**Lesson Plans for AP Chemistry**

**Diane Paskowski**

**March 19th to March 26th**

**Chemical Equilibrium - Chapter 13**

**UPDATED**

Mass State Frameworks

* 7.6 Predict the shift in equilibrium when a system is subjected to a stress (LeChatelier’s principle) and identify the factors that can cause a shift in equilibrium (concentration, pressure, volume, temperature).

College Board AP Chemistry Curriculum Guidelines:

* C3 – The course provides instruction in the five content areas of which one is the reactions (Reaction types, Stoichiometry, Equilibrium, Kinetics, Thermodynamics).
* C5 – Laboratory (Physical manipulations; Processes and procedures; Observations and data manipulation: Communication, group collaboration, and the laboratory report)
* C6 – The course emphasizes the chemical calculations and the mathematical formulations of principles.

**Essential Questions:**

* Are all reactions reversible?
* How can an equilibrium position be mathematically described?
* What factors affect equilibria?

**Lessons**

Monday, March 18th

G day

Lecture/discussion: Introduce the concept of chemical equilibrium – demonstration and activity. Mathematical description of equilibria conditions – Keq. Calculating Keq. How changing the reaction changes the value.

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Tuesday, March 19th

H day

Lecture/discussion: Practice problems – KEQ, Equilibrium positions, pressure equilibriums (Kp), Reaction Quotient and applications.

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Wednesday, March 20th

A day

Lecture/discussion/simulations/practice problems: Using RICE tables to solve equilibrium problems.

Mathematically determine the affect of concentration changes to the equilibrium position. Begin discussion of Le Chatelier’s Principle.

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Thursday, March 21st

B day

Lab exercise: Determining the Equilibrium Constant of a Reaction.

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Friday, March 22nd

C day

Lecture/discussion/Demo: Le Chatelier’s Principle demonstration/Activity. Predicting the effect of a change in a system in equilibrium – concentration, pressure, and temperature.

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Monday, March 25th

D day

Review of Calculations and LeChatelier’s Principles

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Tuesday, March 26th

E day

Period 2 – Assessment on Chapter 13

Period 3 – Begin Acid-Base Equilibria

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Chapter 13 Chemical Equilibrium

Homework and Binder-work

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| Page | Topic | Exercises/Questions | Due date |
| 614-615 | The Equilibrium Constant | #17, 19, 21, 25, 31 | Wed, March 20th  |
| 615-617 | Equilibrium Calculations – RICE calculations | #33, 35, 37, 39, 41, 45, 49 | Friday, March 22nd |
| 617-618 | Le Chatelier’s Principle | #57, 59, 61 | Monday, March 25th  |

Summaries and all Key Terms are due on Monday, March 25th