Modeling Human Impact on Water Security Project Rubric

Name

Date

Project Checklist

Your artistic model and evidence-based scientific argument should include the following:

2-D or 3-D Artistic Model

_____ Title of the work and short description (one to three sentences)

_____ Features the Himalaya or a local watershed

_____ Represents a cause-and-effect relationship between humans and water security

Evidence-based argument includes:

_____ A claim about how increases in human population and consumption of resources in one location can impact another location's freshwater supply.

_____ Three to five pieces of evidence that support your claim

_____ Reasoning that connects each piece of evidence to the claim

Scientific content of argument explains:

_____ How humans use water

_____ How increases in human population impact water use

_____ Some of the factors leading to changing global temperatures

_____ How humans impact the factors leading to changing global temperatures

_____ How changing global temperatures impact water security

Project Rubric

Criteria	Proficient Scientific Modeler	Apprentice Scientific Modeler	Emerging Scientific Modeler	Feedback
NGSS Crosscutting Concept: Cause and Effect Cause-and-effect relationships may be used to predict phenomena in natural or designed systems. You use a combination of art and scientific argumentation to show the ripple effect that melting glaciers and snowpack have on water security, as well as the human actions that lead to the accelerated increase in melting.	Your model and argument show a clear cause-and-effect link between human impacts, melting glaciers and snowpack, and water security.	Your model and argument show a somewhat clear cause-and-effect link between human impacts, melting glaciers and snowpack, and water security.	Your model and argument do not show a clear cause-and-effect link between human impacts, melting glaciers and snowpack, and water security.	
NGSS Science and Engineering Practice Obtaining, Evaluating, and Communicating Information. [CCSS.ELA-Literacy.WHST.6-8.4:](#) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. You effectively and accurately communicate the science behind humans' impact on water security.	Your products are easy for the audience to follow. The information about the content is accurate and engaging.	Your products are somewhat easy for the audience to follow. The information about the content is mostly accurate and engaging.	Your products are not easy for the audience to follow. The information about your content is not accurate and engaging.	

NGSS Science and Engineering Practice Engaging in Argument from Evidence You develop an evidence-based argument about how increases in human population and consumption of resources have impacted the glaciers and snowpack of Mount Everest as well as the water supply in other parts of the world.	You provide four to five pieces of appropriate evidence. Evidence and reasoning are sufficient to support the claim.	You provide two to three pieces of appropriate evidence. Evidence and reasoning may not be sufficient to support the claim.	Your claim is not supported by evidence and/or reasoning.	
NGSS Performance Expectation MS-ESS3-4 Construct an argument supported by evidence for how increases in human population and per capita consumption of natural resources impact Earth's systems.	Your claim includes two to three ways that increases in human populations and their consumption of natural resources impact Earth's systems.	Your claim includes one way that increases in human populations and their consumption of and natural resources impact Earth's systems.	Your claim does not address how increases in human populations and their consumption of and natural resources impact Earth's systems.	
NGSS Performance Expectation MS-ESS3-5 Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.	Your model includes at least one factor that has led to the recent rise in global temperatures and your argument includes at least one piece of evidence to support your claim.	Either your model includes one factor leading to the recent rise in global temperatures OR your argument includes at least one piece of evidence to support your claim.	Your model is missing a factor about global temperatures and your argument does not include any evidence to support your claim.	