

## Chapter 3 Section 2 Notes

**The Atmosphere** – the part of Earth that contains the air we breathe

### Composition of the Atmosphere

- The most abundant gas in Earth's atmosphere is nitrogen.
- The second most abundant gas in Earth's atmosphere is oxygen.
- Aerosols are tiny, liquid droplets found in the atmosphere

### Layers of the Atmosphere

- **Troposphere** – the layer of Earth's atmosphere that's the densest and closest to the surface; as altitude increases temperature and pressure decrease
- **Stratosphere** – the atmospheric layer above the troposphere
  - Ozone is a molecule made up of three oxygen atoms
    - Ozone layer absorbs ultraviolet radiation
- **Mesosphere** – the coldest layer of Earth's atmosphere
- **Thermosphere**
  - **Ionosphere** is the lower thermosphere
    - **Ions** are electrically charged atoms

### Energy in the Atmosphere

#### Mechanisms of energy transfer

- Radiation is the transfer of energy through space
- Convection is the transfer of heat by air currents (or currents in a liquid).
- Conduction is the flow of heat from a warmer object to a colder object when the objects are placed in direct physical contact. It's how air is heated near Earth's surface

### The Greenhouse Effect

The greenhouse effect is the warming of the surface and lower atmosphere of Earth that occurs when carbon dioxide, water vapor, and other gases in the air absorb and reradiate infrared radiation.

- Carbon dioxide is an important greenhouse gas. It's also the gas that animals exhale.
- Methane is one of the most abundant greenhouse gases.