**Review sheet for Moles and Calculations Test**

1. Be able to use the Periodic Table to calculate molecular and formula masses
2. Be able to calculate the percent composition of each element in a compound or molecule (i.e. what % composition is Carbon in the molecule CO2?). Don’t forget you can always check your math by determining if the percent composition for each element adds up to 100%!
3. Recognize that the molecular mass, atomic mass, and formula mass are equal to the **molar mass** (number of grams/mol)
4. Be able to use conversion factors to calculate from grams to moles and from moles to grams
5. Recognize that 1 mol of any substance has 6.02 X 1023 particles (Avogadro’s number)
6. Be able to use conversion factors to convert from moles to particles or particles to moles using Avogadro’s number
7. Recognize that 1 mol of any gas at standard temperature and pressure has 22.4L
8. Be able to use conversion factors to convert moles of a gas into liters and liters into moles.
9. Be able to do more than 1 conversion factor to solve a problem. i.e. how many molecules are in 4.6L of a gas?

First you need to convert the liters into moles:

4.6L X 1 mol = 0.2 mols

22.4L (at STP)

Now convert moles to molecules:

0.2 mols X 6.02 X 1023 = **1.2 x 1023 molecules**

1 mol

* **You WILL NEED a calculator to take this test. Please be prepared. It is not the teacher’s responsibility to provide you with a calculator!**
* **Be prepared to show your work. This is like a math test. Partial credit will be given for showing the conversion set-up and your mathematical steps.**
* **Don’t forget to write your units – Is it grams? Molecules? Atoms? Moles?**