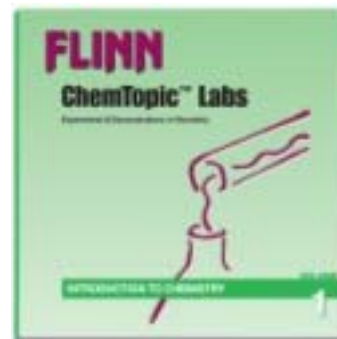


# Introduction to Chemistry— Demonstration Summaries and Concepts



## ***Acid in the Eye Safety Demonstration***

Start with safety! Introduce the most important element of lab safety with this demonstration that shows the immediate and irreversible destruction of a simulated eye—an egg white—by strong acids and bases. This demonstration will leave your students with an unforgettable impression of why they should always wear their goggles in the lab.

## ***Reading Volumes—A Significant Figures Demonstration***

Do you believe everything you read? How do you “read” volume measurements in the laboratory? What do the numbers really mean? In this interactive classroom demonstration, students learn how to make volume measurements using a variety of different types of lab glassware. In doing so, they discover the concept of uncertainty in measurement and the meaning of significant figures.

## ***Mass vs. Density Chemical Demonstration***

Two candle pieces, one large and one small, are placed in clear, colorless liquids. One candle sinks, the other floats. What causes the difference? Is it their mass? Is it their density? Maybe not all colorless liquids are identical! Use the discrepant events in this demonstration to teach students about the difference between an observation and an inference and to reinforce the idea of density as an intensive physical property.

## ***Classifying Matter—A “Nuts-and-Bolts” Demonstration***

Bulk samples of an element, a compound, and a mixture may look similar on the outside. But when we talk about these concepts with students, we are asking them to see what they look like on the inside, to imagine what atoms and molecules look like. This “nuts-and-bolts” demonstration will help your students visualize abstract concepts relating to the classification of matter.

## ***A Burning Candle—Lessons in Observation Demonstration***

Careful observation is the foundation of chemistry as an experimental science. Would you believe it’s possible to come up with more than 100 observations of a “simple” burning candle? Students hone their observational skills as they compete to describe what they observe when a candle burns.

## **Concepts:**

- Goggle safety
- Strong acids and bases
  
- Significant figures
- Uncertainty
- Precision
- Accuracy
  
- Mass
- Density
- Intensive property
- Observation
  
- Element
- Compound
- Mixture
- Classification of matter
  
- Observation
- Interpretation
- Scientific method