I. Fill in the data table below as you watch the lab on the video.

<table>
<thead>
<tr>
<th>mass of sodium bicarbonate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>mass before reaction</td>
<td></td>
</tr>
<tr>
<td>mass after reaction</td>
<td></td>
</tr>
</tbody>
</table>

II. Write a balanced equation for the reaction that took place. (Hint: the narrator on the video will help you with this.)

III. Conclusion Questions: Answer each question completely. SHOW ALL WORK!

- Calculate the mass of carbon dioxide produced in the experiment. (Hint: Think about what bubbled away.)

- Use molar masses to calculate the percent of carbon in carbon dioxide using the following formula.

\[
\% \text{ C in CO}_2 = \frac{\text{mass of C}}{\text{mass of CO}_2} \times 100\%
\]
• Calculate the mass of carbon in the sample of carbon dioxide using the same formula and your answers to the previous two calculations.

• Calculate the percentage of carbon that was in the original sample of sodium bicarbonate using the following formula.

\[
\% \text{ C in NaHCO}_3 = \frac{\text{mass of C}}{\text{mass of NaHCO}_3} \times 100\%
\]

IV. Practice Problems. SHOW ALL WORK!

• Calculate the percentage sodium in sodium oxide.

• Calculate the percentage aluminum in aluminum phosphate.

• Calculate the percentage hydrogen in hydrogen peroxide.

• Calculate the percentage nitrogen in dinitrogen pentoxide.