

Name: \_\_\_\_\_

## Hydrate Lab Post Questions

Another hydrate, different from the hydrate you experimented with, was massed, heated until the mass was constant, and massed again. The data is given in "Data set 1" in the data table below. Calculate the water mass in the hydrate and the percent of water in the hydrate. Add your calculated answers to the data table for Data Set 1.

	<b>Data Set 1</b>	<b>Data Set 2</b>	<b>Data Set 3</b>
<b>Hydrate mass</b>	2.00g	2.00g	2.00g
<b>Anhydrate mass</b>	1.29g		
<b>Water mass</b>			
<b>Percent water</b>			

The experiment 1 data was run successfully with very little error. Additional students completed the experiment as well with errors outlined below. For each set of data, read the error below and estimate how the anhydrate mass will be affected. Then calculate the new water mass and percent of water by mass. Add all calculated answers to the data table above.

- Data Set 2: The hydrate is hydrophilic (which means as soon as it cools it absorbs water from the air). The anhydrate was massed after it cooled for 4 minutes.
- Data Set 3: A student massed the hydrate, but while heating, some of the hydrate spattered out of the crucible. The student only noted the incident in the lab notes, but did nothing to fix the recorded masses.

For each hydrate, explain how their properties affected their percent of water calculated:

Experiment 2: \_\_\_\_\_

\_\_\_\_\_

Experiment 3: \_\_\_\_\_

\_\_\_\_\_

A student wants to test if the rate of dehydration is dependent on the formula of the hydrate. Explain below how the student can set up the investigation. Include variables, controls, and a brief description of the procedure.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name: \_\_\_\_\_

### Calcium Ion Post Lab Questions

Another class of students used a different antacid than you. For each experiment, fill in the data that matches the errors made below. Then, using that data, calculate the percent of Calcium in the tablet. **Show your work.**

	Good results	Error Team 1	Error Team 2
Tablet Mass	2.00g	2.00g	2.00g
Filter paper mass	1.002g		
Filter paper + CaCO <sub>3</sub> mass	1.030g		
Mass of CaCO <sub>3</sub>			

- Good results:
- Error Team 1: A student in team 1 added hydrochloric acid too quickly and the solution spilled over. The spilled part was not recovered, but some solution remained in the reaction beaker. The team continued the lab with the remaining solution.
- Error Team 2: A student in team 3 massed the final filter paper while it was wet, and then proceeded to filter and dry the final product.

For each experiment, explain how the errors affected the percent of Calcium in the tablet.

Error 1: \_\_\_\_\_  
\_\_\_\_\_

Error 2: \_\_\_\_\_  
\_\_\_\_\_

A student wants to determine if using Na<sub>2</sub>SO<sub>4</sub> (instead of Na<sub>2</sub>CO<sub>3</sub>) as the second solution would affect the calculated mass of calcium in the tablet. Explain below how the student can set up the investigations. Include variables, controls, and a brief description of the procedure.

\_\_\_\_\_  
\_\_\_\_\_

Predict if the student would obtain similar results. Explain your answer.

\_\_\_\_\_  
\_\_\_\_\_