LOOK OVER UNIT 6 VOCAB

Do Now

AIR POLLUTION

PRIMARY AND SECONDARY POLLUTANTS

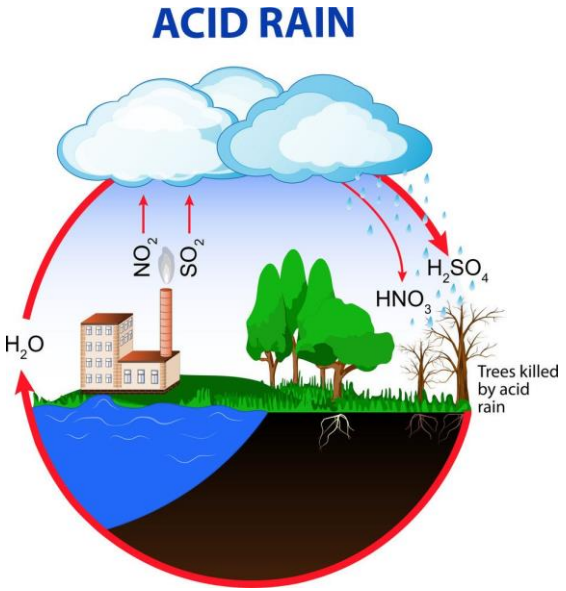
- A **primary pollutant** is a pollutant that is put directly into the atmosphere by human or natural activity.
  - Ex: **soot from smoke**
- A **secondary pollutant** is a pollutant that forms in the atmosphere by chemical reactions with primary air pollutants, natural components in the air, or both.
  - Ex: **ground-level ozone**
- Ground level ozone forms when the emission from cars react with the UV rays of the sun and then mix with the oxygen in the atmosphere.

PRIMARY AIR POLLUTANTS

Pollutant	Description	Primary Sources	Effects
Carbon monoxide (CO)	CO is an odorless, colorless, poisonous gas. It is produced by the incomplete burning of fossil fuels.	Sources of CO are cars, trucks, buses, small engines, and some industrial processes.	CO interferes with the blood's ability to carry oxygen, slowing reflexes and causing drowsiness. In high concentrations, CO can cause death.
Nitrogen oxides (NO_x)	When combustion (burning) temperatures exceed 538°C, nitrogen and oxygen combine to form nitrogen oxides.	NO_x comes from burning fuels in vehicles, power plants, and industrial boilers.	NO_x can make the body vulnerable to respiratory infections, lung diseases, and cancer. NO_x contributes to the brownish haze seen over cities and to acid precipitation.
Sulfur dioxide (SO_2)	SO_2 is produced by chemical interactions between sulfur and oxygen.	SO_2 comes mostly from burning fossil fuels.	SO_2 contributes to acid precipitation as sulfuric acid. Secondary pollutants that result from reactions with SO_2 can harm plant life and irritate the respiratory systems of humans.
Volatile organic compounds (VOCs)	VOCs are organic chemicals that vaporize readily and form toxic fumes.	VOCs come from burning fuels. Vehicles are a major source of VOCs.	VOCs contribute to smog formation and can cause serious health problems, such as cancer. They may also harm plants.
Particulate matter (particulates or PM)	Particulates are tiny particles of liquid or solid matter.	Most particulates come from construction, agriculture, forestry, and fires. Vehicles and industrial processes also contribute particulates.	Particulates can form clouds that reduce visibility and cause a variety of respiratory problems. Particulates have also been linked to cancer. As well, they may corrode metals and erode buildings and sculptures.

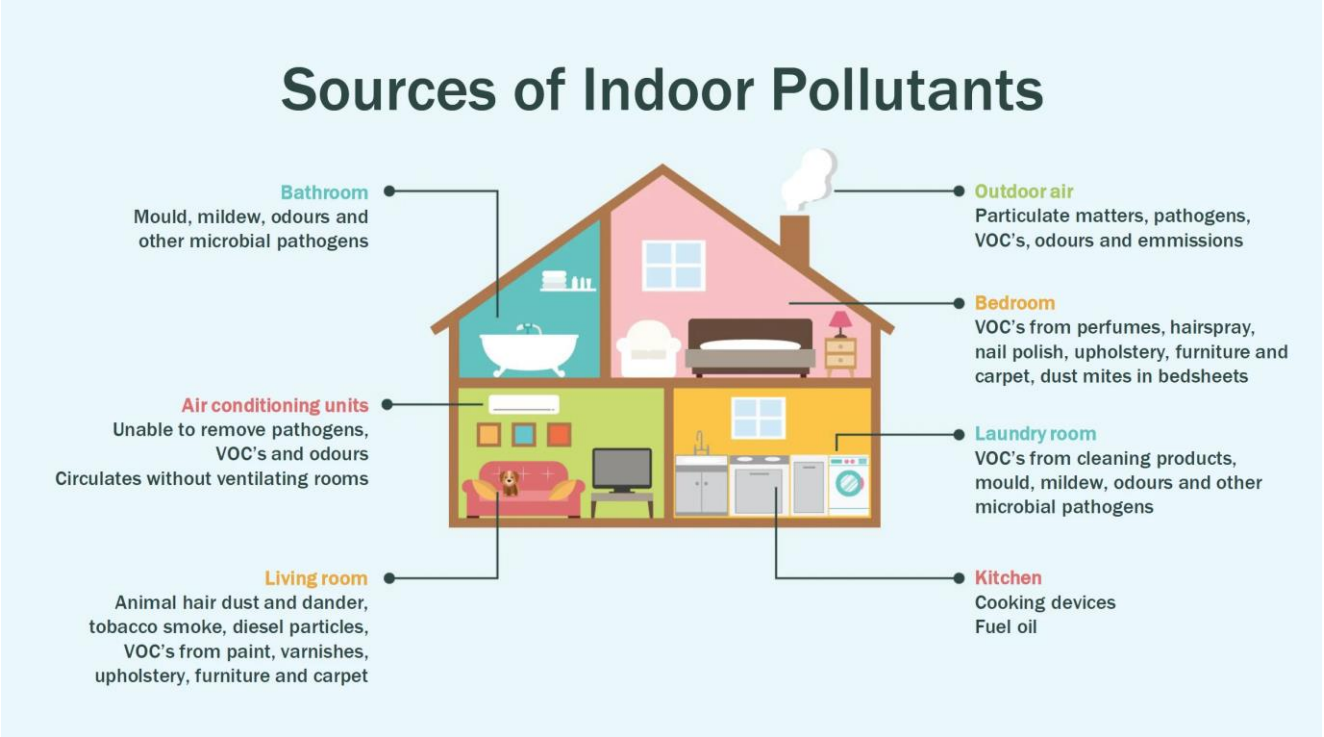
ACID PRECIPITATION

- When fossil fuels are burned, they release nitrogen dioxide and sulfur dioxide.
- When the dioxides combine with water in the atmosphere, they form sulfuric acid and nitric acid, which fall as acid precipitation.
- The acidic water flows over and through the ground, and into lakes, rivers, and streams.
- Acid precipitation can kill living things, and can result in the decline or loss of some local animal and plant populations.



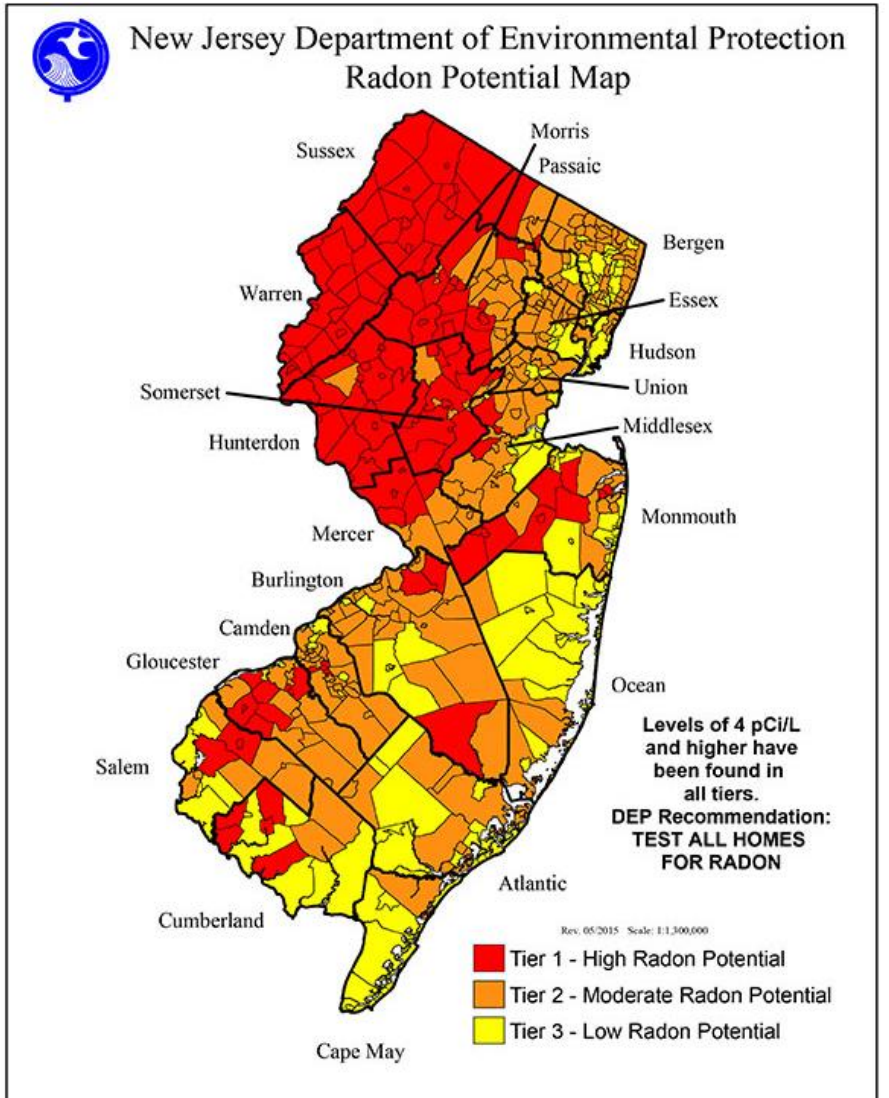
INDOOR AIR POLLUTION

- The quality of air inside a home or building is sometimes worse than the quality of air outside.
- Major sources of pollution:
  - **Plastics**
  - **Industrial chemicals**
- These compounds can be found in
  - **Carpets**
  - **Building materials**
  - **Paints**
  - **Furniture**



RADON GAS

- **Radon gas** is colorless, tasteless, odorless, and radioactive.
- Radon can **seep** through cracks and holes in foundations into buildings where it adheres to dust particles.
- When people inhale the dust, radon enters their lungs. In the lungs, radon can destroy cells that line the air passages.
- Such damage can lead to **cancer**, especially among people who smoke.
- Radon is the **second-leading** cause of lung cancer in the United States.



ASBESTOS

- Asbestos is primarily used as an **insulator and as a fire retardant**, and it was used extensively in building materials.
- However, the government banned the use of most asbestos products in the early 1970s.
- Asbestos fibers can **cut and scar** the lungs, causing the disease asbestosis.
- Victims of the disease have difficulty breathing and may eventually die of heart failure.