WAUCONDA SCHOOL DISTRICT 118
UNIT PLANNING ORGANIZER

Subject: AP Chemistry

Unit 4: Chemical Reactions

Pacing: 15 class pd (75 min periods)

Please see the College Board collegeboard.org. for complete details

STAGE 1 – DESIRED RESULTS

BIG IDEA 1 Scale, Proportion, and Quantity SPQ
BIG IDEA 3 Transformations TRA

Enduring Understanding

TRA-1 A substance that changes its properties, or that changes into a different substance, can be represented by chemical equations
4.1 Introduction for Reactions
4.2 Net Ionic Equations
4.3 Representations of Reactions
4.4 Physical and Chemical Changes
SPQ-4 - When a substance changes into a new substance, or when its properties change, no mass is lost or gained.
4.5 Stoichiometry
4.6 Introduction to Titration
TRA-2 - A substance can change into another substance through different processes, and the change itself can be classified by the sort of processes that produced it.
4.7 Types of Chemical Reactions
4.8 Introduction to Acid-Base Reactions
4.9 Oxidation-Reduction (Redox) Reactions

STAGE 2 – EVIDENCE

Concepts Learning Objectives	Performance Tasks Skills and Practices	
TRA-1.A Identify evidence of chemical and physical changes in matter. TRA-1.B Represent changes in matter with a balanced chemical or net ionic equation: a. For physical changes. b. For given information about the identity of the reactants and/or product. c. For ions in a given chemical reaction. TRA-1.C Represent a given chemical reaction or physical process with a consistent particulate model. TRA-1.D Explain the relationship between macroscopic characteristics and bond interactions for: a. Chemical processes. b. Physical processes SPQ-4.A Explain changes in the amounts of reactants and products based on the balanced reaction equation for a chemical process. TRA-2.A Identify a reaction as acid base, oxidation-reduction, or precipitation. TRA-2.B Identify species as BrønstedLowry acids, bases, and/or conjugate acid-base pairs, based on proton-transfer involving those species. TRA-2.C Represent a balanced redox reaction equation using half-reactions.	1. 2.B Formulate a hypothesis or predict the results of an experiment. 2. 5.E Determine a balanced chemical equation for a given chemical phenomena. 3. 3.B Represent chemical substances or phenomena with appropriate diagrams or models (e.g., electron configuration). 4. 6.B Support a claim with evidence from experimental data. 5. 5.C Explain the relationship between variables within an equation when one variable changes. 6. 3.A Represent chemical phenomena using appropriate graphing techniques, including correct scale and units. 7. 1.B Describe the components of and quantitative information from models and representations that illustrate both particulatelevel and macroscopic-level properties. 8. 5.E Determine a balanced chemical equation for a given chemical phenomena.	