**Section 3.1 & 3.2:** Chemicals in the air, soil and water

* Through convection currents pollutants can be carried in water and in the air great distances for long periods of time.
* Particularly in light of recent attempts to regulate pollution on a national and provincial level; it has become important to follow the transport path of potentially harmful substances.
* In the air, pollutants are released from their source and through a process known as dispersion and distributed though-out the atmosphere. Once in the atmosphere the substance can bond with other elements to become a soluble particle, in which case it ends up in the soil, (dissolved in rain drops) or it is incorporated into gaseous compounds and absorbed by living organisms, trees, or animals.

1. **How are pollutants transported in:**
   1. **Groundwater**
   2. **Surface water**
   3. **Soil**
2. **How specifically are hydrocarbons transported in soil?**
3. **Suggest 2 ways chemical pollutants can be carried from their source.**

1. **Explain why air-borne and water-born chemicals are both local and global issues.**

**Chemicals, poison and toxins, oh my!**

* It is inevitable that as humans we will pollute our environment eith potentially harmful substances
* The concentrations of chemicals released into the environment are carefully monitored in an attempt to regulate our output and improve the relationship we have with our ecosystem.
* We can change the intense concentration of pollutants using a number of techniques: dispersion, dilution, biodegradation, phytoremediation and photolysis.

1. **What is dispersion? Give an example.**
2. **What is dilution**
3. **What are three effects of dilution in a water ecosystem?**
4. **What is biodegradation AND which organisms are known to facilitate the breakdown of organic substances?**
5. **What is the difference between “anaerobic” and “aerobic”?**
6. **What is phytoremediation?**
7. **How does phytoremediation alter the concentration of pollutants in our environment?**
8. **What is photolysis?**
9. **Read p. 250-252: Explain the process of biomagnification.**