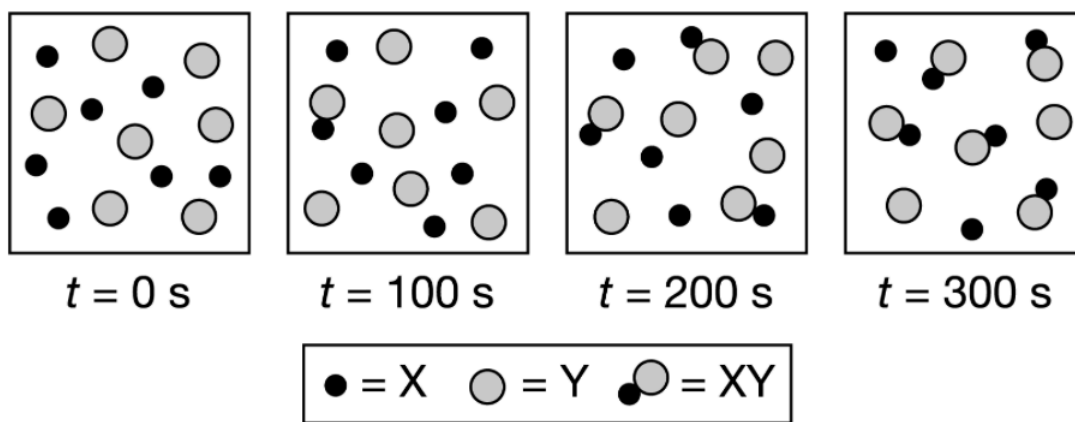


Equilibrium

Wake Up: Dynamic Equilibrium

1. An equimolar mixture of X(g) and Y(g) is placed in a rigid container at 300 °C and begin to react to form XY(g). The particle diagrams below represent *snap shots* of the reaction mixture at various times for this reversible reaction.



- (a) Write the balanced chemical equation for this chemical reaction.
- (b) Explain if the particle diagram provides enough data to conclude that the system has reached equilibrium.