

Reaction Quotient (Q), Equilibrium Constant (K), and Dynamic Equilibrium Activity

INSTRUCTIONS AND RULES

1. Crumple up four pieces of colored paper into small "wads".
2. When your instructor yells "GO!", start tossing the paper wads – ONE at a time – towards the opposite side of the room.
 - You may toss only one paper wad at a time. (Gathering up a huge pile and tossing them all at one time is not allowed.)
 - When a paper wad lands near you, you must pick it up and toss it back towards the other side of the room.
3. When your instructor yells "STOP!", all activity ceases. Quit tossing; record the results in the table provided.

exp #	Equilibrium Constant, K		Equilibrium Quotient, Q	
	Forward Reaction Students	Reverse Reaction Students	Reactant Wads	Product Wads
1	~50%	~50%	100%	0%
2	~50%	~50%	~50%	~50%
3	~90%	~10%	100%	0%
4	~90%	~10%	0%	100%

DATA / RESULTS

Time (sec)	Q (exp 1)	Q (exp 2)	Q (exp 3)	Q (exp 4)
<i>theoretical K =</i>	$K_1 \approx 1$	$K_2 \approx 1$	$K_3 \approx 9$	$K_4 \approx 9$
0	0.00	1.00	0.00	∞
3				
6				
9				
12				
15				
18				
(infinity)	$K_{12} =$	$K_{12} =$	$K_{34} =$	$K_{34} =$

After all experiments have been performed, turn this sheet over make some notes about your conclusions.

