Chapter 21 Test Review Physical Science

Answer the following questions on a separate piece of paper. <u>If you are working on a problem make sure to show your work to receive credit!</u> If the answer requires units, <u>make sure to include the unit.</u>

1. What is the law of conservation of mass?

$4AI + 3O_2 - 2AI_2O_3$

- 2. What does the number 4 represent in the above equation?
 - a. What is this number called?
- 3. What are the reactants above?
- 4. What are the products above?
- 5. What does the arrow represent?
- 6. What does the number 2 after aluminum represent?
 - a. What is this number called?
- 7. What type of chemical reaction is this?

$$Zn + O_2 \longrightarrow ZnO$$

- 8. What are the coefficients needed to balance the equation above?
 - a. What type of reaction is this?

$$HI \longrightarrow H_2 + I_2$$

- 9. What are the coefficients needed to balance the equation above?
 - a. What type of reaction is this?

Fe (s) +
$$H_2O(1)$$
 \longrightarrow $Fe_3O_4(aq)$ + $H_2(g)$

- 10. What are the coefficients needed to balance the equation above?
 - a. What type of reaction is this?
 - b. What does the (1) stand for?
 - c. What does the (s) stand for?
 - d. What does the (g) stand for?
 - e. What does (aq) stand for?

$$BaCl_2(aq) + H_2SO_4 \longrightarrow BaSO_4 + HCl$$

- 11. What are the coefficients needed to balance the equation above?
 - a. What type of reaction is this?

$$C_3H_8 + O_2 \longrightarrow CO_2 + H_2O$$

- 12. What are the coefficients needed to balance the equation above?
 - a. What type of reaction is this?
- 13. What is the difference between an endothermic and exothermic reaction?
 - a. Which one would feel cold to the touch?
- 14. What is the difference between a synthesis and analysis reaction?
- 15. What do you look for in a combustion reaction?
- 16. What do you look for in a single replacement reaction?
- 17. Explain what happens in a chemical reaction.
- 18. What are 4 indicators you look for to indicate a chemical reaction is taking place?
- 19. What is the difference between exergonic and exothermic?
- 20. What is the chemical formula for oxygen?
 - a. Hydrogen?
 - b. Nitrogen?
- 21. If two elements form a new compound, what type of reaction occurs?
- 22. If one compound breaks down into two new substances, what is the reaction type?