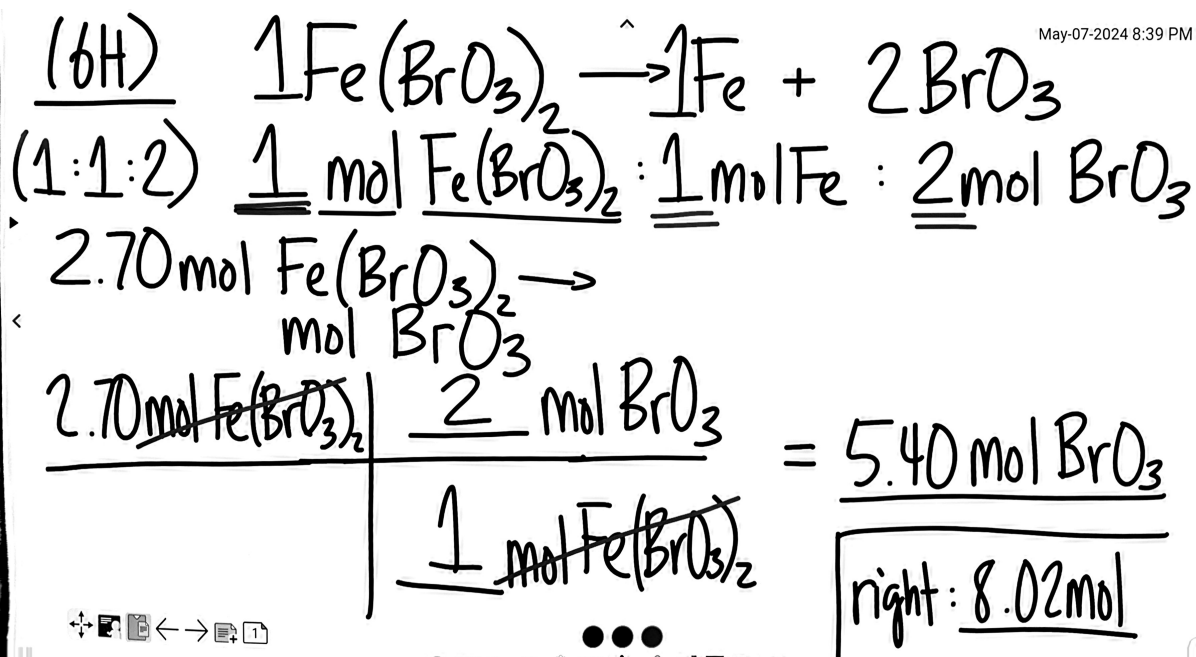
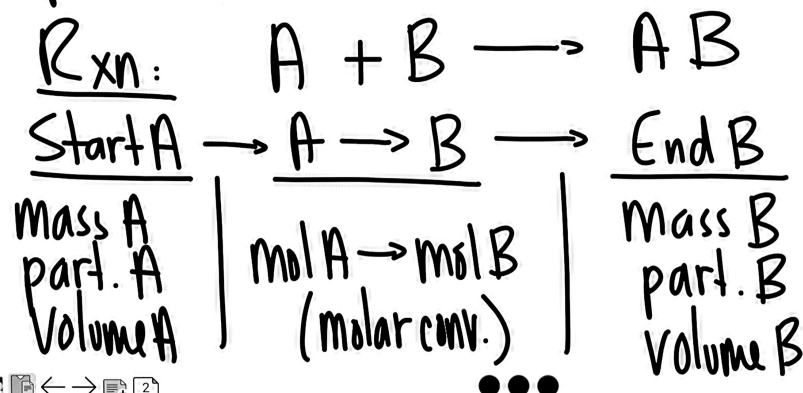




Multistep Molar Conversions

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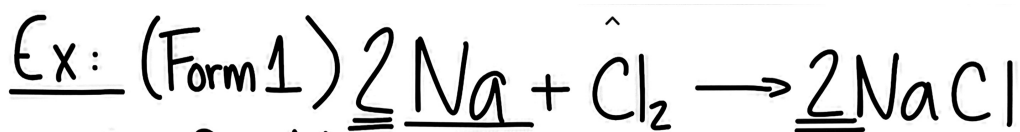
The "molar conversion" acts as a bridge between two parts of chemical reactions.



Two Step Conversions

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<u>Form 1</u>	
$\text{Mass}_A \rightarrow \text{mol}_B$	$\frac{\text{Start g}_A}{\text{MM}_A} \times \frac{1 \text{ mol}_A}{1 \text{ mol}_A} \text{ (step 1)} = \text{mol}_A$
<u>Step 1</u> : $\text{Mass}_A \rightarrow \text{mol}_A$	$\frac{(\text{step 1}) \text{ mol}_A}{1 \text{ mol}_A} \times \frac{\text{ratio mol}_B}{\text{ratio mol}_A} \text{ (step 2)} = \text{mol}_B$
<u>Step 2</u> : $\text{mol}_A \rightarrow \text{mol}_B$	



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25.0g Na, convert to mol NaCl

<u>Step 1</u>	<u>Step 2</u>
$\frac{25.0 \text{ g Na}}{22.99 \text{ g Na}} \times \frac{1 \text{ mol Na}}{1 \text{ mol Na}} = 1.09 \text{ mol Na}$	$\frac{1.09 \text{ mol Na}}{1 \text{ mol Na}} \times \frac{2 \text{ mol NaCl}}{2 \text{ mol Na}} = 1.09 \text{ mol NaCl}$

MM_{Na} = 22.99 g/mol = 1.09 mol Na

Two Step Conversions

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Form 2

Mol A $\rightarrow$ Mass B

Step 1: Mol A $\rightarrow$ Mol B

Step 2: Mol B $\rightarrow$ Mass B

Start A mol	$\frac{\text{ratio mol B}}{\text{ratio mol A}}$ (step 1)
	= _____ mol B

(step 1) mol B	$\frac{\text{MM}_B}{1 \text{ mol B}}$ (step 2)
	= _____ Mass B

Ex 2 (Form 2) $2\text{NaBr} \rightarrow 2\text{Na} + 1\text{Br}_2$

3.92 mol Br₂, convert to mass Na

(step 1) (A) (step 2) B

3.92 mol Br ₂	$\frac{2 \text{ mol Na}}{1 \text{ mol Br}_2}$	7.84 mol Na	$\frac{22.99 \text{ g Na}}{1 \text{ mol Na}}$

= 7.84 mol Na

MM_{Na} = 22.99 g/mol = $\frac{180.24}{\text{g Na}}$