

## BR: March 7th

What mass of glucose must dissolve in 400 ~~grams~~ mL of water to make a 2.5 M solution?

$$2.5 \text{ M} = \frac{x \text{ mols solute}}{.4 \text{ L solvent}}$$

$$1 \text{ mol} \times \frac{180 \text{ g}}{1 \text{ mol}} = 180 \text{ g}$$

Apr 4-8:30 AM

## Thursday, March 7th

**Objective:** Students will understand how to make a dilution.

1. Bellringer
2. Notes: Dilutions
3. Homework ?'s

**Due:** pHET Concentrations  
**Homework:** Dilutions Pre-lab and Concentration/Dilution Practice

Apr 4-8:16 AM

## Dilutions

-- adding solvent to decrease the concentration

**Concentrated Solution:** has a large amount of solute per solvent

**Dilute Solution:** has a smaller amount of solute per solvent

Mar 7-10:18 AM

## Creating a Dilute Solution

$$M_1 V_1 = M_2 V_2$$

$M_1$  = molarity (M) of the original solution

$V_1$  = volume (mL or L) of the original solution

$M_2$  = molarity (M) of the dilute solution

$V_2$  = volume (mL or L) of the dilute solution

Stock Solution

Mar 7-10:31 AM

## Practice: $M_1 V_1 = M_2 V_2$

What volume of a 3.00 M KI stock solution would you use to make 0.300 L of a 1.25 M KI solution?

$$\frac{3.00(0.125)}{3} = \frac{1.25(0.3)}{3}$$

$$= 0.375$$

$$V_1 = 0.125 \text{ L}$$

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## Practice: $M_1 V_1 = M_2 V_2$

How many milliliters of a 5.0 M  $\text{H}_2\text{SO}_4$  stock solution would you need to prepare 100.0 mL of 0.25 M  $\text{H}_2\text{SO}_4$ ?

$$5.0 \text{ M}(V_1) = 0.25(100)$$

$$5.0 V_1 = 25$$

$$V_1 = 5 \text{ mL}$$

Mar 7-10:31 AM

**Practice:  $M_1V_1 = M_2V_2$** 

If 0.50 L of 5.00 M stock solution of HCl is diluted to make 2.0 L of solution, how much HCl, in grams, is in the solution?

$$.5(L) = 2(M_2)$$

$$\frac{2.5}{2} = \frac{2 M_2}{2}$$

$$M_2 = \frac{1.25 M}{1} = \frac{x \text{ mols}}{2 \text{ L}}$$

$$2.5 \text{ mols} \times \frac{36 \text{ g}}{1 \text{ mol}} = 90 \text{ g}$$

Mar 7-10:31 AM

**HW ?'s: Concentration & PhET Simulation**

Mar 16-6:56 AM

## Attachments

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solutionSalt.zip

clipboard(20615).galleryitem