**Vocabulary: Equilibrium and Concentration**

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**Vocabulary**

* Chemical equilibrium – a state of balance in which there is no net change in chemical composition over time.
  + In a *reversible reaction*, a chemical equilibrium occurs when the rate of the forward reaction is equal to the rate of the reverse reaction.
* Concentration – a measure of how much of a given substance is present in a given volume.
  + The concentration of a gas often is measured in moles per liter.
  + Brackets also are used to signify concentration. For example, “[H2] = 0.1 M” indicates that the concentration of hydrogen gas is 0.1 moles per liter.
* Equilibrium – a state of balance in which there is little or no net change over time.
  + Equilibrium occurs when the rates of two opposing processes are equal.
* Equilibrium constant – the ratio of products to reactants in a chemical equilibrium.
  + The symbol for the equilibrium constant is *K*.
  + The equilibrium constant can be expressed in terms of concentration (*Kc*) or pressure (*Kp*).
  + A high equilibrium constant indicates products are favored over reactants. A low equilibrium constant indicates reactants are favored over products.
* Reaction quotient – the ratio of products to reactants in a chemical reaction.
  + The symbol for the reaction quotient is *Q*.
  + The reaction quotient can be expressed in terms of concentration (*Qc*) or pressure (*Qp*).
  + When the reaction has reached equilibrium, the reaction quotient is equal to the equilibrium constant.
* Reversible reaction – a chemical reaction that can proceed in either direction: from reactants to products or from products to reactants.
  + In a closed system, a reversible reaction will result in a chemical equilibrium given enough time.