Unit 7 NAME

Class Work 2/27/14

SPARK

1. What is re?
2. What fa action?
3. How doe hemical reaction

Unit 7 NAME

Class Work 2/27/14

7.2 Equilibrium

SPARK *Take out 7.1 WS*

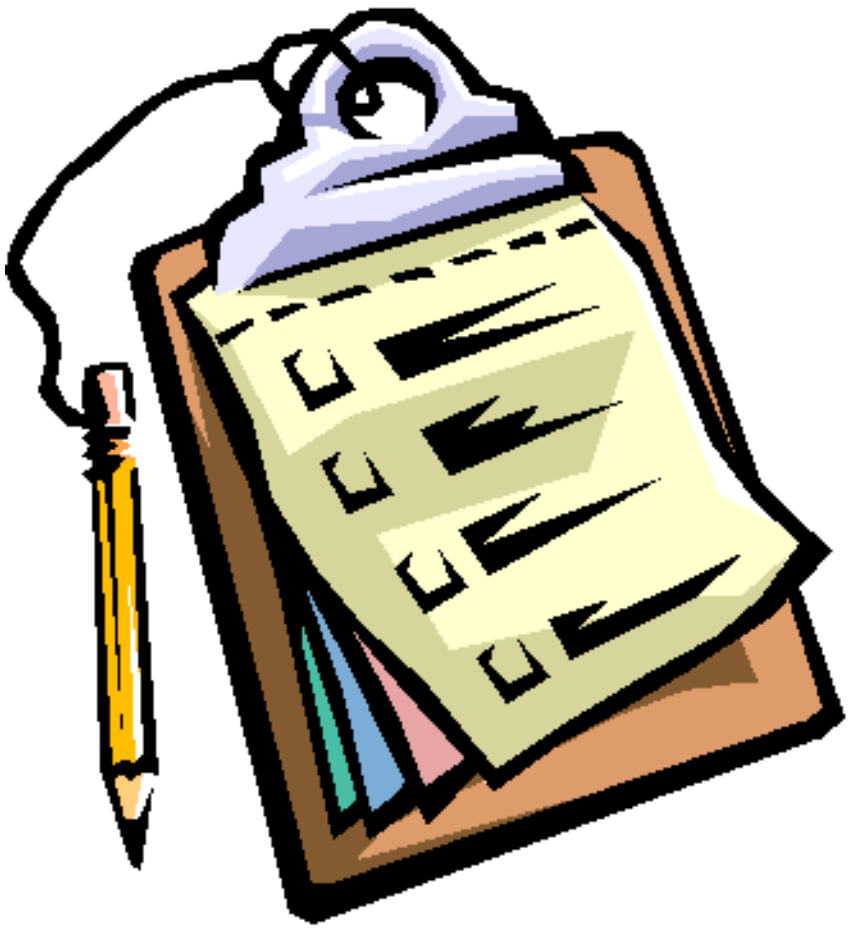
1. What is another way to describe temperature?
2. What factors affect the rate of a chemical reaction?
3. How does surface area affect the rate of a chemical reaction?
4. Add kinetics and rate of reaction to your glossary sheets!

Objective

SWBAT define equilibrium

Agenda:

- SPARK/Objective
- Notes
- Practice
- Homework



Objective: SWBAT define equilibrium

SIX FLAGS DUE!

- NOW!

Objective: SWBAT define equilibrium

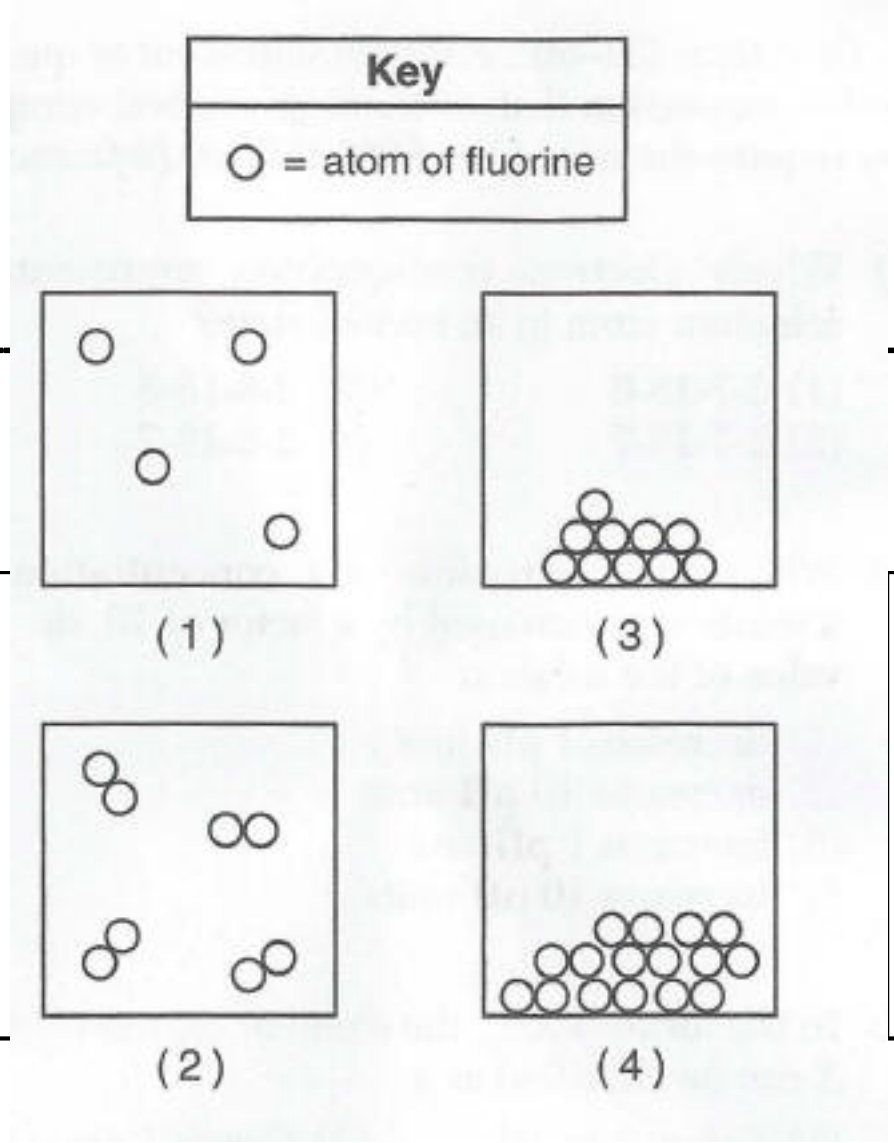
What is equilibrium?

- In a chemical REACTION, reactants collide to form a new PRODUCT (substance).

Objective: SWBAT define equilibrium

Balance: ___ _____ H_2O

- Now let's



Objective: SWBAT define equilibrium

Notes

- Chemical reactions proceed from LEFT (reactant side) to RIGHT (product side)
- BUT! Chemical reactions can also go in the REVERSE direction
  - From RIGHT (product) to LEFT (reactant)

Objective: SWBAT define equilibrium

Notes

- When the FORWARD reaction is happening at the same RATE as the REVERSE reaction, the reaction is in EQUILIBRIUM.
- We represent reactions that can reach equilibrium with a double arrow $\rightleftharpoons$.

Objective: SWBAT define equilibrium

Observe and Learn!

$$CuSO_4 + NaOH \rightleftharpoons Na_2SO_4 + Cu(OH)_2$$

Time	Observation	Which reaction rate is faster? (forward or reverse?)
Before reaction		
First seconds of the rxn		
2 minutes after the rxn		

Objective: SWBAT define equilibrium

Notes

- Reactions will reach equilibrium no matter how much reactant/product with start with! After reaching equilibrium, the concentrations will be CONSTANT.

Objective: SWBAT define equilibrium

Physical Equilibrium

- Equilibrium can also occur for PHYSICAL changes

Objective: SWBAT define equilibrium

To summarize!

- Reactants combine to form products (FORWARD reaction)
- Products break apart and turn back to reactants (REVERSE reaction)
- EVENTUALLY, it looks like nothing is changing. However, #1 and #2 start happening at the same time. Then, the reaction is HAPPY! This is equilibrium.

Objective: SWBAT define equilibrium

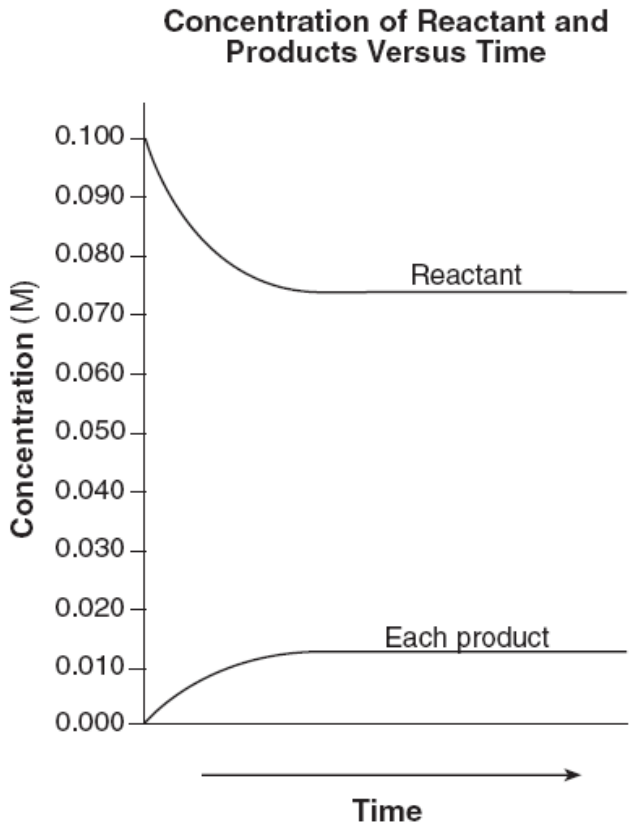
TAKE ME HOME

When a chemical reaction reaches equilibrium, the RATE of the forward and reverse reaction is the same and the CONCENTRATION of reactants and products are CONSTANT

Objective: SWBAT define equilibrium

COMMON Regents Example

- State, in terms of concentration, evidence that the system in the flask has reached equilibrium.



Objective: SWBAT define equilibrium

Classwork

Complete questions #1-20 in your packet!

Objective: SWBAT define equilibrium

Exit Ticket

Complete your 7.2 Exit Ticket

Objective: SWBAT define equilibrium

HOMEWORK

Finish the questions in your packet AND read pages 538-540 AND 553-554

Objective: SWBAT define equilibrium