

# Chemical Equations & Reactions Test

## Study Guide Mr. D. Scott

**PART ONE of the test will consist of multiple choice, matching, true false questions.**

**PART TWO of the test will consist of prediction questions that require a balanced equation to be shown or the outcome of the reaction to be stated. This part of the test will closely resemble the quizzes and worksheets used during this topic.**

**You will be allowed to use a Periodic Table, Polyatomic Ion List, Solubility Chart, and the Activity Series as your ONLY references.**

**You will NOT be allowed to use your calculator (there are no calculations)**

**You will be allowed TWO class periods only to complete BOTH parts of the test.**

### **Objective Part 1 (65 to 70 questions)**

Be able to recognize and also how to write a net ionic equation

Know the definition of Chemical Equation

Know the definition of Chemical Reaction

Know the difference between complete and incomplete combustion

Be able to predict the outcome of the following reactions:

ACID + HYDROXIDE BASE →	METAL CARBONATE $\xrightarrow{\Delta}$
ACID + METAL →	METAL CHLORATE $\xrightarrow{\Delta}$
ACID + METAL CARBONATE →	METAL ELEMENT + NONMETAL ELEMENT →
ACID + SALT →	METAL HYDROXIDE $\xrightarrow{\Delta}$
ACID + SULFIDE SALT →	METAL OXIDE + HYDROGEN $\xrightarrow{\Delta}$
ACID + SULFITE SALT →	NONMETAL ELEMENT + NONMETAL ELEMENT →
ACTIVE METAL + SALT →	OXYACID $\xrightarrow{\Delta}$
ACTIVE METAL + WATER →	TWO AQUEOUS SALTS →
ACTIVE METAL OXIDE + WATER →	WATER + NONMETAL OXIDE →
BINARY COMPOUND HEATED OR ELECTROLYZED →	
COMPLETE COMBUSTION OF HYDROCARBON →	
HALOGEN + HALOGEN SALT →	
METAL + OXYGEN →	

Be able to balance an equation

Be able to describe the appearance of the substances used in the labs during this topic

Be able to identify the precipitating product in a DR salt reaction

Be able to identify types of reactions when looking at the balanced equation

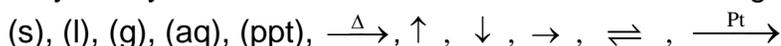
Be able to name simple hydrocarbons or use the name to determine a chemical formula

Be able to use the activity series to predict reactions

Be able to use the solubility chart to predict DR salt reactions (ppt reactions)

Be able to recognize and use the functional groups of  $-\text{OH}$ , hydroxyl and  $-\text{COOH}$ , carboxyl

Be able to identify the symbols used in chemical reactions including:



Know the definition of: Balanced Equation, Skeleton Equation, Word Equation, Net Ionic Equation

Understand how the conservation of mass relates to an equation

### **Written Problems Part 2 (6 to 8 questions)**

You will have to predict the products of any type of reaction from our OUTLINE and write a balanced equation representing those reactions. (Similar in format to our worksheets.)

You will have one double replacement salt reaction where you must apply the labels (aq) and ↓