

Objectives for Subunit 1: Measurements and Calculations in Chemistry (Chapter 2)

- 1) Distinguish between qualitative and quantitative measurements.
- 2) Name SI units for length, mass, time, volume, and density.
- 3) List and define the common metric units.
- 4) Distinguish between mass and weight.
- 5) Perform density calculations and determine densities of unknown liquids and solids from experimental data.
- 6) Distinguish between accuracy and precision of a measurement.
- 7) Determine the number of significant figures and understand how they are used to express uncertainty in measured and calculated values?
- 8) Perform mathematical operations involving significant figures.
- 9) Convert measurements into scientific notation.
- 10) Distinguish between inversely and directly proportional relationships.
- 11) Determine percent error of a measurement from experimental data.
- 12) Construct conversion factors from equivalent measurements.
- 13) Apply the techniques of dimensional analysis to a variety of conversion factors.
- 14) Use dimensional analysis to solve multi-step problems.
- 15) Convert between Celsius and Kelvin temperature scales.
- 16) Construct a graph to the correct scale from data.
- 17) Determine the slope of a best-fit line from data and interpret what the slope tells you about the data.
- 18) Prepare and use a calibration curve from data.
- 19) Be able to manipulate variables and constants in literal equations.