Chemistry Test STUDY GUIDE

Thermochemistry and Gases

Test Date:

Read over your notes, and *rework* your homework assignments and quizzes (especially those you didn’t do well on).

# Thermochemistry

* Be able to label and interpret a heating curve and cooling curve
  + Including states of matter, phase changes, kinetic energy changes, potential energy changes, heat of vaporization, heat of fusion
* Be able to label and interpret a phase diagram
  + Including states of matter, phase changes, triple point, and critical point
* Be able to interpret a pressure vs temperature curve to determine relative strength of IMF and boling point
* Be able to identify when energy is being absorbed or released during phase changes and temperature changes
* Explain the relationships between the following
  + Temp and volatility
  + IMF and volatility
  + Temp and vapor pressure
  + IMF and vapor pressure
  + Pressure and boiling point
  + IMF and boiling point
  + IMF and melting point

# Physical Properties of Gases

* Identify the 5 assumptions of Kinetic Molecular Theory.
* Explain the difference between real and ideal gases.
* What characteristics of real gases conflict with KMT?
* What conditions favor ideal gas behavior and why?
* Identify the common characteristics of gases.
* Define STP and make temperature and pressure conversions.

# The Gas Laws

* Define Boyle’s Law, Charles’ Law, & Gay-Lussac’s Law:
* Which properties are involved and what is their relationship?
* Calculate and predict using the gas laws.
* Explain real-world applications of the gas laws.

# Ideal Gas Law Define Avogadro’s Principle.

* Solve problems using the Ideal Gas Law.

# Two More Laws

* Define diffusion, effusion, Dalton’s Law, and Graham’s Law.
* Solve gas collection problems using Dalton’s Law.
* Use Graham’s Law to find…
* the relative rate of diffusion for two gases.
* the average speed of a gas.
* the molar mass of an unknown gas.