

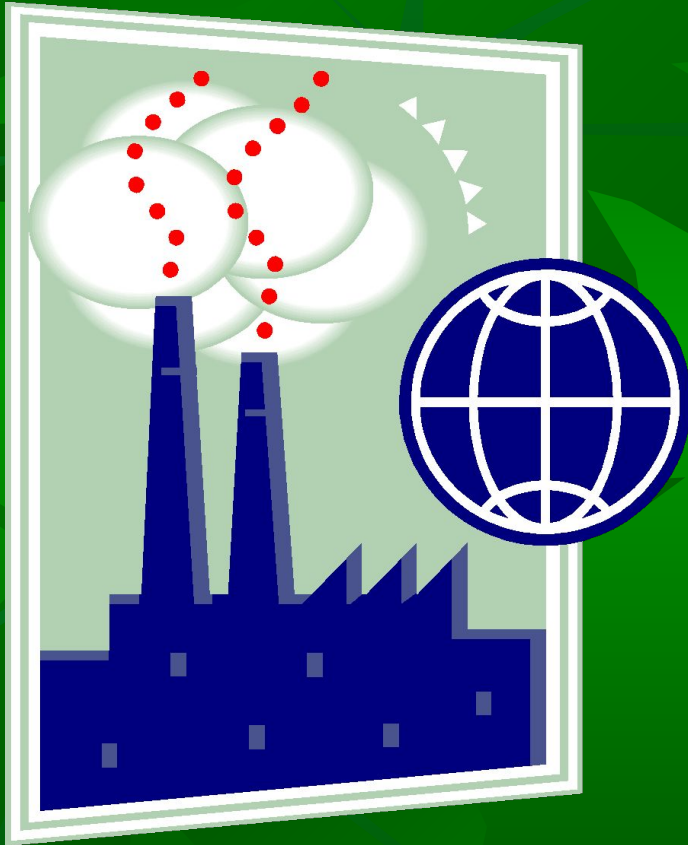


LEARN TO PROTECT  
LEARN TO PROTECT

**THE ENVIRONMENT**

Jeanne White

# GLOBAL PROBLEMS



AIR POLLUTION



WATER POLLUTION



TRASH AND LITTER

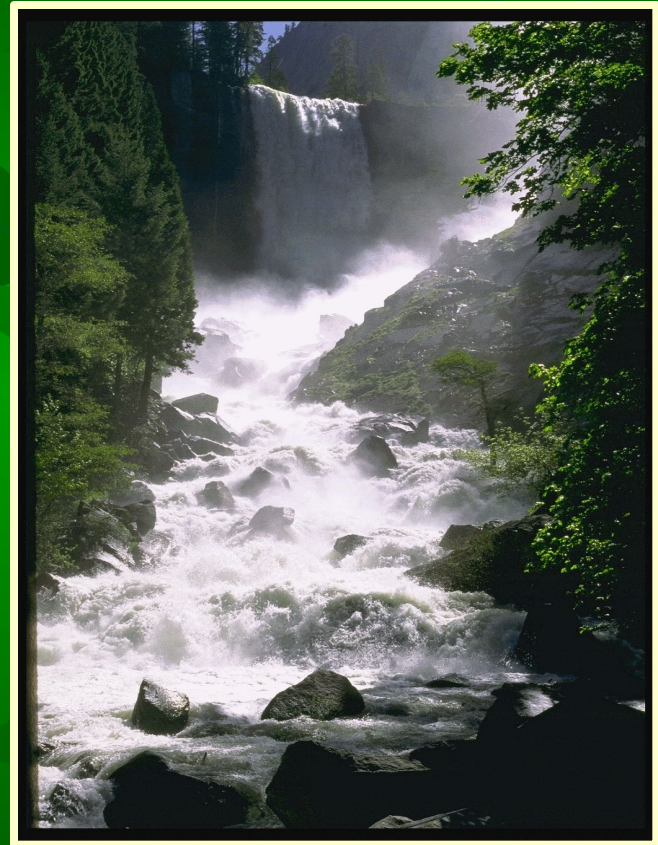


RECYCLING



# VOCABULARY

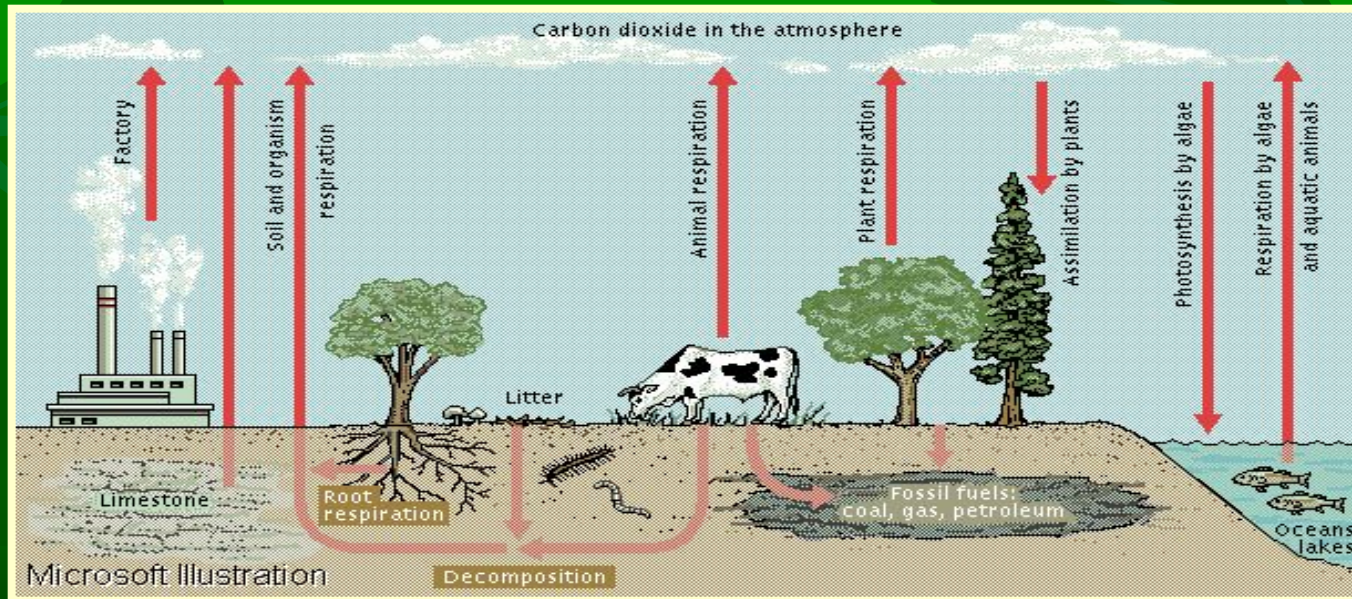
- **Environment** – окружающая среда
- **To protect** – охранять
- **Recycling** – вторичная переработка
- **To pollute** – загрязнять
- **Pollution** - загрязнение
- **Bad breath** - выхлопные газы
- **Chemicals** – химические отходы
- **Acid rains** – кислотные дожди
- **Wastes** – отходы
- **Trash, litter** – хлам, мусор
- **To harm** – причинять вред
- **Pesticides** – хим. средства для борьбы с вредителями
- **Energy “leaks”** –утечка энергии



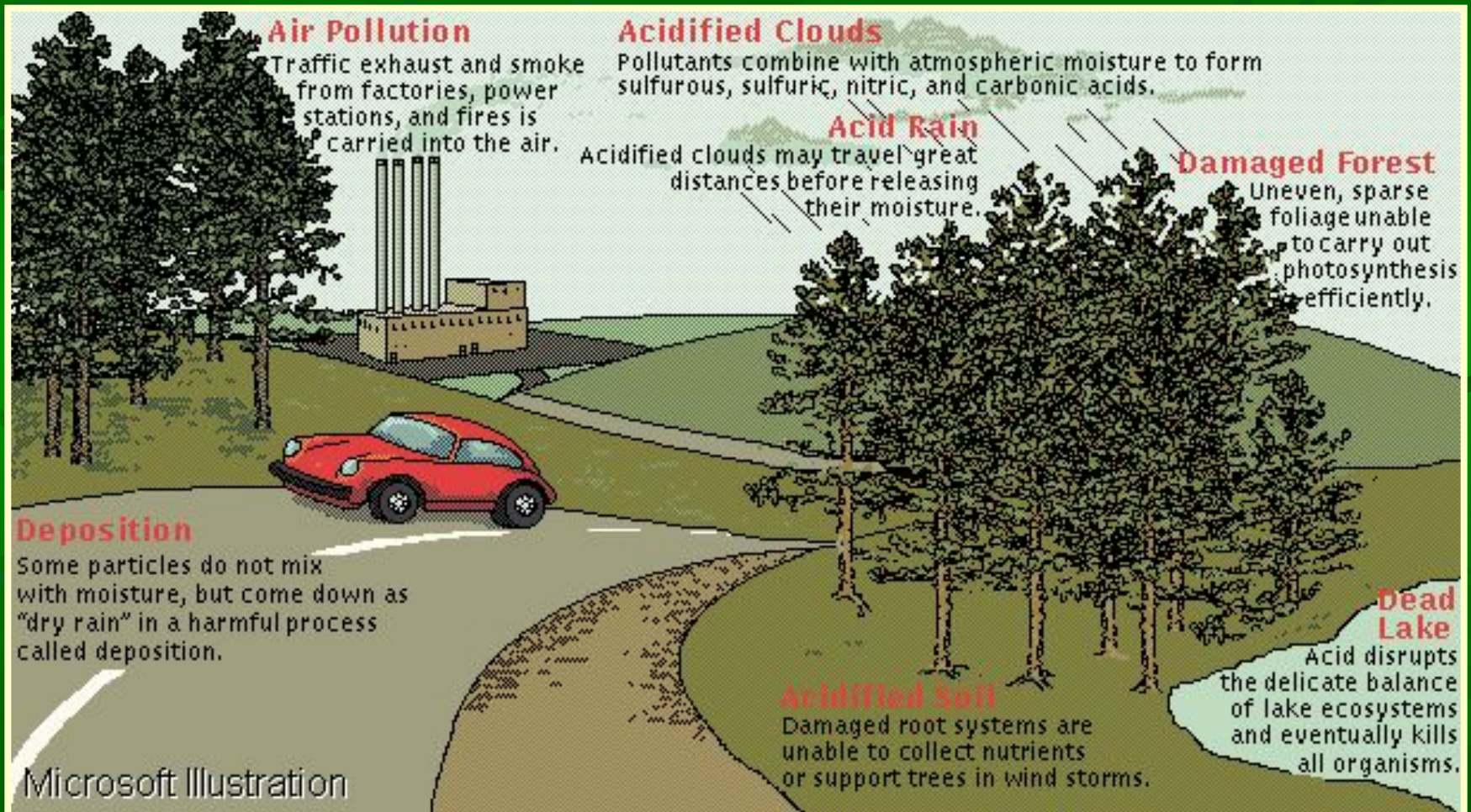
**Environment**, the thin layer of life and life supports called the biosphere, including the earth's air, soil, water, and living organisms

# CARBON CYCLE

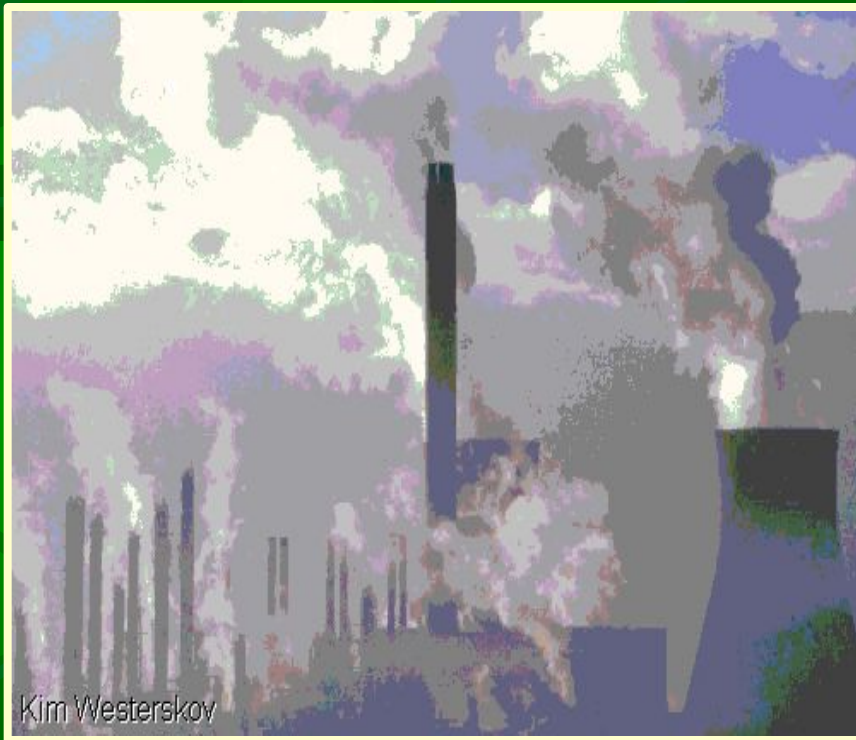
Carbon (углерод), used by all living organisms, continuously circulates in the earth's ecosystem. In the atmosphere, it exists as colorless, odorless carbon dioxide (углекислый газ) gas, which is used by plants in the process of photosynthesis. Animals acquire the carbon stored in plant tissue when they eat and exhale carbon dioxide as a by-product of metabolism. Although some carbon is removed from circulation temporarily as coal, petroleum, fossil fuels, gas, and limestone deposits, respiration and photosynthesis balance to keep the amount of atmospheric carbon relatively stable. Industrialization, however, has contributed additional carbon dioxide to the environment.



# AIR POLLUTION



# AIR POLLUTION



Smoke Billowing from Industrial  
Smokestacks

**Carbon dioxide, sulfur dioxide, and other types of contaminants pouring from industrial smokestacks contribute to worldwide atmospheric pollution.**

**Carbon dioxide contributes significantly to global warming, while sulfur dioxide is the principal cause of acid rain.**

**Other environmental problems stemming from smokestack emissions include respiratory diseases, poisoned lakes and streams, and damaged forests and crops.**

# *Pollution from Automobile Traffic*



**Automobile exhaust** contains a number of airborne pollutants that adversely affect the health of animals and plants and the chemical nature of the atmosphere. Carbon dioxide and hydrocarbon emissions, two of the major components of automobile exhaust, contribute significantly to global warming and are produced as a by-product of the combustion of petroleum-based fuels. Elevated carbon dioxide and hydrocarbon levels cause sunlight to be reflected and trapped within the atmosphere, which slowly raises the temperature of the atmosphere.

# *RESULTS OF AIR POLLUTION*

## Thermal Inversion

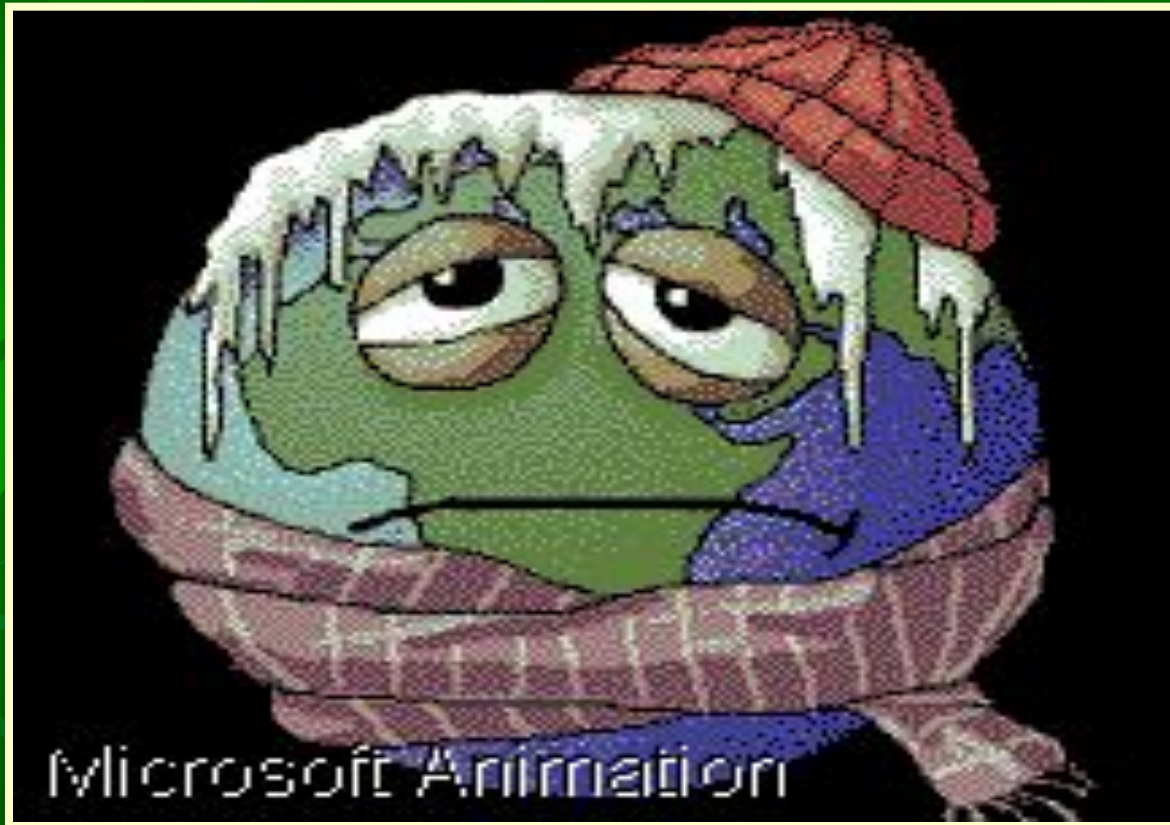
(тепловые аномалии)

Smog (туман) surrounds the Angel Monument in Mexico City, Mexico, during a thermal inversion. Air pollution increases dramatically as a mass of cold air is trapped below a warmer mass of air. The absence of wind circulation prevents pollution near the earth's surface from escaping.





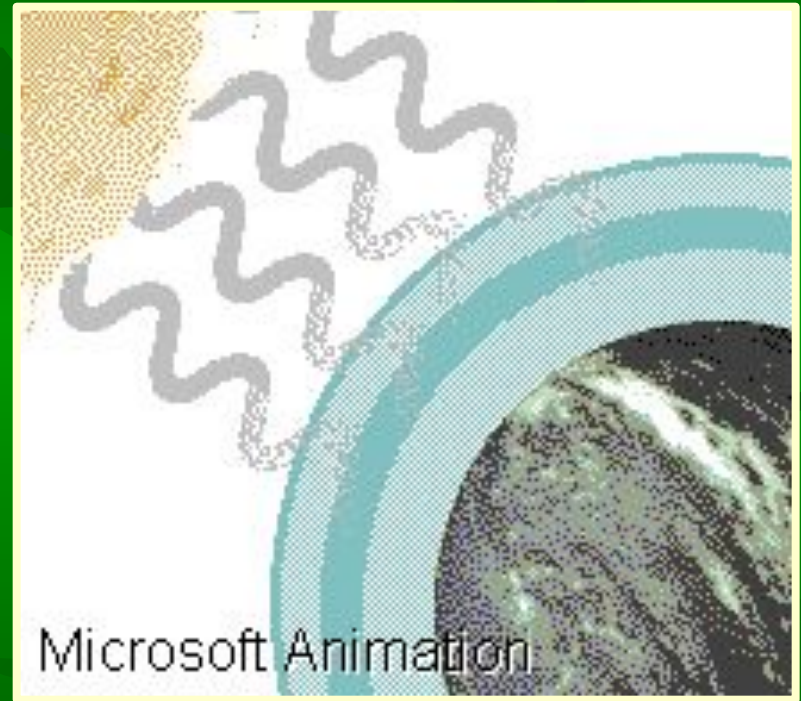
# *Greenhouse Effect*



**Global Warming**, an increase in the earth's temperature due to the use of fossil fuels and other industrial processes leading to a buildup of “greenhouse gases”

# *Ozone Destruction*

**In the 1970s and 1980s, scientists began to find that human activity was having a detrimental effect on the global ozone layer, a region of the atmosphere that shields the earth from the sun's harmful ultraviolet rays. Without this gaseous layer, which is about 40 km (about 25 mi) thick, no life could survive on the planet**



# *Acid Rain, form of air pollution*

## Forest Damaged by Acid Rain



Forests, lakes, ponds, and other terrestrial and aquatic environments throughout the world are being severely damaged by the effects of acid rain. Acid rain is caused by the combination of sulfur dioxide and nitrogen compounds with water in the atmosphere. In addition to chemically burning the leaves of plants, acid rain poisons lake water, killing most, if not all, the aquatic inhabitants.



# WATER POLLUTION



Ben Osborne

## Polluted River In The United Kingdom

The pollution of rivers and streams with chemical contaminants has become one of the most critical environmental problems of the 20th century.

- Acid rain is a major global problem. Acid rain corrodes metals, weathers stone buildings and monuments, injures and kills vegetation, and acidifies lakes, streams, and soils, especially in the poorly buffered regions of northeastern North America and northern Europe .
- It is estimated that each year 10 million people die worldwide from drinking contaminated water.

# WATER POLLUTION

## Exxon Valdez Oil Spill Cleanup

Workers washed the shoreline on Latouche Island, Alaska after the *Exxon Valdez* oil tanker ran aground in 1989, dumping more than 380 million liters (10 million gallons) of oil into Prince William Sound. The resulting environmental damage prompted the United States Congress to pass federal safety requirements for oil tankers and barges and to assign the principal cost of spill cleanup to oil companies.





Spencer Grant

## Oil Spill Clean-up

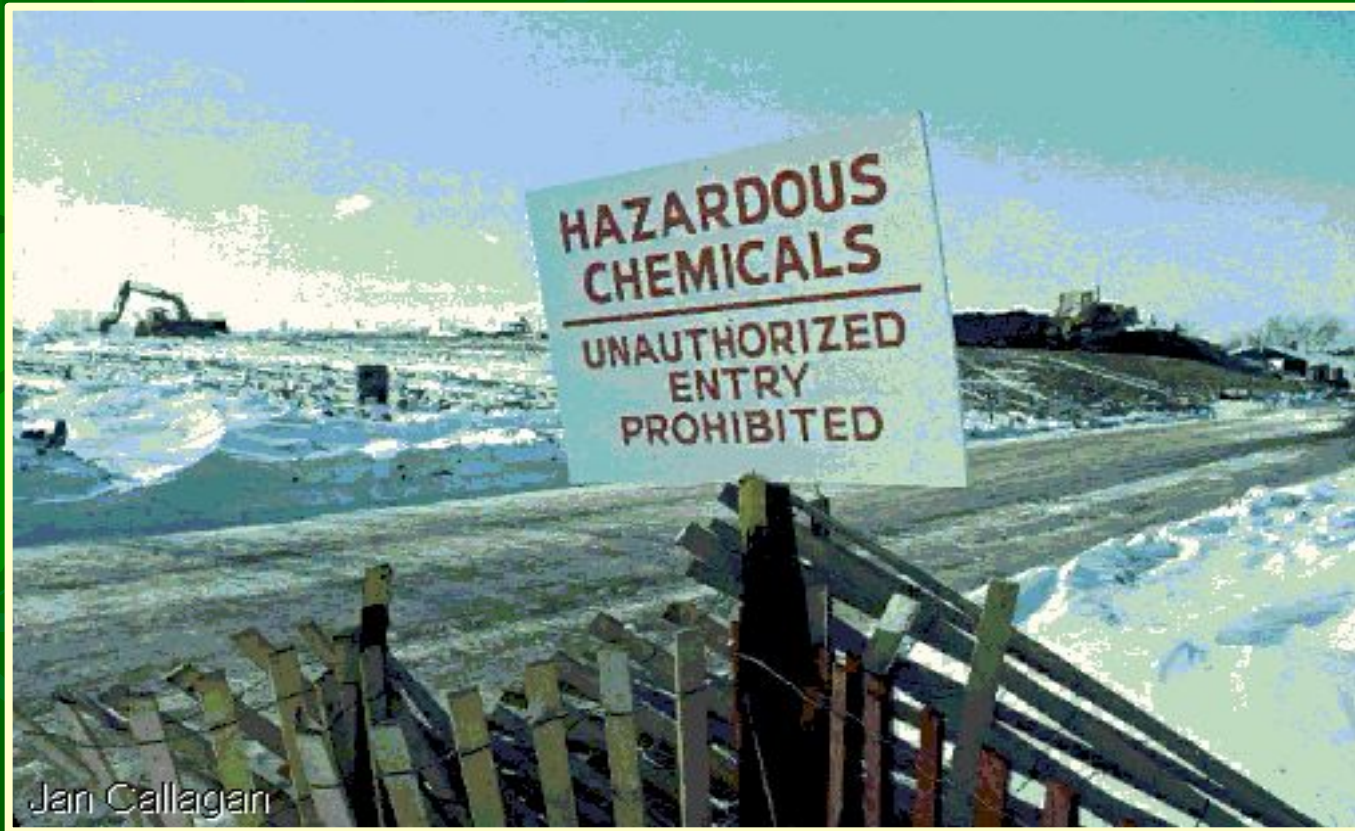
Workers use special nets to clean up a California beach following an oil tanker spill. Tanker spills are an increasing environmental problem because once oil has spilled, it is virtually impossible to completely remove or contain it. Even small amounts spread rapidly across large areas of water.

# *Demonstrators Protest Drilling*



Drilling – бурение скважин

# *Toxic Waste in Love Canal*



Residents of the Love Canal area in Niagara Falls were forced to evacuate when hazardous (опасные) wastes leaking from a former disposal site threatened their health and homes in the late 1970s.





# ANNUAL HOUSHOLD WASTE

COUNTRY	ANNUAL DOMESTIC WASTE (tons)	EQUIVALENT PER PERSON (kilograms)
Australia	10,000,000	680
Belgium	3,082,000	313
Canada	12,600,000	525
Denmark	2,046,000	399
Finland	1,200,000	399
France	15,500,000	288
Great Britain	15,816,000	282
Italy	14,041,000	246
Japan	40,225,000	288
Netherlands	5,400,000	381
New Zealand	1,528,000	488
Norway	1,700,000	415
Spain	8,028,000	214
Sweden	2,500,000	300
Switzerland	2,146,000	336
United States	200,000,000	875 !!!
West Germany	20,780,000	337

Microsoft Table

# *Overflowing Landfill*






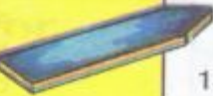



An average city dweller may produce a ton of refuse in a year, a volume that rapidly overflows local dumps. Cities running out of space for landfill often turn to incinerating their waste or transporting it to other areas, although up to 90 percent of the material might have been recycled.



Rafael Macia

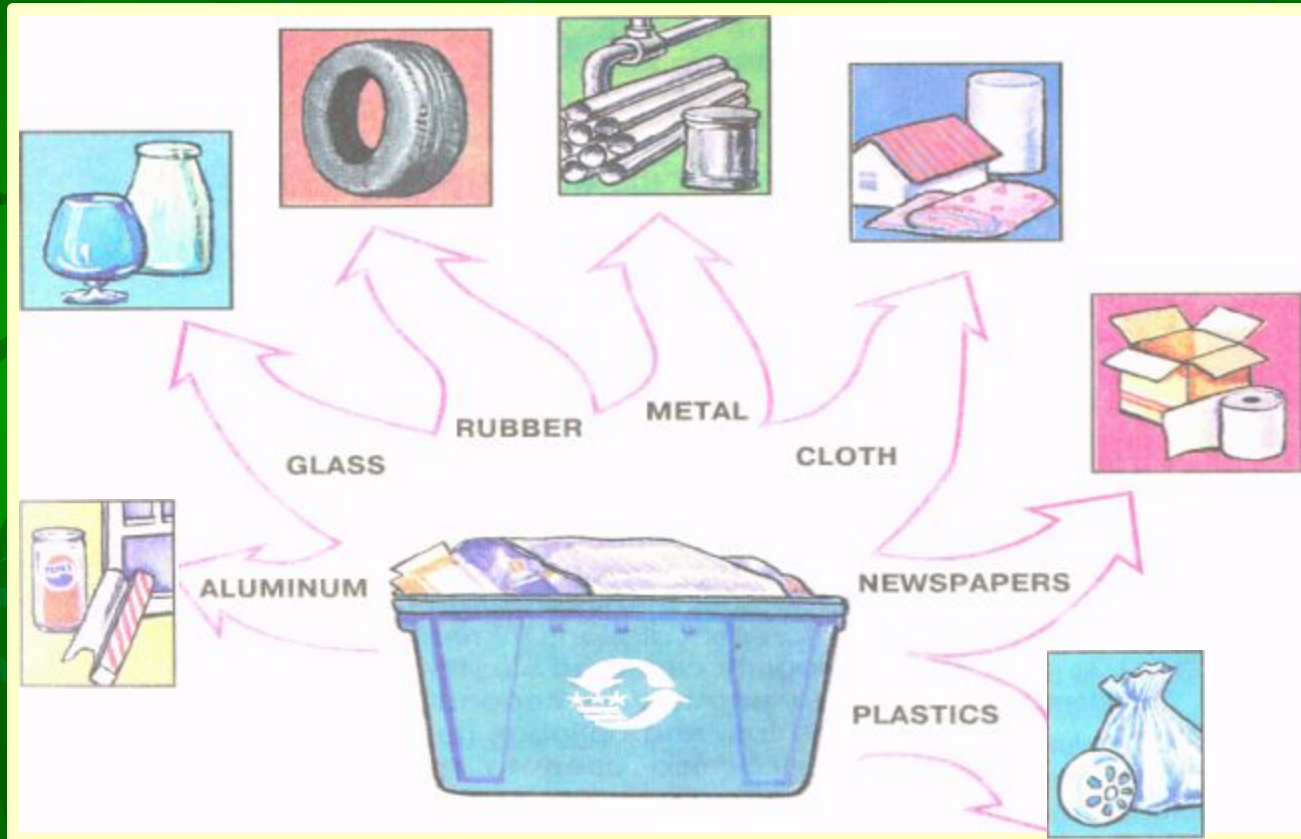
# LITTER LASTS



traffic ticket		1 month
banana peel		up to six months
wool sock		1 year
wooden stakes		4 years
wax paper cup		5 years
painting wooden stake		13 years
tin cans		100 years
aluminium cans plastic bottles		up to 500 years
glass containers		never



# TRASH BECOMES NEW PRODUCTS



This logo indicates the item is made from recycled materials.

This logo indicates the item can be recycled



# RECYCLING

## Recycling Aluminum Cans

In an effort to conserve nonrenewable natural resources, many industries and individuals recycle waste aluminum. At this collection point, the Alcoa Recycling Company in New Jersey processes aluminum cans into large bales.

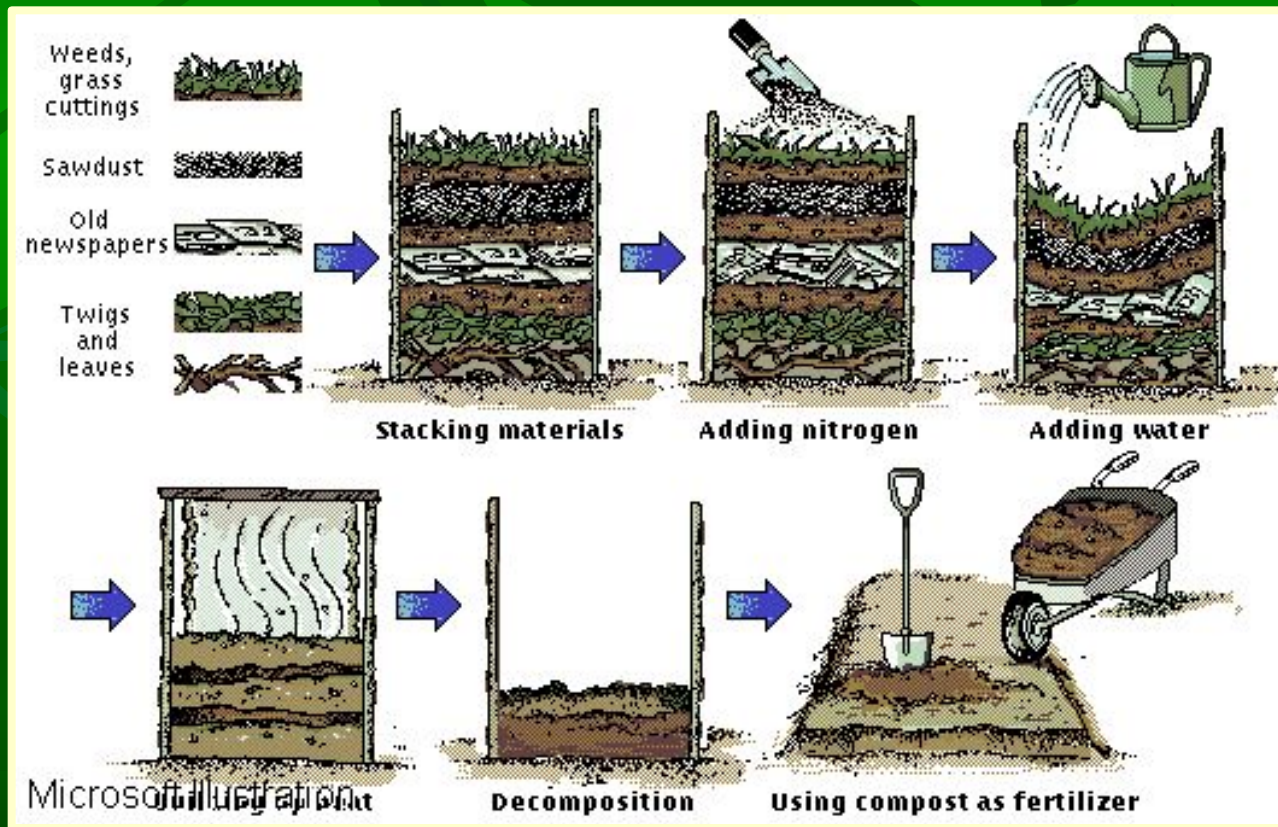


Hank Morgan/Science Source



# Composting and Organic Waste

Waste from the garden, yard, and table does not have to be thrown away. It may be condensed and reused as a fertilizer through a process called composting. The compost is then applied to plants as a fertilizer.



# *Plant Generates Energy from Garbage*



**Garbage is converted to useful energy in this solid waste plant.**  
(отбросы)

# QUESTIONS FOR DISCUSSION



- What can cause air pollution?
- What does acid rain harm?
- Where do some companies dump their chemical waste?
- What kinds of energy are renewable?
- What is an “energy leak” and what are the ways of solving this problem?
- Why do farmers spray chemicals on crops?
- Why do you think recycling programs are important?
- Is there a lot of trash in your village?
- What noble work do the people of “Greenpeace” do?
- Why must technology bring apology to ecology?

**What do you think you should do  
to protect the environment?**



**MAKE A POSTER CALLING TO PROTECT THE ENVIRONMENT.**