

## Activity 2 Worksheet

### Perturbing a Dynamic Equilibrium

#### Materials:

- 2-3 Sheets of Graphing Paper
- 1 Marker
- 2 Cups
- 40-50 Coins or Candies
- 1 Pencil

#### Instructions:

1. Add an additional 20 “molecules” to the cup labeled “Gas”.
2. Record the number of “molecules” in each cup in your chart as before, and put an asterisk next to that time point.
3. Following the example above, move your “water molecules” between the “Liquid” and “Gas” cups, recording the number of “molecules” in each cup at each time point.
4. Continue moving “molecules” until the system reaches equilibrium.
5. Extend the line graph of your equilibrium data using your new data, marking on the graph the time point when the additional molecules were added.

#### Questions:

1. What happened to the number of “Liquid” molecules at equilibrium when you added more “Gas” molecules?: \_\_\_\_\_

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2. Would you reach the same numbers of liquid and gas molecules at equilibrium if you had added the extra 20 molecules to the liquid cup instead? \_\_\_\_\_

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3. What is the relationship between the equilibrium values before you added extra “Gas” molecules and the equilibrium values after you added the “Gas” molecules? \_\_\_\_\_

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