

Argument Writing in Science Rubric

Based on the Massachusetts Science, Technology & Engineering Framework and English Language Arts Framework
Grades 11-12

Description	Novice	Developing	Proficient	Advanced
<p>Claim (<i>A statement or conclusion that answers the original question/problem based on evidence</i>)</p> <p>A clear arguable claim is made to answer a question</p>	<p>Does not make a claim or the claim is not relevant to the question</p> <p>Does not establish the significance of the claim</p> <p>Does not distinguish the claim(s) from alternate or counterclaims</p>	<p>Makes an incomplete or unclear claim that is relevant to the question</p> <p>Attempts to, but does not clearly establish the significance of the claim</p> <p>Attempts to, but does not clearly distinguish the claim(s) from alternate or counterclaims</p>	<p>Makes a clear, knowledgeable claim relevant to the question</p> <p>Establishes the significance of the claim(s)</p> <p>Distinguishes the claim(s) from alternate or counterclaims</p>	<p>Makes a clear, knowledgeable and insightful claim relevant to the question</p> <p>Establishes the significance of the claim(s)</p> <p>Clearly distinguishes the claim(s) from alternate or counterclaims</p>
<p>Evidence (<i>Scientific data that supports the claim</i>)</p> <p>Relevant and sufficient evidence is provided from accurate, reliable sources to support the claim(s) and counterclaims</p>	<p>Does not provide evidence to support the claim or only provides evidence that is not relevant or is unreliable</p> <p>Does not develop claim(s) and counterclaims fairly and thoroughly-the strengths and limitations of both are not addressed</p>	<p>Provides relevant, but insufficient evidence to support the claim(s) and counterclaims</p> <p>Most of the evidence is from accurate, reliable sources</p> <p>Attempts to develop claim(s) and counterclaims fairly and thoroughly, but does not point out the strengths and limitations of both</p>	<p>Provides the most relevant and sufficient evidence to support the claim(s) and counterclaims</p> <p>The evidence is from accurate, reliable sources</p> <p>Develops claim(s) and counterclaims fairly and thoroughly, pointing out the strengths and limitations of both</p>	<p>Provides the most relevant and sufficient evidence to support the claim(s) and counterclaims</p> <p>The evidence is from accurate, reliable sources</p> <p>Develops claim(s) and counterclaims fairly and thoroughly, pointing out the strengths and limitations of both</p> <p>Evaluates key evidence in light of explicit criteria and other cited evidence</p>

<p>Reasoning <i>(the big scientific idea or principle that connects the claim and evidence)</i></p> <p>Logical reasoning is provided to link the claim and the evidence.</p>	<p>Does not provide logical reasoning to connect the claim and evidence, or provides inappropriate reasoning</p>	<p>Provides weak reasoning to link the claim and evidence</p>	<p>Provides strong, logical reasoning to link the claim and evidence</p>	<p>Provides strong, logical reasoning to link the claim and evidence</p> <p>The reasoning demonstrates understanding that is beyond grade level expectations</p>
<p>Organization</p> <p>The argument is logically organized</p>	<p>The claim is not introduced at the beginning of the argument</p> <p>The argument is unorganized and there is no logical sequence of the claim(s), counterclaims, reasons and evidence</p>	<p>The claim is introduced at the beginning of the argument</p> <p>The argument is not clearly organized in a way that logically sequences claim(s), counterclaims, reasons and evidence</p>	<p>The claim is introduced at the beginning of the argument</p> <p>The argument is organized in a way that logically sequences claim(s), counterclaims, reasons and evidence</p>	<p>The claim is introduced at the beginning of the argument</p> <p>The argument is skillfully organized in a way that logically sequences claim(s), counterclaims, reasons and evidence</p>
<p>Audience</p> <p>The writer anticipates the nature and needs of the audience</p>	<p>Does not anticipate the audience's knowledge level, concerns, values, and possible biases</p>	<p>Attempts to anticipate the audience's knowledge level, concerns, values, and possible biases, but not all of these factors are considered</p>	<p>Anticipates the audience's knowledge level, concerns, values, and possible biases</p>	<p>Anticipates the audience's knowledge level, concerns, values, and possible biases and skillfully tailors the argument using this knowledge</p>
<p>Cohesion</p> <p>The writer connects the text in a cohesive manner and clarifies components of the argument</p>	<p>Does not use words, phrases, and clauses to link the major sections of the text</p> <p>The argument is not cohesive</p> <p>The relationships between claim(s) and reasons, between</p>	<p>Uses words, phrases, and clauses to link the major sections of the text some of the time</p> <p>Attempts to create cohesion, but the argument is disjointed at times</p> <p>The relationships</p>	<p>Uses words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims</p>	<p>Uses words, phrases, and clauses as well as effective varied syntax to skillfully link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims</p>

	reasons and evidence, and between claim(s) and counterclaims are not clarified	between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims are not clearly clarified		
Style and Tone The writer uses a formal style and objective tone	Does not establish and maintain a formal style and objective tone Does not attend to the norms and conventions of the discipline	Establishes and maintains a formal style and objective tone throughout some of the argument Attempts to attend to the norms and conventions of the discipline	Establishes and maintains a formal style and objective tone while attending to the norms and conventions of the discipline	Establishes and maintains a formal style and objective tone while attending to the norms and conventions of the discipline. Effectively uses rhetorical devices (such as metaphor, analogy, etc.)
Conclusion A conclusion is provided that supports the argument	Does not provide a concluding statement or section that follows from and supports the argument presented, or the concluding statement or section does not follow from or support the argument presented	Provides a weak concluding statement or section that partly follows from and supports the argument presented	Provides a concluding statement or section that follows from and supports the argument presented	Provides a concluding statement or section that follows from and supports the argument presented. Articulates implications and significance of the claim in terms of both the world and related evidence.
Science Content and Vocabulary The writer demonstrates an understanding of the topic and uses scientific vocabulary appropriately	Does not demonstrate an understanding of the topic and does not use scientific vocabulary appropriately or accurately in the argument	Demonstrates a fairly accurate understanding of the topic and use scientific vocabulary appropriately and accurately in some places in the argument	Demonstrates a deep understanding of the topic and use scientific vocabulary appropriately and accurately throughout the argument	Demonstrates a deep, sophisticated understanding of the topic and use advanced scientific vocabulary appropriately and accurately throughout the argument

Source: Janet MacNeil, <http://the-curious-scientist.weebly.com/curriculum.html>