Chemical Reactions

Performance Assessment Evaluation

Student:

5 = maximum performance
1 = minimal performance

Student designed an experiment that produced as large a volume of CO_2 gas as possible using as small a mass of sodium bicarbonate as possible, but that was greater than the data provided.	1	2	3	4	5
☐ Student described the procedure in detail. ☐ Student was able to predict if the procedure will attain the goal.					

Student gave reasons for choosing the conditions of their experiment.	1	2	3	4	5
☐ Student correctly analyzed requirements of procedure. ☐ Student included all experimental requirements. ☐ Student clearly understood the requirements of procedure.					

Student tested and presented the results of their experiment.	1	2	3	4	5
☐ Student presented data in a clear and understandable manner. ☐ Student included a graph of their data.					

Student explained whether and why the volume of carbon dioxide produced was more than the sample data provided.	1	2	3	4	5
☐ Student correctly calculated the volume of CO_2 produced. ☐ Student was able to explain why the volumes are comparable.					

Student made recommendations regarding the volume of vinegar and the mass of bicarbonate to be used.	1	2	3	4	5
☐ Student accounted for the limits on reactant amounts. ☐ Student maximized CO_2 produced while limiting reactants.					

Student justified their recommendations based on cost.	1	2	3	4	5
• Student was able to relate the limits placed on reactants to the amount of products produced. • Student considered other possible procedures and predicts the outcome relative to the experimental data.					