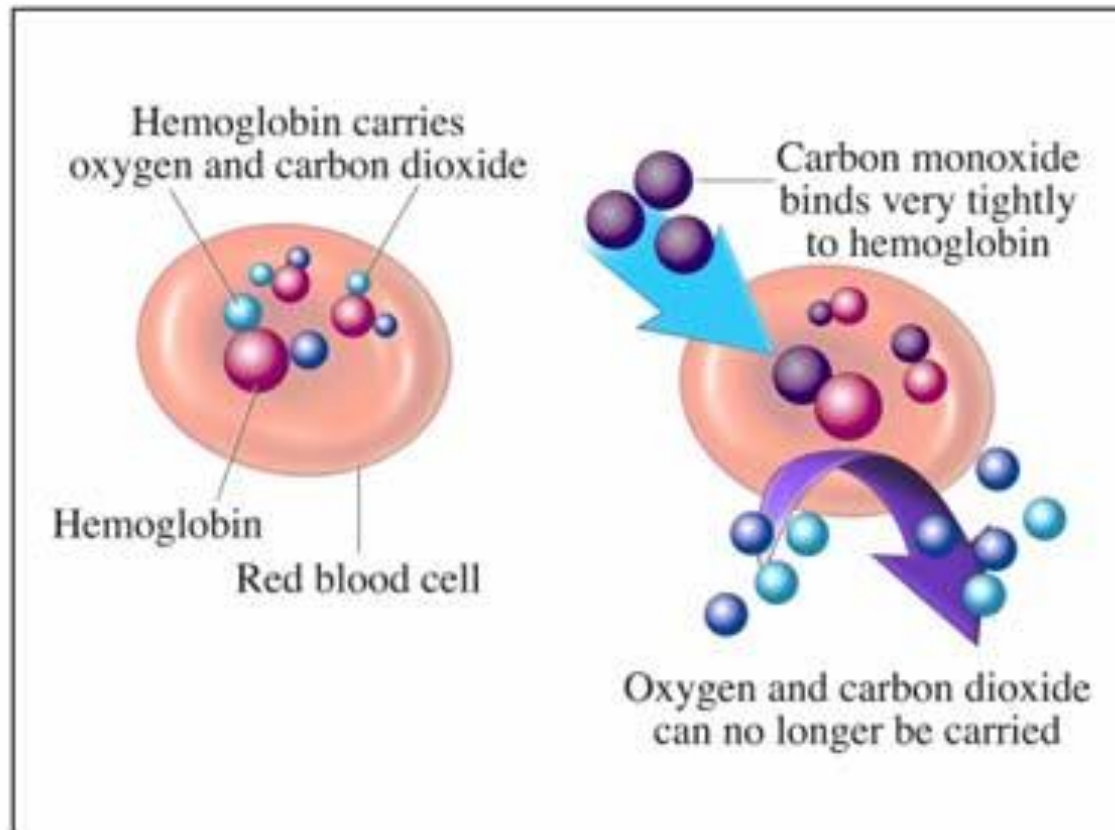
# What effect do CFCs have on the environment?

They destroy ozone molecules, which allows more UV rays to reach Earth's surface.



# What is the human health risk of too much carbon monoxide (CO) in the atmosphere?

Reduces the amount of oxygen that reaches the body's tissues and organs.



Define global warming:  
an increase in the average temperature of  
Earth's surface.

What are some negative effects of global warming? List 3 examples.

Higher sea levels (flooding), more severe  
storms, changes in vegetation

[Global Warming Video Clip](#)



Define greenhouse effect:  
natural process that occurs when certain  
gases in the atmosphere absorb thermal  
energy from the Sun.

What would happen to the Earth without  
the greenhouse effect?

We would be frozen and  
life would not exist on Earth.



# The Greenhouse Effect

Some sunlight that hits the earth is reflected. Some becomes heat.

CO<sub>2</sub> and other gases in the atmosphere trap heat, keeping the earth warm.

