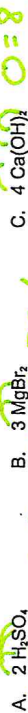


Chemistry Unit Test Study Guide---Chemical Reactions

Learning Target: I can use a model of a compound to accurately count atoms based on subscripts and coefficients.

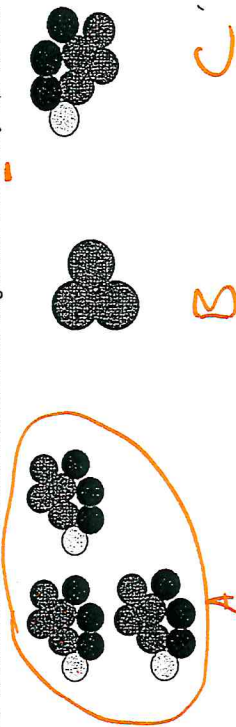
1. How many atoms are in the following formulas? List them.



2. How many molecules are in $5\text{Ba}_3(\text{PO}_4)_2$? How many atoms of oxygen are in this formula?

5 molecules 40 atoms oxygen

3. Which would be the most accurate molecular diagram/model for $3\text{Na}_3\text{PO}_4$? Circle it.



Learning Target: I can apply the law of conservation of mass to balance a chemical equation.

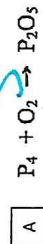
4. Is this equation balanced? What is your evidence?



False

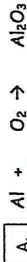
NO.

5. What are the correct coefficients if these equations are balanced?

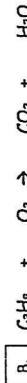


Learning Target: I can identify and justify the type of reaction based on the chemical equation.

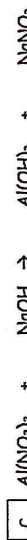
6. Identify and label the following reactions by type: (synthesis, decomposition, single replacement, double replacement, combustion)



Synthesis



combustion



Double Replacement

Learning Target: I can explain or justify factors that affect the reaction rate of a chemical reaction.

7. As the temperature decreases, the reaction rate decreases, because particles are moving slower, so they are not colliding as much. Temperature and reaction rate are directly related.

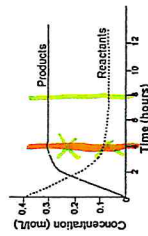
8. As the concentration increases, the reaction rate increases, because there are more particles to collide, and therefore react. Concentration and reaction rate are directly related.

9. If the particles are larger then the reaction will be slower, while if the particles are smaller then the reaction will be faster. Particle size and reaction rate are inversely related.

Learning Target: I can describe a chemical reaction at equilibrium.

10. Label each of these statements as true or false regarding equilibrium.

- a. When a reaction has reached equilibrium, both the number of reactants and number of products are equal. false
- b. If a reaction is at equilibrium, then this means the forward reaction rate equals the reverse reaction rate. true
- c. A chemical equation always follows the law of conservation of mass, so the number of atoms of the reactants equals the number of atoms of the products. true



11. In this graph, at what time would the system be at equilibrium? Why? (Label it on the graph.)

8 hours, because the reactants and products are constant for the first time here.