Date _____

# AIM: Pollution: Types and Effects?

**Pollution:**

when too much of a substance or form of energy adversely affects the environment and/or organisms living in it

## Pollution Source Classifications

1. **anthropogenic**
(from human activities)
v.
**natural**
(volcanic eruptions, wildfires, natural disasters, pollen, animal wastes)

2. **point**

single identifiable source (PS)

Examples:
oil leak from oil tanker
smokestack from factory
thermal plume from nuclear power plant
chemical plume from a factory

v. **nonpoint**

often dispersed and difficult to identify source (NPS)

Examples:
litter on city streets
runoff from streets carries oil from different cars
runoff carries fertilizers from several farms / lawns

## Severity of Pollutants

1. **chemical nature**

how active and harmful a pollutant is to living organisms (toxicity)

2. **persistence** - how long a pollutant stays in the environment

a. *nonpersistent (degradable)*
breaks down by natural or biological processes (food scraps, paper)

b. *persistent (slowly degradable)*
decades or longer to break down (plastics)

c. *nondegradable*
cannot be broken down (heavy metals)

3. **concentration**

amount per unit volume or weight (ppm or ppb)

**The Synergistic Effect of Pollutants:**

***synergistic:*** an interaction that produces a combined effect greater than the sum of their separate effects

## Pollution Control

1. proactive

"input pollution control"
attempts to stop pollutants from entering the environment

*the 4 "r"s (reduce, reuse, recycle, refuse)*

2. reactive

"output pollution control"

cleaning up pollutants after they have been produced

- "temporary bandage"
- pollutants just get moved to another environment
- more costly to remove pollutants after they've been dispersed