**ACP Unit 3 Learning Objectives Part 1**

 **Unit 3 – Types of Chemical Reactions**

|  |
| --- |
| **Whole Year: Essential Questions*** How do we understand nature in terms of tiny particles?
* How do we use our knowledge of these tiny particles to improve our lives?
 |

|  |
| --- |
| **Unit 3 Essential Questions*** How do the tiny particles get along? Or not?
* How do we predict what kind of stuff the tiny particles will make?
 |

**Ch. 8 section 1 – Understanding Reactions in Aqueous Solutions**

* Describe factors that cause reactions to occur.
* Identify what particles are present in aqueous solutions.
* Use solubility rules to predict products in precipitate reactions.
* Write a net ionic equation for a precipitation reaction.

**Ch. 8 section 2A – Reactions that form Water: Acid and Bases**

* Describe an Arrhenius acid and base.
* Describe a neutralization reaction between a strong acid and strong base.
* Write a net ionic equation for a neutralization reaction between a strong acid and strong base.

**Ch. 16 section 1B – Acid Strength**

* Distinguish between a strong acid and a weak acid.

**Ch. 8 section 2B – Oxidation-Reduction**

* Describe what happens to particles in a redox reaction.
* Determine the oxidation numbers for elements and monatomic ions.
* Write a half-reaction to show either oxidation or reduction.

**Ch. 8 section 3 – Classifying Reactions**

* Describe each of the following types of reactions: precipitation, acid-base neutralization, combustion, synthesis, decomposition, single replacement.
* Given a chemical equation, identify the type of reaction.
* Given the reactants, predict the products of a reaction.