

## Molar Mass Lab Report Worksheet

Below is an outline of the report. Arrange the information in the following order in a Word document.

1. From an Excel spreadsheet generate a table which has all your raw data. This table should include the scale error of all instruments.
2. From an Excel spreadsheet generate a table which shows all your calculated data.
  - Density of water
  - Mass of water in the bulb
  - Volume of bulb
  - Pressure of gas
  - Mass of gas
  - Temp of gas in Kelvin units
  - Molar mass for each trial
  - Average molar mass for each gas

Show a sample calculation for each type of calculation above. You may want to use Word's equation editor for some of the equations.

3. From an Excel spreadsheet generate a table which lists and/or calculates your error.
  - Propagated error for the density of water with the square errors for mass and volume in separate columns
  - Propagated error for volume of the bulb with the square errors for mass and density in separate columns
  - Propagated error for each trial for the molar mass giving the square errors in separate columns for P, m, T, and V
  - Replicate error for the molar mass of each gas
  - % Error for each gas based on the best value for the average molar mass

Show a sample calculation for each type of calculation above. You may want to use Word's equation editor for some of the equations.

4. On the basis of the above tables generate a summary table showing for each gas the (a) propagated error, (b) replicate error, (c) best value, (d) true value, (e) percentage error compared to true value.