**Evaluating Reasoning as a Class**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question:** Did a chemical reaction occur when vinegar and baking soda were mixed together? | Answer Yes or No  in each column | | |  |
| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Student Data** | | | | | | | |  | Balloon Diameter  Before | Balloon Diameter After | Vinegar  Initial Temperature | Temperature of Vinegar & Baking Soda | Change in Temp. | Group  Observations | | Average of 5 Groups | 4 (cm) | 19 (cm) | 22 (°C) | 15 (°C) | - 7 (°C) | Bubbles formed in flask  Balloon expanded an average 15cm in diameter; |   **Given Scientific Reasoning**   1. I think a chemical reaction did occur. The reason for that is the vinegar and baking soda reacted with each other and there was a change in temperature. Therefore a chemical reaction occurred. 2. As we have learned in science class, in a chemical reaction something new is made. In this case gas bubbles (carbon dioxide) were produced. Evidence of a chemical reaction includes formation of a gas and temperature change. Both of which happened. | **Includes appropriate science vocabulary?** | **Explains the science facts (big ideas) behind the Evidence and Claim correctly?** | **Answers why or how the Evidence supports claim?** (Connects E & C) | **Total Score**  (Add # Yes in all columns) |
| R1 | R2 | R3 | Total |
|  |  |  |  |
|  |  |  |  |

**Answer the following questions:**

1. Which Reasoning statement is the strongest: **(circle one) a, b** Why?
2. Which Reasoning statement is the weakest: **(circle one) a, b** Why?