**Air Pollution Homework  
Part II: Legislation, Pesticides and Acid Rain**

*Remember*:

*Kilo- 🡪 Hecto- 🡪 Deca- 🡪 Meter, Liter, Gram 🡪 Deci- 🡪 Centi- 🡪 Milli-*

1. *Review*: Convert the following.

0.102m = \_\_\_\_\_\_ dam 145.9cm = \_\_\_\_\_\_ hm 0.008kL = \_\_\_\_\_\_ dL

34.5 g = \_\_\_\_\_\_ dag 90.43mm = \_\_\_\_\_\_\_ m 12345.6L = \_\_\_\_\_\_ kL

1. **Legislation, Pesticides and Acid Rain**
   1. What is the average pH for precipitation? How does this differ from Acid Rain?
   2. Why does Acid Rain occur? Why do you think it is such a big problem in the Northeastern United States?
   3. Describe what the Clean Air Act is, and two major topics of concern included in this act.
   4. Name three different types of pesticides, and their function.
   5. What is a major negative consequence to using pesticides? How can this negative consequence have other negative consequences?
   6. Review: How are pesticides an example of biomagnification as you move up the food chain?
2. A volcanic eruption produces a cloud of CO2 into the air. The reaction that follows this is:

**CO2 + O2 🡪 CO + O3**

* 1. Using the above reaction, name all of the reactants (starting materials) and products (ending materials).
  2. Using the above reaction, which gasses are the primary pollutants and which are the secondary pollutants? How do you know?
  3. We measure air pollution ppm (parts per million). How does this relate to percentages?
  4. If, after this volcanic eruption, 20% of the air is filled with this CO2 gas, how much is this in ppm?
  5. If humans cannot breathe in a place where the air is more than 1,000 ppm CO2, would humans be able to survive in these conditions?

1. One method people use to commit suicide is to sit in one’s car while the engine is running. This releases carbon monoxide (CO). After a certain point, the concentration of CO is too high, and the person dies.
   1. What effect does Carbon Monoxide have on your body? Explain specifically what it does.
   2. If the person dies after being exposed to 8000 ppm of CO, what percentage of the air in the garage is CO?
   3. Say 3.5 kilograms per hour per car of CO were released from the car engine. Calculate the amount of CO emitted, in kilograms, while sitting in the 2.5 m2 garage for three hours. (1 car = 1.4 m2).