

NTN Knowledge and Thinking Rubric for Science Argumentation/Explanation, Grade 10

The ability to reason, problem-solve, develop sound arguments or decisions, and create new ideas by using appropriate sources and applying the knowledge and skills of a discipline.



NewTech Network

	EMERGING	E/ D	DEVELOPING	D/ P	PROFICIENT College Ready	P/A	ADVANCED College Level
ARTICULATING A SCIENCE-RELATED ISSUE <i>What is the evidence that the student can articulate a clear issue and explain its scientific context?</i>	<ul style="list-style-type: none"> The scientific, social or technological significance of the issue is missing, vague, or unclear Science content contains inaccuracies 		<ul style="list-style-type: none"> The scientific, social or technological significance of the issue is clear, but lends itself to readily available answers Science content is accurate and makes general connections to the issue 		<ul style="list-style-type: none"> The scientific, social, or technological, significance of the issue is clear and lends itself to a well-defined research project Science content is accurate and discusses specific connections to the issue 		<ul style="list-style-type: none"> The scientific, social, or technological, significance of the issue is thoughtful and lends itself to a complex research project Science content is accurate and includes a clear, and relevant discussion of the connection to the issue
ARGUMENT/THESIS <i>What is the evidence that the student can communicate an argument/thesis?</i>	<ul style="list-style-type: none"> Argument/Thesis is unclear 		<ul style="list-style-type: none"> Argument/Thesis is somewhat clear, but general 		<ul style="list-style-type: none"> Argument/Thesis is clear 		<ul style="list-style-type: none"> Argument/Thesis is clear and specific
CLAIMS/SUPPORTING IDEAS <i>What is the evidence that the student develop claims/ideas to support the argument/thesis?</i>	<ul style="list-style-type: none"> Includes unclear or irrelevant claims/ideas 		<ul style="list-style-type: none"> Includes claims/supporting ideas relevant to the argument/thesis 		<ul style="list-style-type: none"> Includes specific claims/supporting ideas that support the argument/thesis 		<ul style="list-style-type: none"> Includes specific and significant claims/ideas that support the argument/thesis
COUNTERCLAIMS (OPTIONAL)* <i>What is the evidence that the student can acknowledge and address counterclaims, when appropriate?</i>	<ul style="list-style-type: none"> Questions or counterclaims are absent or unclear 		<ul style="list-style-type: none"> Alludes to questions or counterclaims 		<ul style="list-style-type: none"> Develops and responds to clearly stated questions or counterclaims 		<ul style="list-style-type: none"> Thoroughly develops and responds to questions or counterclaims
EVIDENCE <i>What is the evidence that the student can select and include supporting evidence?</i>	<ul style="list-style-type: none"> Refers to evidence (e.g. examples, data, information) that is unclear or irrelevant to the claim/counterclaim Limited use of data and/or examples, or data/examples are missing (when appropriate) 		<ul style="list-style-type: none"> Identifies limited or general evidence (e.g. examples, data, information) mostly relevant to claim/counterclaim Data and/or examples are used to illustrate one point of view (when appropriate) 		<ul style="list-style-type: none"> Cites specific evidence (e.g. examples, data, information) relevant to claim/counterclaim Data and/or examples are used to illustrate varying points of view (when appropriate) 		<ul style="list-style-type: none"> Cites comprehensive, detailed evidence (e.g. examples, data, information) relevant to claim/counterclaim Data and/or examples are used to illustrate multiple varying points of view (when appropriate)



<p>ANALYSIS AND SYNTHESIS <i>What is the evidence that the student can analyze evidence?</i></p>	<ul style="list-style-type: none"> • Does not attempt to explain how evidence supports the argument • Presents source/s without noting strengths, limitations, or discrepancies between sources 	<ul style="list-style-type: none"> • Summarizes evidence and attempts to explain how it connects to argument • Acknowledges the strengths or limitations of evidence, and/or discrepancies between sources (when appropriate) 	<ul style="list-style-type: none"> • Explains how evidence connects to the argument • Acknowledges and attempts to explain the strengths and limitations of evidence, identifying discrepancies between sources (when appropriate) 	<ul style="list-style-type: none"> • Clearly explains how evidence supports the argument • Explains the strengths and limitations of evidence, addressing discrepancies between sources (when appropriate)
<p>CONCLUSION <i>What is the evidence that the student can draw logical and sound conclusions?</i></p>	<ul style="list-style-type: none"> • Conclusions are stated vaguely or generally, or are implausible • Conclusions are overstated or overdrawn 	<ul style="list-style-type: none"> • Conclusions are somewhat logical, and generally plausible; no further implications are raised • Briefly notes limitations or unanswered questions 	<ul style="list-style-type: none"> • Conclusions are logical and specific; raises plausible implications • Identifies limitations and/or unanswered questions 	<ul style="list-style-type: none"> • Conclusions are logical and well-supported; raises plausible implications • Discusses limitations and/or unanswered questions

*Counterclaims are not required or appropriate for all kinds of writing (e.g. explanatory) and should be considered optional based on task requirements