

Short Performance Assessment: HS-LS4-6

Grade Level: **High School**

Adapted from [SNAP](#)¹

Title	Acid Rain		
Designed by		Course(s)	
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Performance Expectation	HS-LS4-6: Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity. Clarification Statement: Emphasis is on designing solutions for a proposed problem related to threatened or endangered species, or to genetic variation of organisms for multiple species. Assessment Boundary: none
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Science and Engineering Practice	Using Mathematics and Computational Thinking • Create or revise a simulation of a phenomenon, designed device, process, or system.
Disciplinary Core Ideas	LS4.C: Adaptation • Changes in the physical environment, whether naturally occurring or human induced, have thus contributed to the expansion of some species, the emergence of new distinct species as populations diverge under different conditions, and the decline — and sometimes the extinction — of some species. LS4.D: Biodiversity and Humans • 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 recreational or inspirational value. (Note: This Disciplinary Core Idea is also addressed by HS-LS2-7.)
Crosscutting Concept	Cause and Effect • Empirical evidence is required to differentiate between cause and correlation and make claims about specific causes and effects

Student Performance	1. Representation 2. Computational modeling 3. Analysis 4. Revision
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¹ The Short Performance Assessment (SPA) and the Assessment Rubric adapted from the Stanford NGSS Assessment Project <http://snappgse.stanford.edu/>



Name_____

Acid Rain is affecting the biodiversity of the Adirondack Lakes and streams?

Design an experiment to mitigate the human impact on the biodiversity of these lakes.

Under what range of conditions does this system operate effectively?



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Assessment Rubric* - Question 1				
	Emerging	Developing	Approaching Proficiency	Excelling
Description of performance				
Sample student responses				

Assessment Rubric* - Question 2				
	Emerging	Developing	Approaching Proficiency	Excelling
Description of performance				
Sample student responses				

Insert additional Assessment Rubrics (if needed) here.



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