$\qquad$

## Modeling Equilibrium Data Tables

Group 1. What are the properties of a system at equilibrium?

| Transfer Round* | Reactant |  |  | Product |  |  | P/R at Equilibrium |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of Nickels (initial) | Number of Nickels Moved | Number of Nickels (final) | Number of Nickels (initial) | Number of Nickels Moved | Number of Nickels (final) |  |
| 0 |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |

*A "zero" round (before any reaction begins) is included to use as a starting point when graphing the results, if desired.
Group 2. Does the position of equilibrium depend on the initial number of reactants?

| Transfer Round* | Reactant |  |  | Product |  |  | $\mathrm{P} / \mathrm{R}$ at Equilibrium |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of Nickels (initial) | Number of Nickels Moved | Number of Nickels (final) | Number of Nickels (initial) | Number of Nickels Moved | Number of Nickels (final) |  |
| 0 |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |

[^0]Group 3. Does the position of equilibrium depend on the starting point?

| Transfer Round* | Reactant |  |  | Product |  |  | P/R at Equilibrium |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of Nickels (initial) | Number of Nickels Moved | Number of Nickels (final) | Number of Nickels (initial) | Number of Nickels Moved | Number of Nickels (final) |  |
| 0 |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |

*A "zero" round (before any reaction begins) is included to use as a starting point when graphing the results, if desired.
Group 4. What happens when more reactants are added to a system at equilibrium?

| Transfer Round* | Reactant |  |  | Product |  |  | P/R at Equilibrium |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of Nickels (initial) | Number of Nickels Moved | Number of Nickels (final) | Number of Nickels (initial) | Number of Nickels Moved | Number of Nickels (final) |  |
| 0 |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |

[^1]
[^0]:    *A "zero" round (before any reaction begins) is included to use as a starting point when graphing the results, if desired.

[^1]:    *A "zero" round (before any reaction begins) is included to use as a starting point when graphing the results, if desired.

