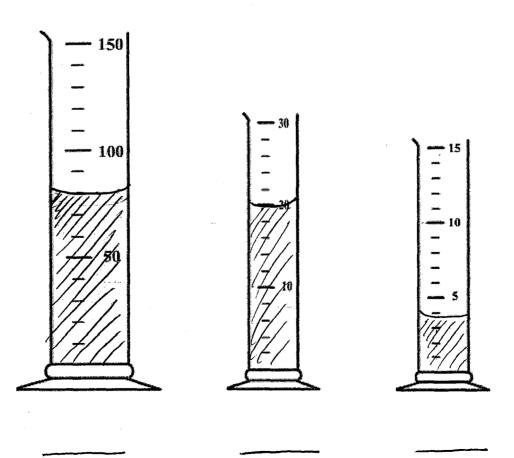


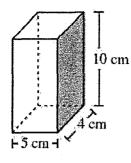
Volume is defined as the amount of space a sample of matter takes up. In today's lab you will be measuring the volume of several samples of 3 chemicals.

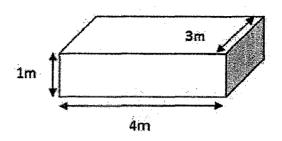
We measure volume of a regular object by using the formula Length x width x height. The volume of any regular solid object can be found using this formula, the SI unit for volume is the cubic meter (m3) however scientists often use cubic centimeters (cm³).

The volume of a liquid sample of matter is measured using a graduated cylinder. Each marking on the graduated cylinder represents a specific value usually in milliliters (mL) As with solids, the si unit for the volume of a liquid is the liter (L). Each time you use a G.C. you should calculate the value of each marking before you use it.

Pre Lab Calculate the volume in the following examples







Lab Materials:

40-50 ml Samples of Dihydrogen monoxide in red, blue, and yellow forms.

Glass beakers Test tubes Eyedroppers Test tube rack Graduated cylinder Washing bottle with water

Procedure:

- 1. Locate your materials, label your test tubes with the letters A-F. Place one eyedropper in each of the dihydrogen monoxide beakers. DO NOT MIX THE EYE DROPPERS UP, it is very important that the different liquids do not mix until you told to do so. This will prevent contamination.
- 2. Using the graduated cylinder measure 25 ml of liquid from the beaker containing the red sample and add it to test tube A.
- 3. Measure 19 mL of the yellow chemical and add it to test tube C.
- 4. Measure 22 mL of the blue chemical and add it to test tube E
- 5. Measure 8 mL of chemical from test tube C and pour it into D.
- 6. From test tube E measure 14 mL and add it to test tube D. Mix.
- From the blue sample in the beaker, measure an additional 4 mL and pour it into test tube F. then from the red sample in the beaker, measure 9 mL and add it to test tube F. Mix.
- 8. Measure 8mL of liquid from test tube A and pour it into test tube B. From test tube C measure 3 mL and add it to test tube B. Mix.
- 9. Fill in the data table below, you will need to measure the total volume of each sample in tubes A-F. You will want to rinse the graduated cylinder between samples.

10. Create a bar graph of the data you obtained.

Data Table 1

| Test Tube | Sample Color | Sample Total Volume |
|---------------------------------------|---------------------------------------|---------------------|
| · · · · · · · · · · · · · · · · · · · | | |
| | | |
| | | |
| | | |
| | · · · · · · · · · · · · · · · · · · · | |
| · | | |

| | a da kumana ka mata mata maka maka na pana ang ka na ka sa bara da sa sa bara sa | and a set of the set of |
|---|---|--|
| | | |
| | and a summarized product of the second state of the second state of the second state of the second state of the | and the second |
| | | |
| | a na na sana ang ang ang ang ang ang ang ang ang | والمراجع والمركب والمتعاد والأراب والمتعاد والمتعادية والمتعادية والمتعادية |
| | | |
| | a na ana ang ang ang ang ang ang ang ang | a da la granda da seconda de estas de la seconda de la |
| | | |
| | الروابية الألفان المحاج فالمستان المرتب منقست الطار مستهم مستكبان أأرار المسرب الرائل التاريجينا الرقب | and the second |
| | | |
| | and the second contract of the second contract of the second second second second second second second second s | and the second |
| | | |
| | a series and a series of the series of th | and the second |
| | | |
| | | n an ann an Air ann an Air ann an Air ann an Ai |
| | | |
| | | |
| | | |
| | | |
| | na di ale esta constana en la constana en la constana en esta esta esta esta esta esta esta esta | and a second of the second |
| | | |
| | a da na manana na minana minana Na minana mina | |
| | | |
| | an the share a star when the star of the second second star with the star stars when the second second second s | n an an an an an an tha an tha an tha an an tha an |
| | | |
| | a se a native and a native device de la sector terrete de la sector de la sector de la sector de la sector de s | B. Constanting Constant and Con |
| | | · · · · |
| | a sum and an and the manufacture of the second s | , where the second $\lambda_{ij}^{(1)}$, the second sec |
| | | |
| | a second a second se | and the second |
| | | |
| a second seco | a sharan ay sharan an a | and the second |
| a second seco | (a) A supervised and a supervised of the supervised states are supervised as a supervised state of the supervised states are supervised state | |
| a second seco | المهارية المراقبة المراجع المؤر بالطبيقين الموجينية المراجع المؤرب بكرابه المتفار | a deservation of the second |
| | | |
| | an a | والمعادية والمعادية والمعادية والمتعادية والمتعادية والمعادية والمعادية والمعادية والمعادية والمعادية والمعادي |
| | | |
| | and the second | and the second |
| | | |
| | n an | |
| | | |
| | n an an an an an an an an ann an an an a | a second a second s |
| | | |
| | | and the second |