Innovation Lab Network Performance Assessment Project
Quality Criteria for Performance Assessments
Pesticides: Blessing, Curse, or Both?

Quality Criteria	Yes	Yes, with Slight Modifications	No	Rationale/Suggestions
1. Focus on Deeper Learning				
a. Does the task require the demonstration and/or application of complex skills (e.g., Critical Abilities, DOK Levels 3 and 4, 21st century skills, Key Cognitive Strategies)?*	✓			The task involves drawing upon and comparing multiple sources of evidence, followed by constructing an argument based on that evidence. The prompt is open-ended and requires critical thinking and analysis.
b. Can students' responses to this task (what students are asked to produce) provide evidence of important college/career readiness skills and Critical Abilities (e.g., collaboration, research skills, evidence-based communication)?*	✓			The students' responses to this task primarily provide evidence of the students' ability to analyze information and communicate their views in writing, which are two critical abilities.
c. Does the task address key concepts and skills in the discipline that are transferable to other contexts?*	✓			The skill of analyzing evidence to construct an argument is transferable to nearly every scientific and non-scientific discipline. Furthermore, the concept that humans have an impact on the natural world is transferable to many different contexts in life science and environmental science.
2. Alignment to Standards				
a. Does the task measure key skills and major claims emphasized by the Common Core State Standards (CCSS) and/or NGSS? *		✓		The task is aligned to CCSS which are listed, and several NGSS claims which are not listed. The following standards should be listed: **LS2.C** Anthropogenic changes (induced by human activity) in the environment—including habitat destruction, pollution, introduction of invasive species, overexploitation, and climate change—can disrupt an ecosystem and threaten the survival of some species. (HS-LS2-7) **LS4.D** Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of

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				recreational or inspirational value. Cross cutting concept: **Influence of Engineering, Technology, and Science on Society and the Natural World.** New technologies can have deep impacts on society and the environment, including some that were not anticipated. Analysis of costs and benefits is a critical aspect of decisions about technology. (HS-ESS2-2)
b. Can students' responses to this task (what students are asked to produce) be scored using CCSS/NGSS aligned rubrics? *	✓			The students' written responses can be scored using Common Core aligned rubrics that assess claim, evidence, organization, and argument development. The students' discussion of the relevant science content can also be assessed using rubric components that align to the NGSS standards listed above.
c. Are the scoring criteria--rubrics, point scoring systems, checklists (if provided)--aligned to key expectations of the CCSS/NGSS?		✓		The rubric is aligned to CCSS elements, but the content standards are only touched upon briefly. There is one criterion included that assesses "content understanding", but it should be revised to be more aligned to the specific content standards addressed, such as the impact of human activity on populations and ecosystems, as well as the cost/benefit analysis of technologies that affect the environment.
d. Is the rigor of the task appropriately matched to the grade-level standards being assessed?	✓			The reading, writing, and analysis skills required for this task are well matched to the high school grade level specified. Even though the task says it is appropriate for some middle school grades, the content addressed is more aptly aligned to high school science standards.
3. Student Choice and Agency				
a. Does the task allow for a variety of responses and/or solution pathways? *	✓			There is not a prescribed answer to the prompt. The students can choose whether they think the scientist who invented DDT should or should not have won the Nobel prize. The students also get to choose which evidence they will draw upon to support their argument.
b. Does the task offer opportunities for student ownership and student choice (e.g., selecting a research question or topic; selecting sources; etc.)?		✓		There are two sources of evidence provided, and the research question is already defined. While the students do have the opportunity to choose their response and which specific pieces of evidence they will use, the task may be improved by offering more sources of evidence for the students to draw upon.
c. Does the task require student-initiated planning and management of information/data and ideas (e.g., determining	✓			The students are responsible for deciding what their claim is, which pieces of evidence to use to support their claim, and how to organize the overall structure of their written response.

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strategies for solving a problem; designing an investigation; deciding how to present findings; etc.)?				
4. Relevance and Authenticity				
a. Is task content represented in a way that is appropriately authentic (i.e., not overly hypothetical), relevant (i.e., relatable), and/or meaningful to students and the discipline (e.g., topic connects to students' lives, task simulates authentic purpose and audience)? *		✓		The question of whether the inventor of DDT should have received the Nobel prize is an engaging approach to the topic of human impacts on the environment. However, to make the prompt slightly more relatable to students, it could be reframed as "If you were on the panel of experts deciding who should receive the next Nobel prize, would you choose to award the prize for the discovery of DDT?"
b. Is the task related to real world problems, contexts, and/or purposes?	✓			Scientists are always developing novel technologies that can provide some benefit. The debate about the costs and benefits of technologies such as pesticides is a real world problem that scientists and policymakers deal with every day.
5. Suitable for Diverse Student Populations				
a. Is the task, at its core, free of bias that might disadvantage specific student populations and free of stereotypes in language, content, and design? *	✓			There are no major sources of bias in this task.
b. Does the task include, or allow for the use of, a variety of stimuli?		✓		The sources of evidence include selected chapters from Rachel Carson's Silent Spring and the transcript of the presentation speech of the 1948 Nobel Prize for the discovery of DDT. Both of these stimuli are texts. The task can be improved in relation to this criteria if the students have an opportunity to listen to a recording of the speech or watch a video clip about pesticide use.
c. Does the task provide instructional scaffolds to support student learning and skill development toward successful completion of the task?	✓			The task includes thorough and detailed instructional scaffolds.
d. Does the task include appropriate recommendations for accommodations and differentiation to provide access for diverse students?		✓		Throughout the instructional scaffolds in the instructional strategies column, there are a number of suggestions that could be considered accommodations and differentiation. Some of these include peer review, use of graphic organizers, and use of an expert group format. However, there is no designated accommodations section. Some of the suggestions listed above could be placed into a category of accommodations, as well as

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				sentence or paragraph frames to support students with less developed writing skills.
6. Design of Student Task				
a. Is the overall task prompt clear (e.g., clear student directions, unambiguous graphics)? *	✓			The task is very clear: to analyze and compare multiple sources of evidence and construct an argumentative essay about whether the Nobel prize should have been given for the discovery of DDT.
b. Is task information presented in an organized way?	✓			The task information, rubric, and instructional scaffolds are well organized.
7. Curriculum-Embedded				
a. Is the task feasible for most school/classroom environments (e.g., access to necessary resources)?	✓			The task requires access to the texts, and some way of writing the essays. Computer access would be ideal but it can be done without computers.
b. Does the task include opportunities for independent work as well as interaction/collaboration with peers?	✓			The writing task is individual, but there are many opportunities to work with peers, such as the expert group reading of Silent Spring and peer review of the essays.

Task Materials	Yes	No	Comments
a. Is the task missing any referenced accompanying materials (resources, handouts, rubrics etc.)? If yes, please indicate which materials are missing.		✓	
b. Does this task contain topics/materials/texts that might be sensitive for some students? If yes, please explain.		✓	

Comments: Overall, the task is strong; it is a well designed and clearly laid out opportunity for students to read critically, analyze information, and communicate an argument about a relevant topic. The modifications that need to be made in order for this task to be accepted are: a list of accommodations, a list of the NGSS standards addressed by the task, one or two criteria in the rubric that address the specific science content standards, and a slightly more authentic framing of the task prompt.

Criteria summarized in this document were derived from the following sources:

- *Quality Criteria for Performance Assessments,* SCALE, 2013
- *Criteria for High-Quality Assessment,* SCOPE, CRESST, LSRI, June 2013
- *Quality Performance Assessment: Harnessing the Power of Teacher and Student Learning,* Brown & Mevs, February 2012
- *ThinkReady Task Review Checklist*, 2013