

Claims, Evidence and Reasoning – Scientific Explanations Rubric Linked to SBAC Argumentative Writing

	Exceeds Expectations (5)	Meets Expectations (4)	Approaching Expectations (3)	Needs Improvement (2)	Far Below Exp (1)
Claim – a conclusion that answers the original question	Scientifically accurate; Completely and specifically answers the question; Common inaccurate claim(s) are clearly addressed.	Scientifically accurate; Nearly completely answers the question; Inaccurate claim(s) are only generally addressed, no specifics	Partially scientifically accurate; Partially answers the question; Inaccurate claim(s) are not addressed	Is not scientifically accurate overall; Does not adequately answer the question	Unrelated claim or no claim
Evidence – scientific data that supports the claim	The data are scientifically appropriate to support the claim; The data are thorough and convincing – enough details and evidence provided; Proper units are used in data; Shows with evidence why alternate claims do not work; Includes graph when applicable; graph is appropriate, correct and detailed	The data are scientifically appropriate to support the claim; The data are sufficient and convincing, but tend to be more general and not as specific and in depth; Does not address why alternate claims do not work; Evidence may be repetitive; Includes graph when applicable; graph is appropriate, mostly correct, and detailed	The data relate to the claim, but are not entirely scientifically appropriate; The data are not sufficient, though generally support the claim; May or may not include a graph when applicable; graph has some errors and/or lacking some details	There is some evidence provided, but it is not logically linked to the claim or scientifically appropriate; Graph is missing, has errors and/or lacking significant details	Insufficient evidence or no evidence
Reasoning – justification that links the claim and evidence	Reasoning clearly links evidence to claim; Shows why the data count as evidence by using appropriate scientific principles; There are sufficient scientific principles to make links clear between claim and evidence	Reasoning adequately links claim to evidence; Includes related scientific principles, but only passably clarifies why this data count as evidence; Reasoning tends to be more general and shows only partial depth of content understanding	Reasoning does not adequately link claim to evidence, or clarify why data count as evidence; Includes related and non-related scientific principles, and shows little depth of content understanding	Reasoning is clearly insufficient and relates only tangentially to question and claim at hand; Scientific understanding is very limited	Does not provide reasoning
Sources of Error & Further Exploration	No mistakes in error analysis. All sources of error are relevant and reasonable. Areas for further exploration are creative and inventive.	No mistakes in error analysis. Most sources of error are relevant and reasonable. Areas of further study are creative, but may lack some detail.	Some mistakes in error analysis due to miscalculations. Insufficient number of relevant or reasonable sources of error. Areas for further exploration are present, but lack detail or unrelated to lab.	Error analysis significantly incorrect due to miscalculations. Insufficient number of relevant or reasonable sources of error. Areas for further exploration are unrelated to lab.	Insufficient or no sources of error. Areas for further exploration are unrelated to lab or missing.
Language and Organization	Response clearly and effectively expresses ideas using precise, scientifically appropriate descriptions and vocabulary; Focus only on question at hand; Logical progression of ideas; Clearly stated and focused claim that is strongly maintained	Response adequately expresses ideas and scientifically appropriate descriptions and vocabulary, but they are more general than specific; Focus mainly on question at hand, some loosely connected material present; Logical progression of ideas; Clearly stated and focused claim that is adequately maintained	Response inconsistently and sometimes inappropriately expresses ideas or scientific descriptions and vocabulary; Focus not consistent on question at hand; Progression of ideas not entirely logical; Have a claim, but it's not entirely clear or maintained	Scientific language and vocabulary are not precise or appropriate; Focus not at all consistent; Progression of ideas not logical; Have an unclear claim that is not maintained	Not understandable; No clear focus or organization

Rubric adapted by Kevin J. B. Anderson from K. McNeill and J. Krajcik, NSTA, and SBAC Argumentative Writing Rubric for grades 6-11