The Ozone Layer and Ozone depletion

- Ozone is a special oxygen containing chemical that exists mainly in the **upper atmosphere**.
- The **ozone** layer protects Earth's surface by blocking some of the damaging **ultraviolet** (UV) radiation that comes from the sun.
    - Ultraviolet (UV) radiation is damaging to humans causing **sunburns** to skin cancer
- Studies have revealed a **reduction** in the ozone layer. The ozone layer has a hole in it.
    - The main cause of the reduction is **CFC's** (organic chemicals containing chlorine and fluorine).
    - CFC's are mainly used in **spray cans**, refrigerants, and to make **plastics**.
- In 1996 100 nations agreed to **ban CFC's**.
    - Scientists have found that the hole in the ozone layer has been **Recovering**
    - CFC's can last for a **long time** (they have a long half life) so it will take some time for the ozone layer to **return to normal**.

Greenhouse effect and climate change

- The atmosphere helps to maintain the **temperature** of the earth
- Greenhouse gases (ghg) such as water, **carbon dioxide**, and **methane** act to trap heat near the earth. They're called greenhouse gases because they **trap heat** like a greenhouse does.
- Greenhouses gases are important. Without them it would be **very cold**

    - Deserts are often cold at night because they have little **water** in the air to trap heat
- Too many greenhouses gases **will increases the temperature** of the earth.
- CO_2 (carbon dioxide) made by **humans** in the last 300 years due to industrial processes and burning of fossil fuels has caused a drastic **increase** in greenhouses gases.
- Climate scientists believe that the CO_2 level has not been this high since **3 to 5 million years ago**.
- Temperatures are expected to rise due to this. This could lead to **melting ice caps**, droughts, **floods**, and extinction of many **plant and animal** species.
- There is work being done to reduce the levels of **greenhouses gases**. Both by **scientists** and by **governments**.