

## Relative Precision and Accuracy of Volumetric Glassware

The buret, the pipette, and the graduated cylinder are all designed to deliver known volumes of a solution. In today's experiment, you will compare the relative precision and accuracy of these three devices.

We will determine the density of water at ambient temperature by weighing known volumes of water delivered by each of the three pieces of apparatus. Make at least five repetitive determinations of water density for each delivery method (by delivering a known volume of water into a tared beaker and weighing the water delivered). For each delivery method, calculate an average value for the density and the standard deviation. Look up the known density of water at the current ambient temperature. Compare the literature value to the average value determined by each method. Which is most accurate? Which is most precise? Think of a way to graphically present your data which allows easy comparison of the relative accuracy and precision of each.