7.1 Equilibrium Systems

Define

* Chemical equilibrium (p. 420)
* Dynamic equilibrium (p. 420)
* Equilibrium Position (p. 421)
* Reversible reaction (p. 421)
* Calculation Questions- determine what ICE means on page 425.

Do and apply: p. 427, # 1- 3

7.2 Equilibrium Law and Equilibrium Constant

Define:

* equilibrium law (p. 429)
* equilibrium constant (p. 429)

Review calculations p. 431.

Do and apply p. 431, # 1, 2, 3.

Define:

* Homogeneous equilibrium (p. 433)
* Heterogeneous equilibrium (p. 433)

Finish this statement (p. 433) : if \_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_ are involved in chemical equilibrium, their concentrations are not included in equilibrium law.

Do and apply, p. 434, # 1 and 2.

Define and explain the magnitude of the equilibrium constant, K (p. 435).

Do and apply p. 436,Review questions #1-3

*7.4 Qualitative Changes in Equilibrium System (next week- calculations)*

*7.5 Quantitative Changes in Equilibrium systems (next week)*

7.6 Solubility Equilibria and the solubility product constant (FOR LAB)

Define:

* solubility (p. 460)
* solubility equilibrium (p. 461)
* solubility product constant (p. 461)

Do and apply, p. 462, Practice # 1-3.

8.1 The nature of Acids and Bases (FOR LAB)

Define:

Arrhenius theory

Bronsted- Lowry theory

Hydronium ion

DRAW A PICTURE of hydrogen chloride reacting with water because in the lab you will do this:

|  |
| --- |
|  |

The Bronsted-Lowry Theory and Basic Solutions (p. 489)

Draw a diagram showing an ammonia gas becoming an ammonia ion and a hydroxide being formed.

Draw a conjugate acid and base (p. 490) and conjugate acid-base pair using HCL and NH3 .

Define and draw showing

* Define Amphiprotic (amphoteric) substance, (p.491)
* Draw or write out HCO3- acting as a base and an acid. (p. 491)
* Do and apply, p. 492, Practice #1 and 2.

For the lab: you must know what a Acid Ionization Constant (Ka) is how it operates:

Define:

* Acid ionization constant (Ka)

Do and apply, p. 493, Practice, # 1 and 2.

8.2 Strong and Weak Acids and Bases

Define:

* Strong acid (p. 495)
* Weak acid (p. 495)
* Oxyacid (p.496)
* Organic acid (p. 497)
* Strong base (p. 497)
* Weak base (p. 498)
* Base ionization constant (Kb)
* Ion-product constat for water (Kw)

For the lab review pH and pOH

|  |  |
| --- | --- |
| Define pH (p. 503) | Define pOH (p.503) |
| Find pH if [H+]= 1.0 x 10-7 | Find pH if [OH+]= 1.0 x 10-7 |

Do and apply, p. 505, Practice #1-4.