Claim ***(answers question)***	
Evidence ***(must include data)***	**Reasoning** ***(the argument: how the evidence supports or does not support the claim)***
Revised Claim (if necessary to account for evidence that does not support original claim)	

Rubric for Assessing Argumentation from Evidence

	not yet competent		***competent***	
	Novice/Emerging	***Apprentice/ Learning***	***Scientist/Skilful***	***Ace/Proficient***
Claim	Does not answer the question	Answers the question but is unclear, incomplete or vague	Answers the question and is clearly stated	Answers question clearly, references an anticipated counter-claim, AND rebuts the counter-claim by explaining why it is not better or more appropriate
Evidence Relevance	Lack of evidence or evidence does not support the claim	Evidence provided is insufficient and possibly includes some irrelevant or inappropriate information	Evidence is relevant, appropriate and sufficient to support the claim	Evidence given is relevant, appropriate, and sufficient to support the claim AND includes data.
Evidence Research	Source of data or other evidence is not cited	Source of second-hand data and research cited but no first-hand research conducted (no student –collected data)	Source of second-hand data is cited and student replicates or designs and conducts a new experiment to collect relevant first-hand data	Source of second-hand data is cited AND student replicates or designs a new experiment, conducts 3 trials when collecting relevant data, averages data, and documents results graphically
Evidence Data	No data is provided as evidence	Data provided as evidence is not sufficient, not relevant, or not accurate	Data used as evidence is either qualitative and categorical ("this vs that"); or quantitative (measurable)	Categorical data is displayed in bar charts or pie graphs AND/OR quantitative data is typically arranged in scatter plots or line graphs
Reasoning Logic	Lacks logic or includes only a logical fallacy	Some sound logic is provided along with a logical fallacy	Logic of argument is sound (using deductive, inductive, or abductive reasoning) without logical fallacy or cognitive bias	Logic of argument is sound AND original claim is modified in light of evidence, applying evidence once again
Reasoning Science	No scientific concept, principle, law or theory is identified	A scientific concept or principle is identified but not relevant to claim	A relevant scientific principle is identified	A relevant scientific principle is identified and used when explaining connection between evidence and claim
Reasoning Justification	Claim is not justified based on evidence	Evidence is re-stated without explicitly connecting to claim OR faulty evidence used	Claim is clearly justified by an explanation that connects appropriate evidence (data)	Reasoning connects relevant evidence (data) to the claim, using sound logic and scientific principle(s) or law(s)