

Defining Equilibrium - Quick Lab

Problem:

What is *equal* when a system is at equilibrium?

Materials:

- 2 Graduated cylinders (10 mL and 25 mL)
- Straws
- Water

Procedure:

Pour 5 to 15 mL of water into each graduated cylinder. Record the initial volume of each cylinder in the table below.

With your partner, place a straw in each cylinder so it reaches the bottom of the container. Then, cover the top end of both straws with your index fingers, lift the straws out of the cylinders, and simultaneously transfer the water from the straw in each cylinder to the other cylinder. Be careful to not spill any water.

Record data in the table below and show Ms. Hinkhouse when you believe you have reached *equilibrium*.

Data:

Number of Transfers	Smaller Cylinder volume (mL)	Larger Cylinder volume (mL)
0		
1		

Analysis Questions:

1. How can you tell when equilibrium is reached?

2. What is the ratio of volumes in the cylinders at equilibrium?

3. What is equal at equilibrium?

4. Does the transferring of water need to stop at equilibrium to preserve the equilibrium? Why or why not?

5. What could be done to disturb the equilibrium? Why?