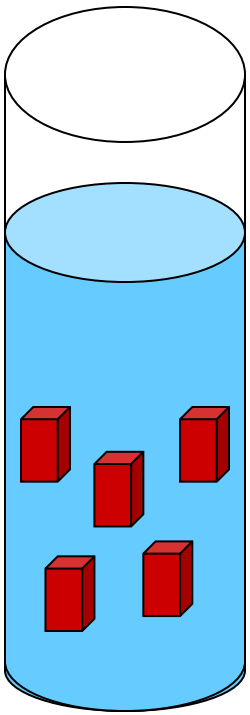


Solution Concentration

MOLALITY

MOLALITY

- Concentration of a solution expressed in moles of solute per kilogram of solvent.
- Using water as a solvent and knowing that the density of water is 1.0 grams / mL we can say...
 - 1 gram = 1mL
 - 1 kg = 1 L
- **Molality** is used when studying properties of solutions related to vapor pressure and temperature changes.



When to use Molarity vs. Molality

- MOLARITY (M)
 - Used when it is important to know the molar mass of a solute in a given volume of solution.
- MOLALITY (m)
 - Used when it is important to know the relative #'s of solute and solvent particles.

SOLVING PROBLEMS

- SHOW ALL THE WORK!!!!!!
- BE PREPARED TO TURN THIS IN !!!!!!!!!!!!!!!!!!!!!!!

What is the molality of a solution composed of 13.0g of NaCl dissolved in 500.0g of water?

Ans: (.44mol/kg)

How many grams of NaCl are needed to prepare a 1.0m solution using 250.0g of solvent?

Ans: 14.5g NaCl

What quantity in grams of methanol, CH_3OH is required to prepare a 0.244m solution in 400g of water?

Ans: 3.12 g CH_3OH

- ON YOUR IPAD, PLEASE GO TO THE MOLALITY WORKSHEET, PAGE 70 AND COMPLETE THE PROBLEMS.
- YOU MAY WORK WITH A PARTNER
- ALL WORK MUST BE SHOWN
- TURN IN AT THE END OF CLASS!!!!
- ANSWERS:
 - 1. 2.0M
 - 2. .22 m
 - 3. .12 m
 - 4. 3.75 g
 - 5. .134kg = .134L

the end....

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