ARISE Curriculum Guide

Chemistry: Topic 9—Stoichiometry

ChemMatters

Order a CD with 25 years of ChemMatters, $30

Articles for Student Use

The Exploding Tire: April 1988, pp. 12-14.
Rockets: Chemistry Model for Liftoff: April 2001

Articles for Teacher Use

Number and Topic:	**8. Chemical Reactions** **9. Stoichiometry** **11. Thermochemistry** **12. Gases/Gas Laws/Kinetic Theory** **22. Redox/Electrochemistry/Electrochemistry**
Source:	*ChemMatters*, April 2001, "Rockets: Chemistry Model for Liftoff"
Type of Material:	Student Journal Article
Building on:	Properties of compounds and elements, chemical reactions, gas laws
Leading to:	Redox reactions
Links to Physics:	Strong links to motions and forces and kinematics as well as measurement
Links to Biology:	
Good Stories:	
Activity Description:	Article describes the basic principles behind the operation of a model rocket, both chemical and physical.

Number and Topic:	**8. Chemical Reactions** **9. Stoichiometry** **12. Gases/Gas Laws/Kinetic Theory**
Source:	*ChemMatters*, April 1988, pp. 12-14, "The Exploding Tire"
Type of Material:	Student Journal Article
Building on:	Gas laws, chemical reactions
Leading to:	Explosive mixtures
Links to Physics:	Gas laws
Links to Biology:	
Good Stories:	
Activity Description:	Article deals with a "mystery" explosion of a tire that was being repaired. It discusses how the use of a can of "instant flat tire fixer" was the cause of the explosion, and it goes into the specific chemical reactions involved as well as their stoichiometry.

Flinn ChemTopic Labs

Order Flinn ChemTopic Labs

Demo: Stoichiometry and Solubility - Mole Ratios and Chemical Formulas
Demo: Stoichiometry Balloon Race - Limiting and Excess Reagents
Lab: Cu Again! - A Copper Cycle
Lab: Decomposition of Sodium Chlorate - Mass, Moles and the Chemical Equation
Lab: Magnesium Oxide - Percent Composition and Empirical Formula
Lab: Mole Ratios - Copper and Silver Nitrate
Lab: Micro Mole Rockets - Hydrogen and Oxygen Mole Ratio
Lab: Who's Counting? - Atoms, Mass and Moles
Lab: Molar Volume of Hydrogen—Combining the Gas Laws
Webpage: Learning Stoichiometry

ICE LABS

No activities for this topic.

Technology-Adapted Labs

No activities for this topic.