

# Climate Change

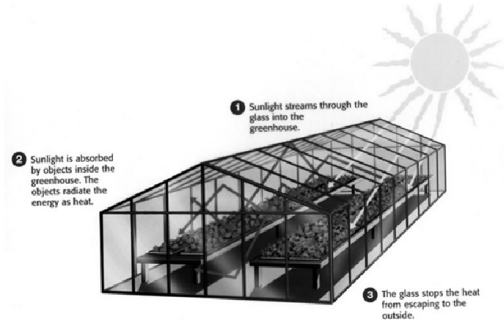
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## Climate Change

- Global Warming: an increase of  $.7^{\circ}$  C to the troposphere over the last 120 years.
  - Theory – based upon:
    - Greenhouse gases – Carbon dioxide, water vapor and methane
    - Increased levels of CO<sub>2</sub> may be from man made causes
    - Industrial Revolution starts in the 1800's corresponds to the beginning of the rise in CO<sub>2</sub> levels.
    - Samples of CO<sub>2</sub> taken from ice cores in the Antarctic
  - Climate Variation Hypothesis: some say CO<sub>2</sub> increase NOT due human activities.
    - Some say variations in the output of the sun's energy is the cause of climate change.

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## Theory of Global Warming due to the Greenhouse Effect

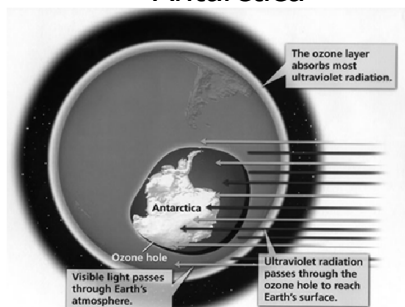


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- Ozone depletion:
  - Atmospheric ozone reflects harmful UV solar rays back into space, protecting Earth's inhabitants.
  - Chemicals produced by humans have been damaging the ozone layer of the atmosphere
  - Ozone hole over Antarctica caused by CFCs
    - CFC's - Chlorofluorocarbons
    - They rise into the stratosphere
    - UV radiation breaks them into chlorine
    - Chlorine converts ozone into oxygen, depleting ozone
    - Less ozone allows more UV to penetrate to the surface
    - More UV hitting the surface can cause more damage –
      - Increased Skin cancer
      - Eye damage
  - Environmental agreements stop use of CFCs and are fixing the ozone hole.

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## Ozone Depletion due to the formation of the Ozone Hole over Antarctica



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