3. 2 Molar Solubility

1. Think of <u>molar solubility</u> as <u>molarity</u> of a saturated solution!!

Example: 0.49 g of $AgBrO_3$ is required to saturate 250 mL of water. What is the molar solubility of $AgBrO_3$?

Example: AlF_3 has a molar solubility of 0.0665 M. How many grams of AlF_3 will dissolve in 1 L?

2. Dilution Calculations

Use the formula: **$C_1V_1 = C_2V_2$**
(initial conc.) x (initial volume) = (final conc.) x (final volume)

Example: Suppose you have 300.0 mL of 1.2 M HCl. How much water do you need to add to dilute it to 0.50 M HCl?

Example: You have 145 mL of a 8 M HNO_3 solution. What is final concentration after adding 650 mL H_2O?

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3. Concentration of Individual Ions

$MgBr_{2\,(s)} \xrightarrow{H_2O} Mg^{+2}{}_{(aq)} + 2Br^{-}{}_{(aq)}$

1 mol	→	_____ **+** _____
_____	→	_____ **+ 2 M**
0.3 M	→	_____ **+** _____

Example: What are the concentrations of ions in a 1.5 M Fe_2O_3 solution?

Example: 8.5g of $MgCl_2$ is dissolved in 2.0L. What is $[Mg^{+2}]$ and $[Cl^-]$?

Example: 500 mL of 0.8 M Li_2CO_3 is mixed with 500 mL of 0.5 M BeF_2. Find concentration of all ions!

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