

Unit 15: Chapter 18: Reaction Rates and Equilibrium

Content Area: **Science**
Course(s): **Chemistry Honors, Chemistry AH**
Time Period: **Semester 2**
Length: **2 weeks**
Status: **Published**

Standards

PS1-5

PS1-6

SCI.9-12.HS-PS1-6 Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.

SCI.9-12.HS-PS1-5 Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.

Goals/Objectives

How are the changes that we see every day described and represented by chemists?

Content

Reaction rates

Equilibrium

Skills

Describe chemical equilibrium and how it responds to stress

Calculate equilibrium constants

Predict how factors affect reaction rates

Relate particle interaction and activation energy

Learning Activities/Instructional Strategies

- Chapter 18 Packet
- LAB: Establishing Equilibrium
- LAB: Rates of Reactions

Assessment of Learning

- Chapter test
- Discussion
- Homework
- Lab report

Differentiation

- Alternative Assessments
- Choice of activities
- Choice of books
- Flexible grouping
- Guided reading
- Homework options (describe)
- Independent research and projects
- Leveled rubrics
- Modified materials
- Multiple texts
- Multi-sensory
- Personal agendas
- Pre-teach
- Re-teach
- Stations/Centers

21st Century

21st Century Themes

- Business, Financial, Economic Literacy
- Civic Literacy
- Global Perspectives
- Health Literacy

21st Century Skills

- Communication and Collaboration
- Creativity and Innovation
- Critical Thinking and Problem Solving
- Information Literacy
- Life and Career Skills
- Media Literacy

Interdisciplinary Connections

- Computers
- Engineering
- Math
- Science

Integration of Technology

- Calculators
- Computer Lab/Laptops
- Digital Scales & Meters
- Graphing Calculators
- Internet Resources
- iPads
- SMART Board

TECH.8.1.12.B	Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
TECH.8.1.12.C	Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
TECH.8.1.12.E	Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
TECH.8.2.12.D	Abilities for a Technological World: The designed world is the product of a design process that provides the means to convert resources into products and systems.
TECH.8.2.12.E	Computational Thinking: Programming: Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.