

Dougherty Valley HS Chemistry

Study Guide Reactions and Stoichiometry Chapters

This list is a general guideline to help you study. It is NOT a definitive list. There are potentially things on here that will not show up on the test, and there are potentially things not on this list that will show up on the test. Material that appeared in Warm Ups, Notes, Homework, Classwork, Labs, Study Materials, etc are all have the potential to appear on the test.

+ denotes calculations

Reactions

- Balancing Reaction
- Identifying Types of Reactions
 - o Synthesis
 - o Decomposition
 - o Single Replacement
 - o Double Replacement
 - o Combustion
- Predicting Products
 - o First identify type of reaction! Then follow patterns
 - o Don't forget to make neutral compounds when ionic. Cross over from scratch!
 - o Single replacement → use activity series to see if it actually happens
 - Do not need to memorize the activity series, just use it if given. If not given then you assume the reaction happens.
 - o Double replacement → use solubility rules to determine phases
 - Do not need to memorize the solubility rules, just use if given.
 - Soluble = Aqueous → breaks apart into ions
 - Insoluble = Solid (a precipitate) → doesn't break apart into ions
 - Gases and liquid do not break apart into ions
 - o Net Ionic
 - Be able to use solubility rules to break apart aqueous into ions
 - Identify and remove spectator ions
 - Do not need to do Net Ionic unless asked.

Stoichiometry

- + Calculate Molar mass
- + Molar Conversions
 - o Grams A, moles A, molecules A
 - o Extra conversions such as adding in a metric conversion, or a density, etc.
- Identify mole ratios
- + Stoichiometry problems when converting from molecule A to molecule B
 - o All combos of mole highway pathways
 - o Extra conversions such as adding in a metric conversion, or a density, etc.
 - o Be able to show work using dimensional analysis set up with all units shown!
 - Getting the right numerical answer is not enough – we are assessing a skill!
- + Real life stoichiometry problems
 - o Identify actual question is, your stoich is the justification to your answer to the real life Q.
- + Limiting Reagent Stoichiometry
 - o Be able to identify the limiting reagent and excess reagent in a problem
 - Must be able to justify your answer with actual work, either method 1 with mole ratios (fast method), or method 2 with two stoichiometry problems (simpler but slower method)
 - o Once you have identified the limiting reagent be able to perform various stoichiometry problems using the limiting reagent amount as your starting value
 - o Be able to determine how much of your excess reagent is left over after the reaction