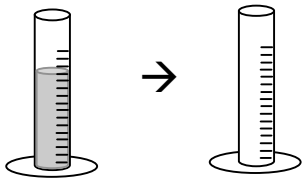
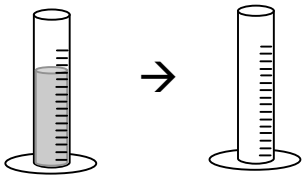
Lab: Introduction to Equilibrium—Datasheet **Name_____**

DATA:



Part I:

time (sec)	volume of reactants (mL)	volume of products (mL)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		



Part II:

time (sec)	volume of reactants (mL)	volume of products (mL)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

CONCLUSIONS:

Part I:

1. In this simulation, the blue solution represents _____ and the red represents _____. The solution that is drawn into the straw represents the particles that are making _____ collisions. Since reactants form products, and products can form reactants, the reaction is _____. The rates of the reactions can be measured in the mL of reactants or products formed per _____.

2. During the first few seconds, the volume of the blue **reactants** (increases, decreases) and the volume of the red **products** (increases, decreases). This means that the **forward reaction** is (faster, slower) than the **backward reaction**. But as time goes on, the amount of reactant solution that can be drawn into the straw (increases, decreases). This means that the reactants are making (more, fewer) effective collisions, so the forward reaction (speeds up, slows down). At the same time, as the volume of the products increases, the amount of products that can be drawn into the straw (representing _____ collisions) (increases, decreases) and the reverse reaction (speeds up, slows down).

3. During the last few seconds, what happens to the volumes of reactants and products? _____
   Describe the colors of the solutions: _____

   The rates of the forward and reverse reactions are _____, and the concentrations of reactants and products (change, remain constant). The system is in a state of _____

Part II:

1. In Part I, when equilibrium was established, the volumes of reactants and products were equal. But in real reactions, this is not usually the case. So in Part II, you used a skinny straw for the backward reaction to represent fewer _____ collisions between products to form _____.

2. During the last few seconds, what happens to the volumes of reactants and products?
   _____
   Describe the colors of the solutions: _____

   At the end, the rates of the forward and reverse reactions are _____, and the concentrations of reactants and products (change, remain constant). The system is in a state of _____, with products (more, less) abundant than reactants.

   What would have happened if you and your partner had swapped straws for Part II?

3. In equilibrium, do the concentrations of reactants and products have to be equal? _____ What has to be equal? _____