Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd: \_\_\_\_\_ Ast: \_\_\_\_\_

**Physical Science Honors: CHEMICAL REACTIONS NOTES**

1. **CHEMICAL REACTIONS**
	1. Chemical Reaction:
		1. How are chemical bonds involved in chemical reactions?
		2. What observations provide evidence that a chemical reaction has occurred?
	2. Reactants:
	3. Products:
	4. Chemical Equations:
		1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (shown as chemical formulas)
2. **CONSERVATION OF MASS**
	1. CaCO3 🡪 CaO +CO2
		1. What elements are present in the reactants?
		2. What elements are present in the products?
	2. Law of Conservation of Mass:
		1. What is another way to say the law of conservation of mass?
3. **BALANCING CHEMICAL EQUATIONS**
	1. How are subscripts interpreted in a chemical equation?
	2. How are coefficients interpreted in a chemical equation?
	3. Compare the following two equations:

N2O5 + H2O 🡪 HNO3

N2O5 + H2O 🡪 2HNO3

1. **TYPES OF REACTIONS**
	1. Synthesis reactions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_ \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		* + \_\_\_ + \_\_\_ 🡪 \_\_\_
	2. Decomposition reactions: \_\_\_\_\_\_\_\_\_\_ \_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_
		* + \_\_\_ 🡪 \_\_\_ + \_\_\_
	3. Replacement reactions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		* + \_\_\_\_\_ + \_\_\_\_\_ 🡪 \_\_\_\_\_ + \_\_\_\_\_
2. **ENERGY**
	1. Activation Energy:
	2. Exothermic Reactions:
	3. Endothermic Reactions:
3. **CONTROLLING REACTIONS**
	1. How can chemists use temperature to control the rate of a chemical reaction?
	2. Describe three other variables chemists can use to control the rate of chemical reactions:
		1.
		2.
		3.