

You Are My Destiny Lab

- Go to the website: “chemcollective.org/activities/vlab/76”

Materials:

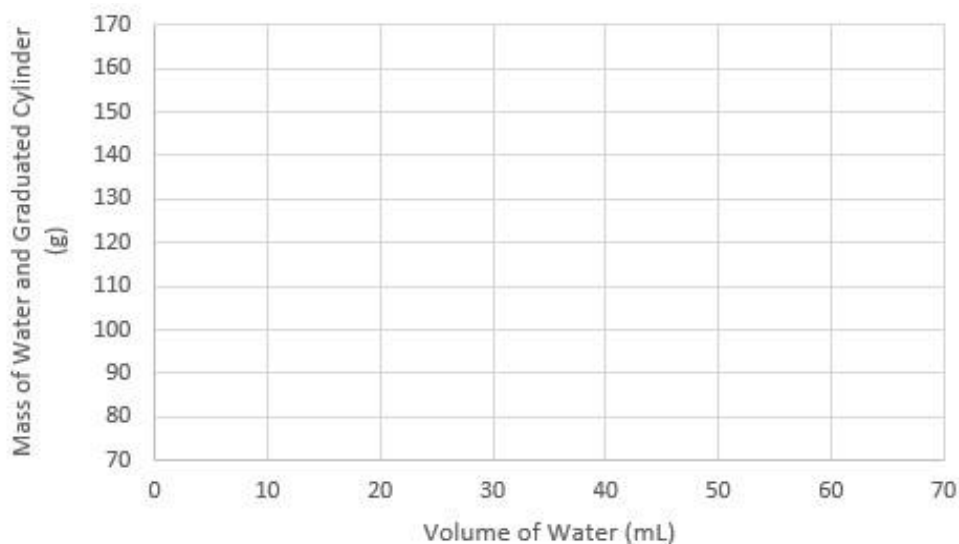
- In the Stockroom pull the “H₂O Distilled Water 3.0 L” to the Workbench 1
- Go back to the Stockroom and go to “Glassware”, Go to “Graduated Cylinders”, and pull a “50 mL Graduated Cylinder 0.05 L” to the Workbench 1
- Go back to the Stockroom and go to “Tools”, and pull a “Scale” to Workbench 1

Workbench 1:

- Put the empty Graduated Cylinder on the Scale and record its mass in the table below under 0 mL.
- Take the Graduated Cylinder off the Scale and move the H₂O on top of the Graduated Cylinder. A popup screen should come up with tabs that says Precise, Sig Fig, and Realistic. Go to the Realistic Tab.
- Tap the button that says “Hold to Pour”. You may have to do it more than once to get some water in the Graduated Cylinder.
- When you get some water in the Graduated Cylinder, Read the Graduated Cylinder’s volume to one decimal place (If you need to see a close up of the Graduated Cylinder – right click the Graduated Cylinder and click on “Detail View”, record it in the table below, place it on the Scale and record the mass in the table below.
- Repeat 4 more times with 4 different volumes and 4 masses.

Volume of Water (mL)	Mass of Water and Graduated Cylinder (g)
0.0 mL	

Graph Your Data below in a Scatter Plot



Post-Lab Questions

- 1) What was the independent variable in this experiment (the variable that “you” changed)?
- 2) What was the dependent variable in this experiment (what changed because you changed something)?
- 3) What was held constant in this experiment (what did not change)?
- 4) Draw a best-fit line over your data in the graph (do not connect the dots, use a ruler or a straight-edge to draw the best straight line that goes through the most data points).
- 5) Pick two points that your best-fit line goes through and calculate the slope of the of your best-fit line.

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\text{rise}}{\text{run}}$$

- 6) What were the units of the rise (the y-axis)?
- 7) What were the units of the run (the x-axis)?
- 8) What is the units of your slope (y/x)?
- 9) What property does the slope tell you about the water?
- 10) What does the y-intercept on your graph tell you?
- 11) If you had 35.3 mL of water, what would be the mass of this water?