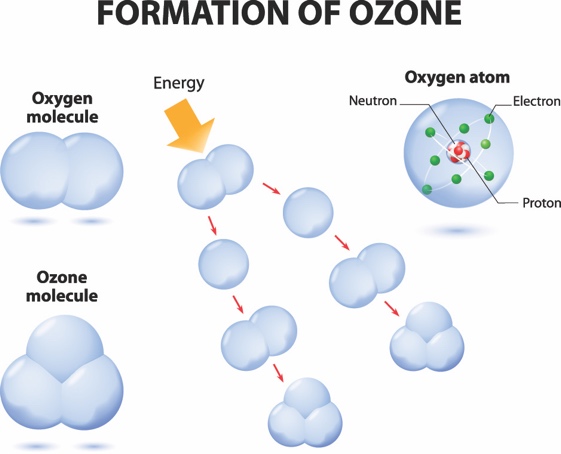
**Guided Notes: Greenhouse Gases and Ozone**



\_\_\_\_\_\_\_\_\_\_\_\_ gases absorb and reradiate infrared radiation in the atmosphere, contributing to the \_\_\_\_\_\_\_\_\_\_\_\_ effect and climate change.

**Key Concepts:**

• The greenhouse effect:

- Earth's surface absorbs \_\_\_\_\_\_\_\_\_\_\_\_ and near-infrared light

- Surface reradiates energy as \_\_\_\_\_\_\_\_\_\_\_\_ infrared

- Some gases absorb and \_\_\_\_\_\_\_\_\_\_\_\_ this energy, warming the atmosphere

• Main greenhouse gases:

1. Water \_\_\_\_\_\_\_\_\_\_\_\_

2. Carbon \_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_

4. Nitrous \_\_\_\_\_\_\_\_\_\_\_\_

5. \_\_\_\_\_\_\_\_\_\_\_\_ (in troposphere)

6. Industrial gases (e.g., \_\_\_\_\_\_\_\_\_\_\_\_)

• Ozone (O3):

- "Good ozone" in \_\_\_\_\_\_\_\_\_\_\_\_: forms protective layer against UV radiation

- "Bad ozone" in \_\_\_\_\_\_\_\_\_\_\_\_: can cause respiratory issues

- Ozone hole: \_\_\_\_\_\_\_\_\_\_\_\_ in ozone over Antarctica

• Montreal Protocol (1987):

- Agreement to stop production of \_\_\_\_\_\_\_\_\_\_\_\_-depleting gases

- Has led to slow \_\_\_\_\_\_\_\_\_\_\_\_ of the ozone hole

**Real World Examples:**

1. Car interior heating: Similar to greenhouse effect, trapping heat inside

2. Seasonal ozone variations: Levels \_\_\_\_\_\_\_\_\_\_\_\_ at middle and high latitudes in winter and peak in spring

**Word Bank:**

Greenhouse

greenhouse

visible

far

reradiate

vapor

dioxide

methane

oxide

ozone

chlorofluorocarbons

stratosphere

troposphere

decrease

ozone

reduction

increase