MOLARITY

Determine moles and Liters.

What is the molarity of 150 g NaCl dissolved in 750 mL of water?

1. Convert mL to L
2. Find the molecular weight of each molecule and add them together
3. Plug in numbers using dimensional

analysis Equation:

M=moles

L

750 ~~mL~~	1 L	750 L	= .75 L
	1000 ~~mL~~	1000	

Na= 23 Cl= 35

=58 g/mol

150 ~~g NaCl~~	1 mol	= 150 mol	= 2.59 mol
	58 ~~g~~	58	

SOLUTION DILUTION (make more dilute)

Equation: C1 V1 = C2 V2

The concentration will be in Molar or %. DO NOT convert. Keep mL or L as it is.

How much of a 1 molar solution can you make from 2 liters of a 10 molar

solution? C1= 10 M

V1= 2L

C2= 1 M

V2=? = 20 L

Solving for V2 therefore need to get it by itself.

C1 (V1) =	~~C2~~ (V2)
C2	~~C2~~

= 10M (2L) / 1M = 20L = 20 L

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OSMOLARITY

Metal and Non-Metal. What is the osmolarity of a 5 molar Ca1Cl2 Solution?

Equation: Osm= M (i) Multiply molar by the subscript. 5 (3) = 15 Osm/L

MASS/VOLUME mass will need to be in grams and volume in %. Divide mass by volume then multiply by 100. Example: What is the mass/volume % of 300 g NaCl mL dissolved in 2 L of water? First convert to mL then solve.

2~~L~~ (1000mL) (the Liters cancel out) = 2,000 mL

1~~L~~