Controlled Experiment rubric

Evaluation	4 exceeded standards	3 met standards	2 below standards
Problem/question	The question states the independent variable and the dependent variable, and is testable	The question does not make the independent variable and the dependent variable clear, but is testable	The question is present but is NOT testable.
Variables	The variable, **independent, dependent and control** are clearly stated and tested with **multiple trials**	The variables, **independent, dependent and control** are clearly identified and used in the investigation.	The variables are not represented and or not tested.
hypothesis	The hypothesis predicts the effect that changing the independent variable will have on the dependent variable, explains the reason for the prediction using scientific concepts ("because…")	The hypothesis predicts the effect that changing the independent variable will have on the dependent variable explains the reasoning for the prediction using scientific concepts ("because...") but is incomplete or weak.	The hypothesis is a prediction that does not frame a relationship between the variables OR DOES NOT explain the reasoning for the prediction using scientific concepts ("because...").
procedure	The procedure ● is a step-by-step description of how the investigation was done AND ● uses precise language and scientific vocabulary to describe	The Procedure accurately and completely satisfies two or three of the requirements.	The Procedure accurately and completely satisfies one of the requirements

	both the sequence of actions taken and materials used AND ● is sufficiently detailed to enable the reader to replicate the investigation AND		
results	Data table(s) and graph(s) ● are accurate and include labels (titles, axes with units of measure) AND ● address the hypothesis and have been chosen to clearly address the original question AND ● data analysis identifies and accurately summarizes trends or patterns in the data.	Most parts of the data graphs and tables are present, complete and accurate. Data analysis is attempted but may not be accurate	Few parts of the Data/Results section are complete and accurate or data analysis is not attempted
Demonstration ● States the title ● Why does this represent a chemical reaction? ● Explains how mass is conserved ● What is the evidence of	A scientific explanation consisting of a statement that ●**makes an overall claim** addressing the original investigation question ●**supports the claim** with evidence and relevant, accurate data from the investigation ●**contains relevant scientific concepts**	Three or four parts of the Scientific Explanation are complete and accurate	One or two parts of the Scientific Explanation are complete and accurate.

a chemical change?	●uses words, phrases and clauses that clarify and connect the relationships between claim, evidence and science concepts **●demonstrates an understanding of the topic.**		
conclusion/reflections	Conclusion contains thoughtful, relevant, and reasonable reflections including ●states whether the hypothesis was or was not supported AND ●a description of possible sources of error AND ●suggested solutions to these sources of error AND ***●"Next Steps" determined as a result of this investigation.***	Two or Three parts of the Reflections are complete and accurate.	One part of the Reflection is complete and accurate.