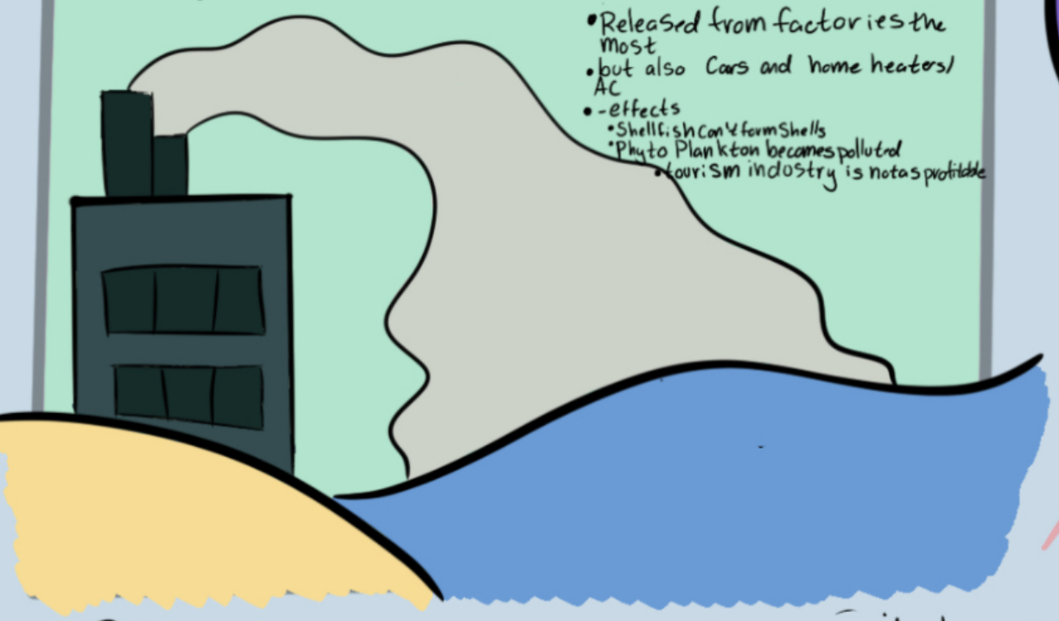
Ocean Acidification

CO_2 Emissons



- Released from factories the most
- but also Cars and home heaters/AC
- -effects
  - Shellfish can't form Shells
  - Phyto Plankton becames polluted
  - tourism industry is not as profitable

Chemistry/Shells

- chemical formula

$CO_2 \rightarrow CO_2 + H_2O \rightarrow H_2CO_3 \rightarrow H^+ + HCO_3^- \rightarrow CO_3^{2-}$

most acidic ↓ least Acidic

- Uses the chemicals that organisms use to create Shells
- pteropod Shells dissolve in higher Ph

History/trends

- Ocean acidification has increased
  - previously 8.2 now 8.1 ph
    - 30% increase

Algal Blooms

- Dinoflagelletes & Diatoms overproduction causes Algal blooms
- Red tides
  - caused by algal blooms in acidifying Oceans



Causes & effects (algal blooms)

- caused by increased pollution
  - runoff nitrogen from farms
  - toxic waste pollution in oceans from streams
- effects
  - Disrupts foodchain b/c it kills alot of phytoplankton which is the base of the foodchain

Polar Regions

- CO_2 becomes more absorbent in cooler waters
  - travels to tropical regions in upswells and then is Vaporized back into the atmosphere



foraminiferans



- base of foodchain
- Cannot Survive in acidifying oceans





- Calcium carbonate is being used to create H^+ ions and can no longer create shells

Solutions

- Planting algae
- lowering CO_2 emmiscns
  - Solar power
  - wind power

