Unit 08: Chapter 10: Chemical Quantities

Content Area: **Science**
Course(s): **Chemistry Honors, Chemistry AH**
Time Period: **Semester 1**
Length: **2 weeks**
Status: **Published**

Standards

PS1-7

SCI.9-12.HS-PS1-7	Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.

Goals/Objectives

How do we quantify very small things?

Content

The Mole

Molar Mass and Avogadro's number

Mole Conversions using Factor Label method(Dimensional Analysis)

Empirical and Molecular formulas

% Composition

Skills

Perform conversions between moles, number of particles, mass, and volume

Solve for empirical and molecular formulas

Learning Activities/Instructional Strategies

- Activity: Avogadro Flight 1023

- Activity: Avogadro's Number
- Chapter 10 Packet
- LAB: Flinn Intro to the Mole Concept
- Team conversions

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
- Multi-sensory
- Multiple texts
- 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.A	Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.
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.E	Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
TECH.8.1.12.F	Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
TECH.8.2.12.C	Design: The design process is a systematic approach to solving problems.
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.