

Lab: Density

In this lab, you will determine the densities of various solids and liquids. Make each measurement as accurately and precisely as you can.

Part 1: **materials:** balance, toy block, ruler

Find the mass of the toy block. Measure the length, width, and height (thickness) of the toy block. Record the measurements, and calculate the volume and density of the toy block.

Part 2: **materials:** glass rod, graduated cylinder, water

Mass the glass rod and record the measurement. Find the volume of the glass rod using water displacement and record. Calculate the density of the glass rod.

Part 3: **materials:** piece of aluminum foil, ruler, balance

Find the length and width of the piece of aluminum foil and record. Find the mass of the piece of aluminum foil and record. Using the fact that aluminum has a density of 2.70 g/cm^3 , find the volume of the piece of aluminum foil. Calculate the thickness (height) of the sheet of aluminum foil using correct scientific notation.

Part 4: **materials:** balance, empty dropper, dropper with "unknown" liquid, 10 mL graduated cylinder

Fill the dropper with water. Mass and record. Empty the water into a dry 10 mL graduated cylinder. Mass the empty dropper and record. Calculate the mass of the water. Read and record the volume of the water in the graduated cylinder. Calculate the density of the water.

Repeat for the unknown liquid assigned to your group.