

Honors Chemistry

Measurements and Calculations Quiz Topics

Students will be able to:

- Convert numbers from standard notation to scientific notation
- Convert numbers from scientific notation into standard notation
- Use the density formula to find the density, mass, or volume when given two of the three units
 - Volume can be measured using length x width x height of a regularly-shaped object, or the water displacement method for an irregularly-shaped object
- Differentiate between accuracy and precision, and classify a set of values in terms of accuracy and precision
- Record valid measurements from an instrument by including all certain digits (those marked on the device) plus one estimation digit (one place value beyond what is marked on the device)
- Count the number of significant figures in a given value
 - Values can be those with and without decimal places
- Use the rules for multiplication/division and addition/subtraction when rounding calculations to the appropriate number of significant figures
- Write conversion factors between prefixes and base units using Reference Table C
- Perform unit conversions using single-step and multi-step dimensional analysis

Throwback topics:

- Intensive vs. extensive physical properties
- Elements vs. compounds vs. mixtures
- Separation techniques: distillation, evaporation, chromatography, filtration