You will be reviewing today by working in small groups on practice problems related to the Unit 6 test. While these questions are math based, be sure to review concepts, too. This can be done by reviewing your notes and rereading the chapter, paying special attention to vocabulary and the conceptual questions at the end of each section.

Identify the questions that give you the most problems so you know what you need to study tonight. Have out your periodic table, solubility rules, and polyatomic ion sheet as these will be made available during tomorrow’s test (my clean copies).

**Chapter 10**

1. Find molar mass of the following compounds:
   1. CoCl2 \_\_\_\_\_\_\_\_\_\_\_\_
   2. CaS \_\_\_\_\_\_\_\_\_\_\_\_
   3. Al(OH)3 \_\_\_\_\_\_\_\_\_\_\_\_
   4. C3H8O \_\_\_\_\_\_\_\_\_\_\_\_
2. If a student weights out 2.50 grams of zinc, how many moles does this represent?\_\_\_\_\_\_\_\_\_\_\_\_

(*ans. 0.0382 moles*)

1. A student measures 5.0 grams of copper, how many atoms of copper does this represent? \_\_\_\_\_\_\_\_\_\_\_\_

(*ans. 4.7x1022 atoms*)

1. If a student needs 2.1 moles of calcium chloride to run an experiment, how many grams should they weigh out on the scale? (*ans. 230 g*) \_\_\_\_\_\_\_\_\_\_\_\_
2. If a beaker contains 1.4x1025 molecules of NaHCO3 (baking soda), how many grams of NaHCO3 are present?

(*ans. 2000 g*) \_\_\_\_\_\_\_\_\_\_\_\_

1. What percent (by mass) of carbon dioxide is due to the carbon present? (*ans. 27% C*)
2. What is the percent (by mass) composition of ammonium sulfate? (21.2% N, 6.1% H, 24.3% S, 48.4% O)
3. The percent composition of a compound was found to be 63.5% silver (Ag), 8.2% nitrogen and 28.3% oxygen. Determine the compound’s empirical formula. (*ans. AgNO3)*
4. A sample of an unidentified compound contains 29.84 g Na, 67.49 g Cr and 72.67 g O. What is the empirical formula of this compound? (*ans. Na2Cr2O7*)
5. The empirical formula for the active ingredient in many household bleaches is OCNCl. The molar mass of this compound is 232.41 g/mol. What is the molecular formula of this compound? (*ans. O3C3N3Cl3)*
6. A compound containing 5.9265% H and 94.0735% O has a molar mass of 34.01468 g/mol. Determine the empirical and molecular formulas of this compound. (*ans. HO and H2O2*).