

Climate Change & the Carbon Cycle

Essential Questions:

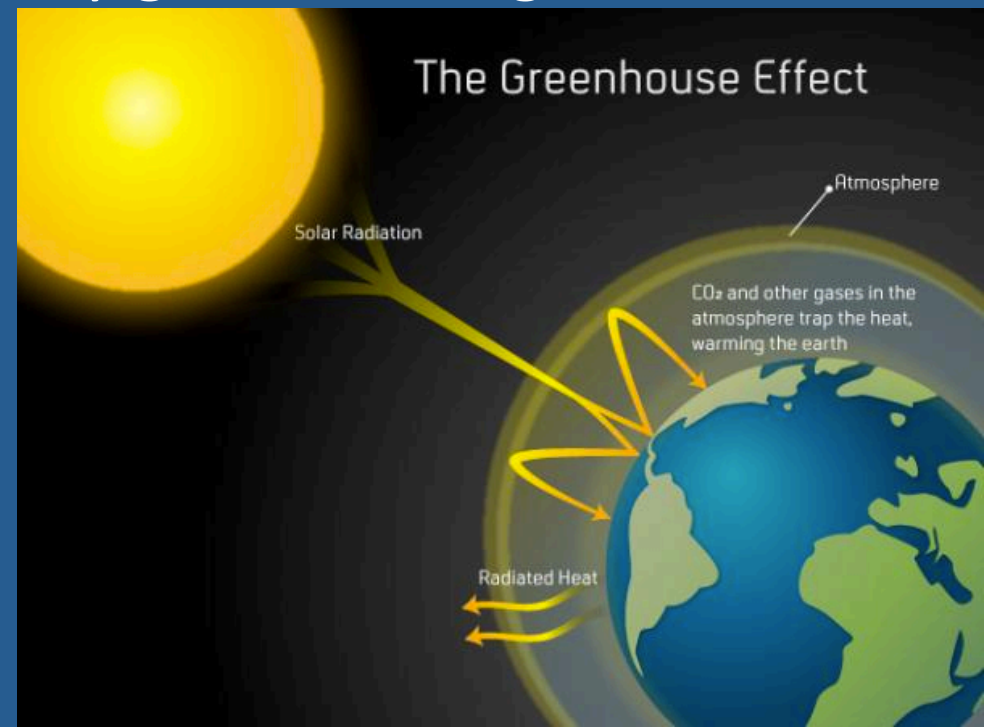
- How do concentrations of gases affect climates experienced at Earth's surface?
- How do humans affect the global carbon cycle?



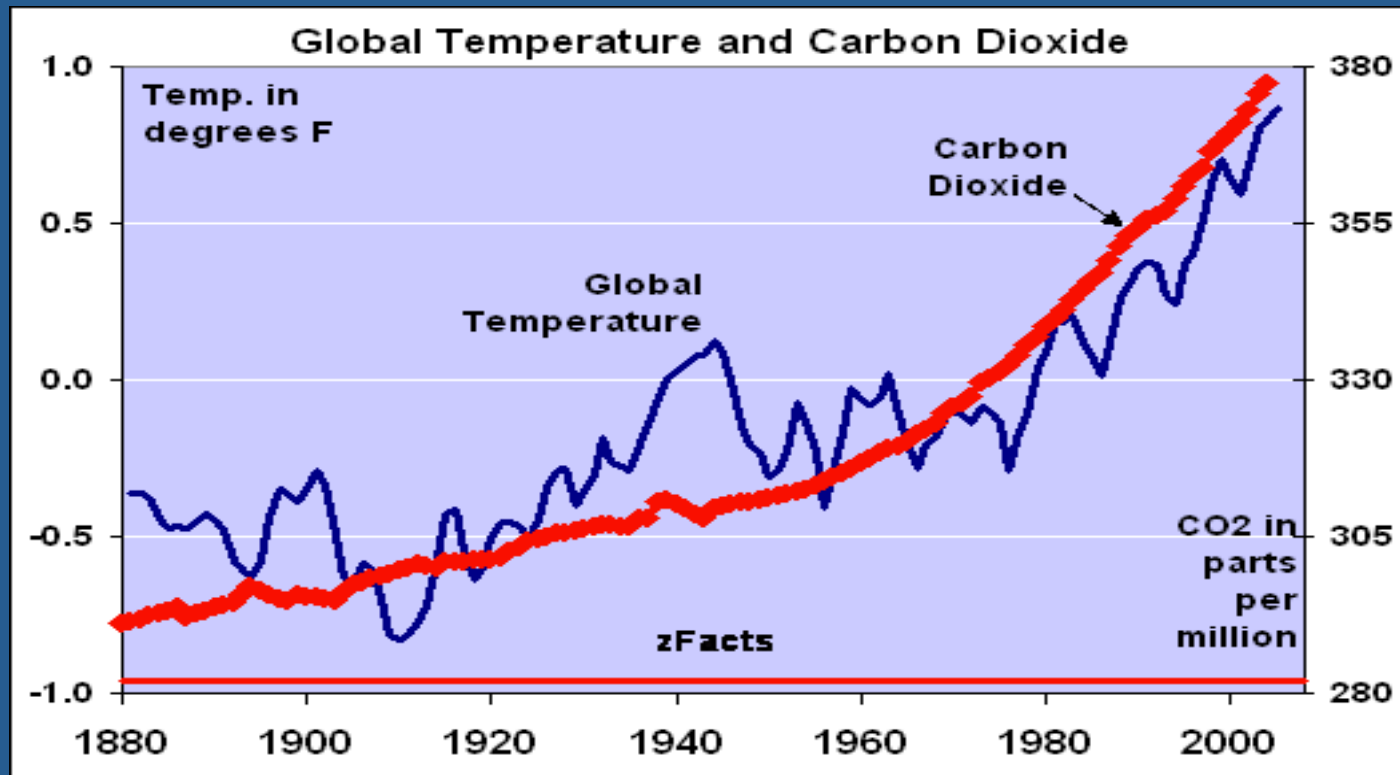
- Greenhouse (GH) gas
 - absorbs heat energy in atm. and increases global temp
 - CO₂ and water vapor are most significant



- Impact of gas depends on
 - Ability to absorb long-wave radiation
 - Concentration in atm.
- Warmed Earth emits longer wavelength (LW) radiation (heat)
 - LW radiation absorbed by greenhouse gases, retain heat in atm.



- Global temps. & climate patterns influenced by concentrations of GH gases
- Correlation between incr. in conc. of CO₂ since start of Industrial Revolution & ave. global temps.



- Recent increases in CO₂ in atm. Mostly due to increases in combustion of fossilized organic matter

