

Name: Townsend Smith

Date: _____

Student Exploration: Stoichiometry

Vocabulary: Avogadro's number, balanced equation, cancel, coefficient, conversion factor, dimensional analysis, formula mass, molar mass, mole, molecular mass, stoichiometry

Prior Knowledge Questions (Do these BEFORE using the Gizmo.)

1. A 250 mL glass of orange juice contains 22 grams of sugar. How much sugar is in a two-liter (2,000 mL) bottle of orange juice? 176g of sugar
2. It requires two sticks of butter to make a batch of 20 cookies. How much butter will it take to make 150 cookies? 15 butter sticks

Gizmo Warm-up

Just as a cook follows a recipe to decide how much of each ingredient to add, a chemist uses **stoichiometry** to determine the amounts of substances involved in chemical reactions. The *Stoichiometry Gizmo* allows you to try your hand at figuring out the amounts of reactants and products that take part in a chemical reaction.

To begin, check that this equation is shown:



1. Look at the **coefficients** (such as the "3" in 3CO) in front of each substance in the equation. The coefficients tell you how many molecules or atoms take part in a chemical reaction. In the spaces below, list the number of each molecule or atom in the equation:

 Fe_2O_3 1CO 3Fe 2 CO_2 3

2. In a **balanced equation**, the same number of each kind of atom is shown on each side of the equation. Calculate the number of iron (Fe), oxygen (O), and carbon atoms (C).

Reactants Iron: 2Oxygen: 6Carbon: 3Products Iron: 2Oxygen: 6Carbon: 3

Based on these values, is the equation balanced? _____

New equation



New question

How many moles of carbon monoxide (CO) are required to react completely with 1.75 moles of iron (III) oxide (Fe_2O_3)?

Problems solved: 0



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RJ Shavelson



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Table of Contents Genetic Engineering Answer Key 13 Study Guide

1. Understanding the eBook Genetic Engineering Answer Key 13 Study Guide
 - The Rise of Digital Reading Genetic Engineering Answer Key 13 Study Guide
 - Advantages of eBooks Over Traditional Books
2. Identifying Genetic Engineering Answer Key 13 Study Guide
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Genetic Engineering Answer Key 13 Study Guide
 - User-Friendly Interface
4. Exploring eBook Recommendations from Genetic Engineering Answer Key 13 Study Guide
 - Personalized Recommendations
 - Genetic Engineering Answer Key 13 Study Guide User Reviews and Ratings
 - Genetic Engineering Answer Key 13 Study Guide and Bestseller Lists
5. Accessing Genetic Engineering Answer Key 13 Study Guide Free and Paid eBooks
 - Genetic Engineering Answer Key 13 Study Guide Public Domain eBooks
 - Genetic Engineering Answer Key 13 Study Guide eBook Subscription Services
 - Genetic Engineering Answer Key 13 Study Guide Budget-Friendly Options
6. Navigating Genetic Engineering Answer Key 13 Study Guide eBook Formats
 - ePub, PDF, MOBI, and More
 - Genetic Engineering Answer Key 13 Study Guide Compatibility with Devices
 - Genetic Engineering Answer Key 13 Study Guide Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Genetic Engineering Answer Key 13 Study Guide
 - Highlighting and Note-Taking Genetic Engineering Answer Key 13 Study Guide
 - Interactive Elements Genetic Engineering Answer Key 13 Study Guide
8. Staying Engaged with Genetic Engineering Answer Key 13 Study Guide

- Joining Online Reading Communities
- Participating in Virtual Book Clubs
- Following Authors and Publishers Genetic Engineering Answer Key 13 Study Guide
- 9. Balancing eBooks and Physical Books Genetic Engineering Answer Key 13 Study Guide
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Genetic Engineering Answer Key 13 Study Guide
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Genetic Engineering Answer Key 13 Study Guide
 - Setting Reading Goals Genetic Engineering Answer Key 13 Study Guide
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Genetic Engineering Answer Key 13 Study Guide
 - Fact-Checking eBook Content of Genetic Engineering Answer Key 13 Study Guide
 - Distinguishing Credible Sources
- 13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
- 14. Embracing eBook Trends
 - Integration of Multimedia Elements
 - Interactive and Gamified eBooks

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web 1 introduction paravalvular leak pvl is a common complication after surgical valve replacement with an incidence of 0-5% in the aortic and 5-10% in the mitral position 1-4 among patients with pvl approximately 3% require treatment because of congestive heart failure or hemolytic anemia 5-8