		Points		
Practice	**Component**	**5**	**4**	**3**
Planning and Carrying Out Investigations (Experiment)	Planning and Design (materials)	All materials and the setup used in the investigation are clearly and accurately listed.	Most of the materials and the setup used in the investigation are accurately listed.	Many materials are missing or listed inaccurately.
	Component	**20**	**16**	**12**
	Planning and Design (procedures)	Procedures are listed in clear steps; each step is numbered and in a complete sentence; the investigation could be easily replicated based on the procedures provided.	Procedures are listed, but seem to be missing some information that would allow one to successfully replicate the investigation; some steps are not numbered and/or are in incomplete sentences.	Procedures do not accurately list the steps of the investigation.
	Component	**5**	**4**	**3**
	Data Table	Professional looking table that is nicely organized and appropriately labeled.	Table provides some organization for the data, but could be revised to better present the data.	Table is disorganized.
	Component	**10**	**8**	**6**
	Data (quantitative)	Accurate representation of the data (including units and necessary calculations).	Mostly accurate representation of the data.	Mostly inaccurate representation of the data.
Analyzing and Interpreting Data	**Component**	**5**	**4**	**3**
	Chart	Appropriate and professional looking chart that contains a title that clearly represents the data, and appropriate x and y-axis labels.	Appropriate chart that contains a title that represents the data; may need some revisions to the title and/or axis labels to provide more clarity.	Chart does not appropriately represent the data; missing a title and/or the necessary axis labels.
	Component	**5**	**4**	**3**
	Interpretation	Identifies and	Identifies relevant patterns/trends	Identifies

		synthesizes data to highlight relevant patterns/trends that pertain to the focus of the investigation.	that pertain to the focus of the investigation.	patterns/trends, but they are not relevant and/or do not pertain to the focus of the investigation.
Developing Models	Boundary	Establishes a reasonable boundary from which to develop a sensible model of the system.	Establishes a boundary from which to develop a model of the system, but the boundary is too limiting or too large.	Attempts to establish a boundary from which to develop a model, but is unsuccessful.
	Component	**10**	**8**	**6**
	Components	Completely and accurately illustrates (visually) the pertinent components of the system.	Illustrates most of the pertinent components of the system.	Attempts to illustrate the pertinent components of the system, but is unsuccessful.
	Interactions and Flows	Completely and accurately illustrates (visually) the interactions and flows among the different components of the system represented by the model.	Illustrates most of the interactions and flows among the different components of the system, but some may be inaccurate or missing.	Attempts to illustrate the interactions and flows among the different components of the system, but is unsuccessful.
Practice	**Component**	**5**	**4**	**3**
Constructing Explanations	CER (General)	Effectively uses the CER Framework to compile evidence linked to reasoning in order to develop a final explanation.	Uses the CER Framework to compile evidence linked to reasoning in order to develop a final explanation, but some important details are missing.	Attempts to use the CER Framework to compile evidence linked to reasoning in order to develop a final explanation, but is unsuccessful.
	Component	**20**	**16**	**12**
	Final Explanation	Coherently ties together all of the necessary ideas to accurately explain the phenomenon.	Ties together most of the necessary ideas to explain the phenomenon, but a few important ideas are missing and/or there are inaccuracies.	Attempts to tie together the necessary ideas to explain the phenomenon, but is unsuccessful.
	Component		**5**	**0**
Engage in Argument from Evidence	Student Driven		Students engage in student-driven argumentation and compose a written reflection of the	Students engage in student-driven argumentation, but do not compose a written reflection of

		experience.	the experience.
		Total Points = 105	