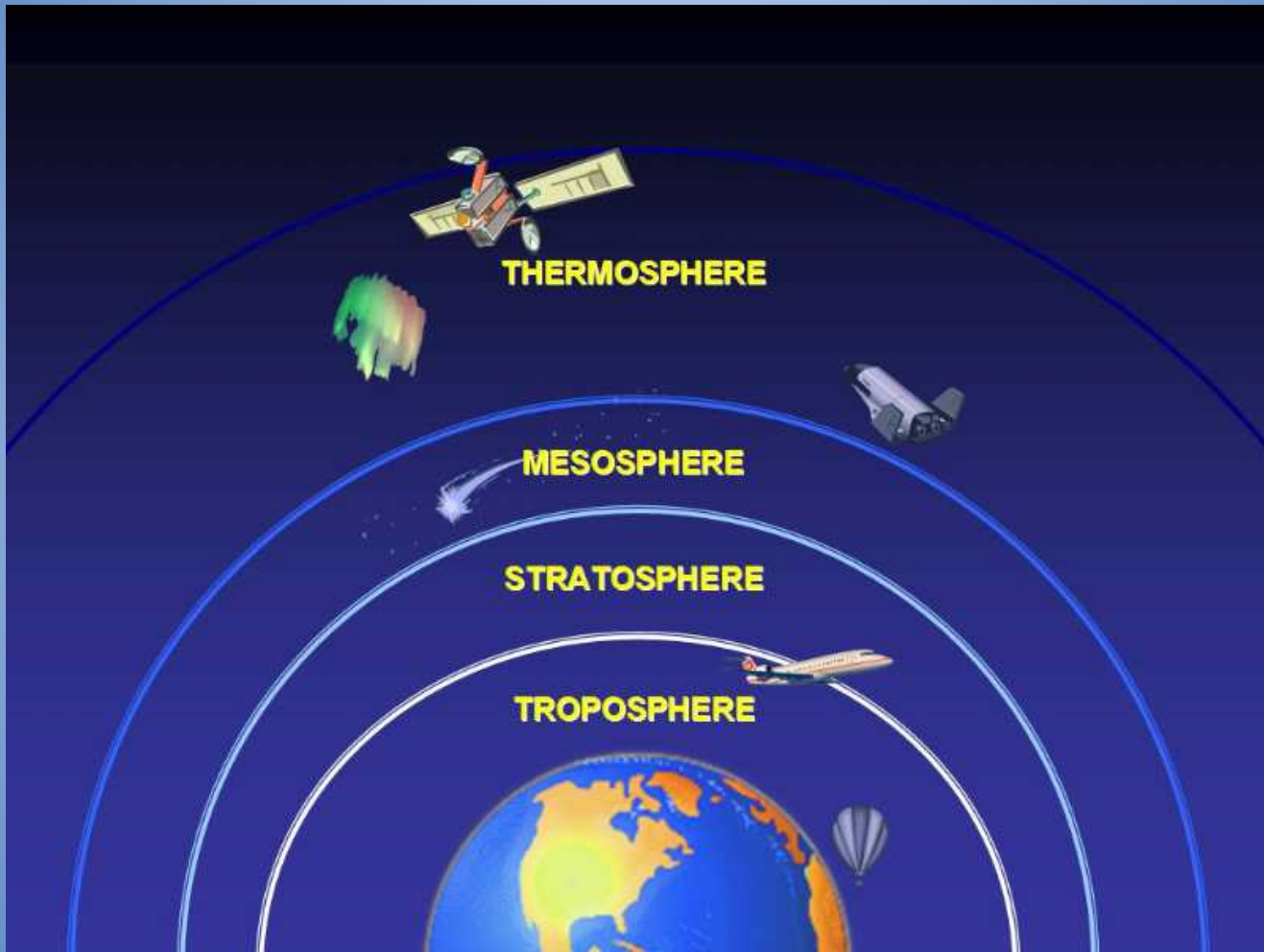


# Air Pollution Unit

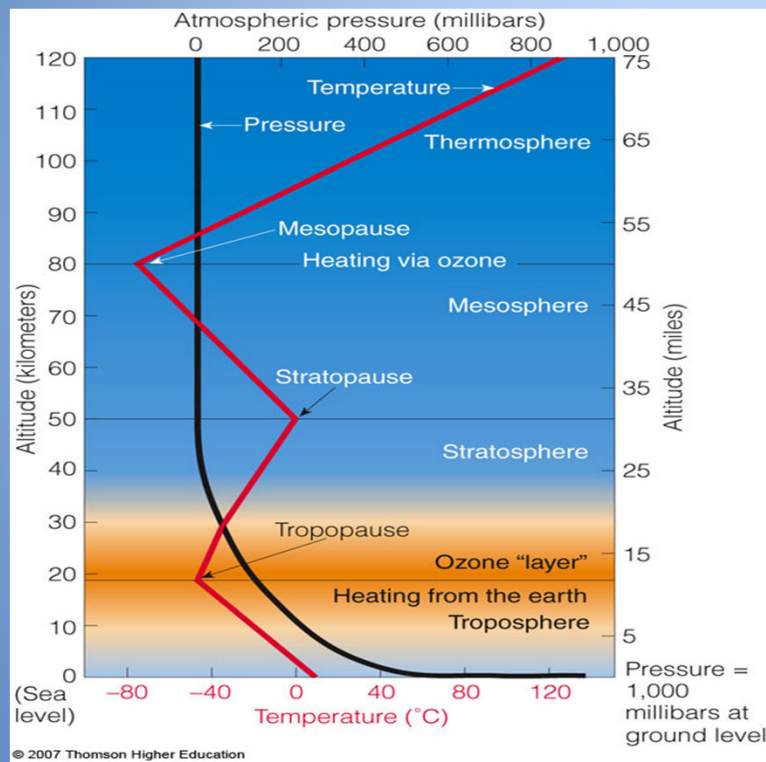
Day 1: Atmospheric Structure

## Composition of the Atmosphere

- Components – Oxygen 21%, Nitrogen 78%
- Layers – troposphere, stratosphere, mesosphere, thermosphere, exosphere (extends from 310 miles to interplanetary space)



# STRUCTURE AND SCIENCE OF THE ATMOSPHERE

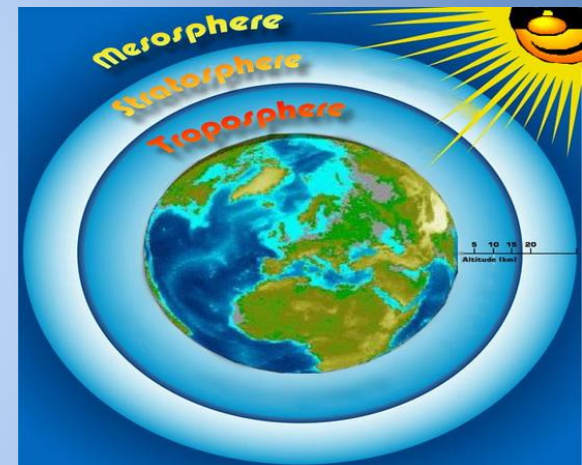


- The atmosphere consists of several layers with different temperatures, pressures, and compositions.

Figure 19-2

# STRUCTURE AND SCIENCE OF THE ATMOSPHERE

- The atmosphere's innermost layer (troposphere) is made up mostly of nitrogen and oxygen, with smaller amounts of water vapor and CO<sub>2</sub>.
- Ozone in the atmosphere's second layer (stratosphere) filters out most of the sun's UV radiation that is harmful to us and most other species.

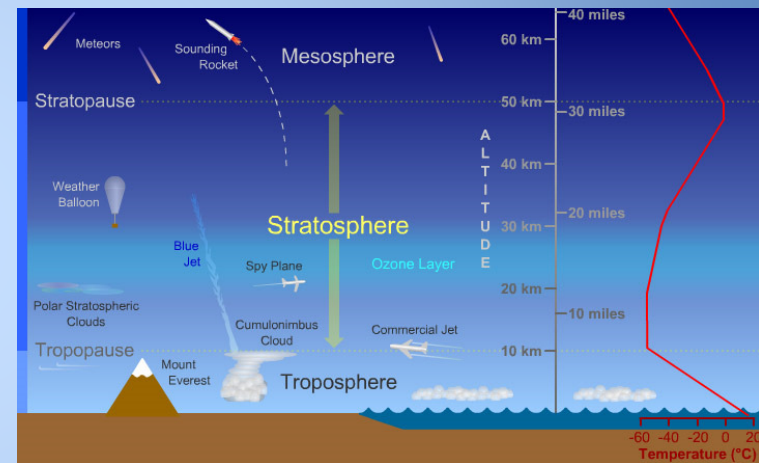


# Troposphere

- 75% of mass of atmosphere
- 78% nitrogen, 21% oxygen
- Location of Earth's weather
- Temperature decreases with altitude until the next layer is reached, where there is a sudden rise in temperature

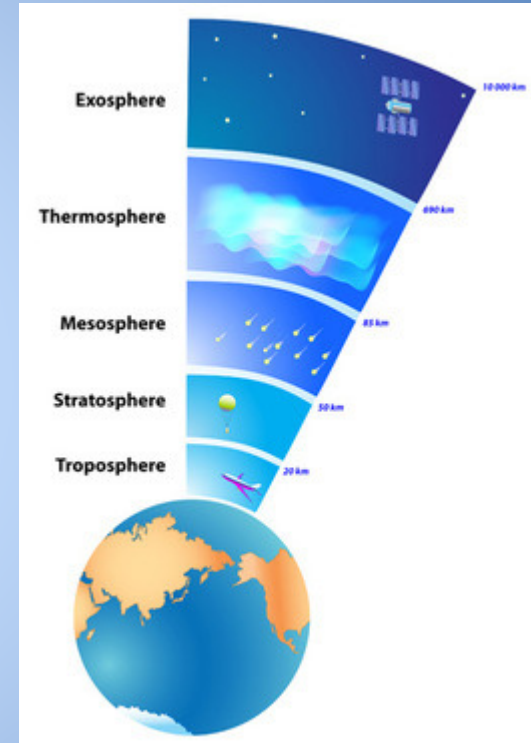
# Stratosphere

- Temperature increases with altitude
- Contains 1000x the ozone of the rest of the atmosphere
- aka the ozone layer
- 99% of ultraviolet radiation (especially UV-B) is absorbed by ozone in the stratosphere



# Mesosphere

- The temperature decreases with increasing altitude





# Thermosphere

- Temperature increases with increasing altitude
- Very high temperatures

