

## Stoichiometry Test Review

- Remember that you can make a cheat sheet for your test. (Handwritten on notebook paper, both sides ok)
- An answer key will not be posted, so study this review. Ask questions about the stuff you don't understand.
- Your test is 20 questions (5 points each). 17 multiple choice questions, 3 stoichiometry problems to solve.

### Review questions:

1. How do you balance a chemical equation? What do the coefficients represent? Make sure you can correctly balance equations, because if you cannot balance, you will not get the stoichiometry correct.
2. What is a mole ratio? How do you determine the mole ratio? In the following reaction for the synthesis of water, balance the reaction and list all the mole ratios you can find.  $\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}$
3. In the synthesis of water (balanced equation from # 2), how many moles of water can you form if you start with a) 40 grams of  $\text{H}_2$  and excess oxygen and B) 12 moles of  $\text{O}_2$  and excess hydrogen?
4. What does it mean in 3A and 3B when you say "excess?"
5. For the formation of water (from # 2), how much oxygen is needed if you form 8 moles of water?
6. The reaction from # 2 uses hydrogen and oxygen as reactants. What is the name for the one you run out of first and the one you have left over? (*Not asking which is which, just what are the terms?*)
7. What is the difference between the theoretical yield, the actual yield, and the percent yield? You should know the terms and how to calculate them (*i.e the formulas...maybe even put this information on your cheat sheet.*)
8. Can you ever create more of a chemical in the lab than you calculated your theoretical yield to be?
9. If you observe a decomposition reaction, such as  $\text{MClO}_3 \rightarrow \text{MCl} + \text{O}_2$ , and you begin with 200 grams of the reactant, what can you say about the mass of the product(s)?
10. There are many stoichiometry problems on the test that require stoichiometric calculations including mass to moles, using the mole ratio, and moles back to mass. We worked through many problems on the stoichiometry packet, the limiting reactant assignment, and the percent yield calculations. Review those assignments and their answer keys are available online.