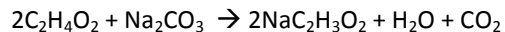


Name _____

Limiting Reactant Demo

Here is the chemical reaction when acetic acid (Vinegar) reacts with sodium carbonate:



1. What is the mole ratio of Acetic Acid ($\text{C}_2\text{H}_4\text{O}_2$) to Sodium Carbonate (Na_2CO_3)?
2. Complete the table as I do the demo.

	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
Amount of $\text{C}_2\text{H}_4\text{O}_2$	10 mL (.016 moles)	10 mL (.016 moles)	10 mL (.016 moles)	10 mL (.016 moles)	10 mL (.016 moles)
Amount of Na_2CO_3	.105g	.21g	.42g	.84g	1.7g

Calculations

3. Find the number of moles of Na_2CO_3 contained in each of the balloons for the first row in the table. For the second row in the table calculate the amount of moles of Acetic Acid ($\text{C}_2\text{H}_4\text{O}_2$) needed to react with the amount of moles Na_2CO_3 you calculated in the column above. Show your work in the table below.

	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
Number of moles Na_2CO_3					
Number of Moles CO_2 that can be produced from amount of Na_2CO_3					

4. The amount of $\text{C}_2\text{H}_4\text{O}_2$ in each trial was .016 moles. How many moles of CO_2 can be produced from .016 moles of $\text{C}_2\text{H}_4\text{O}_2$?
5. Identify the limiting reactant for each trial done in the demo.