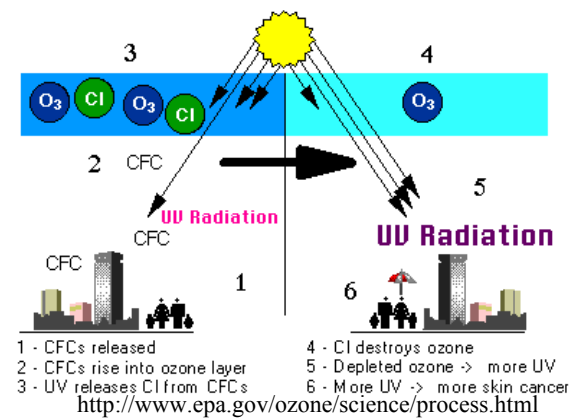


Ozone Depletion

- _____ % of the planet's ozone is in the ozone layer in the stratosphere (10-50 kilometers above the Earth's surface)
- Stratospheric ozone is a naturally-occurring gas that filters the sun's ultraviolet (UV) radiation
- _____ ozone layer allows more UV to reach the Earth
- overexposure to UV rays can lead to _____ cancer, _____, and weakened _____ systems.
- Increased UV can also lead to reduced _____ yield and disruptions in the _____ food chain.
- ozone destruction occurs when the release of _____ (CFCs) and other ozone-depleting substances (ODS), widely used as refrigerants, insulating foams, and solvents.



- CFCs are heavier than air, can take as long as _____ years to reach the stratosphere
- Stratospheric measurements are made from _____, aircraft, and satellites.
- When CFCs reach the stratosphere, the _____ from the sun causes them to break apart and release _____ atoms which react with ozone, starting chemical cycles of ozone destruction that deplete the ozone layer.
- One chlorine atom can break apart more than _____ ozone molecules.
- Other chemicals that damage the ozone layer include:
 - _____ bromide (used as a pesticide)
 - _____ (used in fire extinguishers)
 - _____ chloroform (used as a solvent in industrial processes).
- As methyl bromide and halons are broken apart, they release bromine atoms, which are 40 times more destructive to ozone molecules than chlorine atoms.
- Halon-1301 has _____ times depleting potential as CFC-11
- total chlorine is _____, while bromine from industrial halons is increasing
- _____ and _____ release large amounts of chlorine, the chlorine from these sources is easily dissolved in water and washes out of the atmosphere in rain.
- CFCs are not broken down in the lower atmosphere and do not _____ in water.
- the increase in stratospheric _____ since 1985 matches the amount released from CFCs and other ozone-depleting substances produced and released by human activities.
- In 1978, the use of CFC _____ in spray cans was banned in the U.S.
- In the 1980s, the Antarctic "_____ hole" appeared and an international science assessment more strongly linked the release of CFCs and ozone depletion.
- 1987, the Montreal Protocol was signed and the signatory nations committed themselves to a _____ in the use of CFCs and other ozone-depleting substances.
- Since that time, the treaty was amended to ban CFC production after 1995 in _____ countries, and later in developing countries.
- Today, over 160 countries have signed the treaty. Since January 1, 1996, only _____ and stockpiled CFCs have been available for use in developed countries
- This production phaseout is possible because of efforts to ensure that there will be _____ chemicals and technologies for all CFC uses.
- but provided that we stop producing ozone-depleting substances, _____ ozone production reactions should return the ozone layer to normal levels by about _____

