**Physical Science Study Guide**

**Chapter 5: Chemical Reactions**

* **Objectives**
	+ Recognize some signs that a chemical reaction is taking place.
	+ Identify changes as being physical or chemical.
	+ Explain chemical changes in terms of the structure and motion of atoms and molecules.
	+ Describe the differences between endothermic and exothermic reactions.
	+ Classify reactions as endothermic or exothermic
	+ Identify types of chemical energy.
	+ Distinguish among five general types of chemical reactions.
	+ Predict the products of some reactions based on the reaction type.
	+ Write and balance chemical equations.
	+ Relate balancing equations to the law of conservation of matter.
	+ Calculate the relative masses of reactants and products from a chemical equation.
	+ Describe the factors affecting reaction rates.
	+ Explain the effect a catalyst has on a chemical equation.
	+ Provide examples of biological catalysts.
* **Vocabulary**
	+ Reactant
	+ Product
	+ Chemical energy
	+ Exothermic reaction
	+ Endothermic reaction
	+ Synthesis reaction
	+ Decomposition reaction
	+ Combustion reaction
	+ Single-displacement reaction
	+ Double-displacement reaction
	+ Chemical equation
	+ Law of conservation of matter
	+ Catalyst
	+ Enzyme
* **Formulas (Given on Exam)**
	+ - Synthesis reaction: A+B🡪AB
		- Decomposition reaction: AB🡪A+B
		- Single-displacement reaction: AX+B🡪BA+X
		- Double-displacement reaction: AX+BY🡪AY+BX