# CHEMISTRY LAB: glassware accuracy

## Goal

The goal of this lab is to help you become acquainted with different types of glassware/equipment used for measuring volume and determine which of them measures most accurately.

You will be using a beaker, a volumetric pipette and a measuring cylinder (*graduated cylinder*).

By measuring the mass of the water and using the known density, the volume can be calculated.

Density of water = 1kg/L or 1g/cm$^3$

***(if you have forgotten this, work out the conversion)***

## *Procedure*

1. ***BEAKER***

Select and find the mass of a 100cm$^3$ beaker. **Find the mass to two decimal points (0.00) throughout**

Mass of beaker 32.45

Fill the beaker to 25 cm$^3$ and find the mass 4 times. Dry the beaker between each trial.

a) mass of beaker + water 57.18
b) mass of beaker + water 57.72
c) mass of beaker + water 56.33
d) mass of beaker + water 57.64

} Average: 57.22


2. ***GRADUATED CYLINDER***

Use the graduated cylinder to measure 25 cm$^3$ of water and pour it into the beaker from part 1. (make sure it is dry for each trial)

a) mass of beaker + water 56.93
b) mass of beaker + water 56.86
c) mass of beaker + water 57.06
d) mass of beaker + water 56.91

} Average: 56.94

3. ***PIPETTE***

Use the graduated pipette to measure 25 cm$^3$ of water and pour it into the beaker from part 1. (make sure it is dry for each trial)

a) mass of beaker + water 57.32
b) mass of beaker + water 57.28
c) mass of beaker + water 57.30
d) mass of beaker + water 57.26

} Average: 56.94