Summative 6.1 Study Guide

**LT 6.1: Explain the relationship between balancing chemical equations and the law of conservation of mass.**

* I can model a chemical reaction to show conservation of mass.
* I can analyze experimental evidence and explain differences in initial and final mass using the Law of Conservation of Matter.
* I can balance simple chemical reactions.
* I can balance chemical reactions that contain polyatomic ions and combustion reactions.

1. What is the law of conservation of mass? What does it mean?
2. You burn a piece of paper in a completely sealed container.
   1. How would you expect the mass from the beginning to compare to the mass at the end?
   2. Describe what happens to the molecules in the flask. (Do the elements change? Do the bonds change?)
3. a. Balance the following equation: b. Draw an atomic representation of this reaction:

\_\_\_\_ NaCl (s)  🡪  \_\_\_\_ Na(s) + \_\_\_\_\_Cl2 (g)

1. a. Balance the following equation: b. Draw an atomic representation of this reaction:

\_\_\_\_ CS2 (g) +   \_\_\_\_ O2 (g)   🡪 \_\_\_\_ CO2 (g) + \_\_\_\_SO2 (g)

1. a. Balance the following equation: b. Draw an atomic representation of this reaction:

\_\_\_\_ KF (s) +   \_\_\_\_ H2O (l)   🡪 \_\_\_\_ HF (aq) + \_\_\_\_K2O (aq)

1. Balancing practice:
   1. \_\_\_\_\_\_\_ V2O5 + \_\_\_\_\_\_\_ CaS 🡪 \_\_\_\_\_\_\_ CaO + \_\_\_\_\_\_\_ V2S5
   2. \_\_\_\_\_\_\_ NaNO3 + \_\_\_\_\_\_\_ PbO 🡪 \_\_\_\_\_\_\_ Pb(NO3)2 + \_\_\_\_\_\_\_ Na2O
   3. \_\_\_\_\_\_\_ AgI + \_\_\_\_\_\_\_ Fe2(CO3)3 🡪 \_\_\_\_\_\_\_ FeI3 + \_\_\_\_\_\_\_ Ag2CO­3
   4. \_\_\_\_\_\_\_ C2H4 +\_\_\_\_\_\_\_ O2 🡪 \_\_\_\_\_\_\_ CO2 +\_\_\_\_\_\_\_ H2O