Term 2 Science Practice: Research

SAMPLE from Dig Deep: Comparing Geologic Evidence & Native American Stories

Annotated Bibliography Rubric

Score	*4*	*3*	*2*	*1*
Citations	*I properly cited four or more sources in the bibliography using the specific, proper format.*	*I adequately cited three sources in the bibliography.*	*I adequately cited two sources in the bibliography.*	*I incorrectly cited sources or have just one source in the bibliography.*
Annotation	*I properly and thoroughly annotated four or more sources following the guidelines.*	*I properly annotated three sources following the guidelines.*	*I properly annotated two sources following the guidelines.*	*I properly annotated one source or did not follow the guidelines.*

SAMPLE DIG DEEP – Annotated Bibliography:

Charles, Benjamin K. "Thunderbird and Killer Whale as told by Benjamin K. Charles." Klallam Stories, Lower Elwha Klallam Tribe, 2012.

This story explains how rivers on the Olympic Peninsula were formed. Thunderbird and killer whale battle and the whale carves the rivers. This helps me see different perspectives on rivers being carved.

Logan, Robert and Robert Schuster, "Origin of Lake Crescent and Sutherland," Washington Geology, Volume 19, Number 1, March, 1991, p. 38.

This article detailed landslides from Mt. Storm King. The landslides blocked old Lake Crescent causing water to rise. This helped me see scientific evidence for rocks falling down and damming Lake Crescent.

Sampson Sr., Ed. "The Flood Story as told by Ed Sampson Sr." Klallam Origin Stories Coloring Book, Lower Elwha Klallam Tribe, 1992.

This story describes a flood many years ago on the Olympic Peninsula. A wise old man saw the signs of the impending flood and helped others know to prepare. This helps connect natural events to humans.

Spitz, Tullan, "How Scientists Know When the Last Big Earthquake Happened Here." Oregon Public Broadcasting, January 26, 2015.

This article is about an historic tsunami. Scientists used oral history to figure out connections between an earthquake and tsunami across the ocean. This helps me see the value of traditional knowledge and stories.

Question and Position Rubric

Score	*4*	*3*	*2*	*1*
Claim	*I developed a historical question: I both stated a claim regarding the question, and stated why studying this question helps us to understand current issues and events.*	*I developed a historical question: I stated a claim regarding the question.*	*I developed a historical question, but without stating a position.*	*I described events or presented ideas about time periods.*

SAMPLE DIG DEEP – Question: How do the landform creation stories compare with geologic evidence for the geologic features and events of the Olympic Peninsula?

SAMPLE DIG DEEP – Position: Native American legends and geologic evidence about the formation of lakes, rivers and floods, while different in fine detail, are similar in that they describe the same events. Native Americans have a deep connection to the land, sometimes resulting in them personifying parts of nature in their stories, but the stories are actually very similar to geologic evidence.

Reasons/Evidence/Explanation Rubric

Score	*4*	*3*	*2*	*1*
Reason	*I provided three or more relevant reasons for the claim.*	*I provided two relevant reasons for the claim.*	*I provided one relevant reason for the claim.*	*I provided reason(s) for the claim, but they were not relevant.*
Evidence	*For each reason, I referred explicitly to a credible source that provides relevant evidence/information.*	*For each reason, I have a source that provides somewhat relevant evidence/information.*	*For each reason, I wrote some information, but it was not a credible source or it was not relevant.*	*I did not refer to any credible sources that provide evidence/information.*
Explanation	*Each reason includes an explanation of how the evidence supports the reason and both a geographic and a cultural perspective.*	*Each reason includes an explanation of how the evidence supports it and includes a geographic or cultural perspective.*	*Each reason includes an explanation of how the evidence supports the reason and includes no geographic nor cultural perspectives.*	*I did not include explanations for how the evidence supports the reasons I provided.*

SAMPLE DIG DEEP – Reasons/Evidence/Explanations:

Reason/Evidence/Explanation 1: The Native American story of Mt. Storm King damming off an ancient lake and creating Lake Crescent closely aligns with the geologic evidence of how the lake was formed.

According to the Mt. Storm King legend, the mountain hurled rocks down into the valley and blocked off the lake, and according to scientists from the Washington State Department of Natural Resources, material that dammed off the ancient Lake Crescent came from Mt. Storm King and other nearby mountains.

The Native American story tells how rocks coming down from Mt. Storm King not only dammed the ancient Lake Crescent, they also stopped a conflict between Quileute and Klallam Tribes. From a cultural perspective, the formation of Lake Crescent also created peace in the area. Geologic evidence points to landslides near Mt. Storm King. From a geographic perspective, Lake Crescent is between Quileute and Klallam lands, so it makes sense that people from these tribes would witness these landslides.

Reason/Evidence/Explanation 2: Geologic evidence and a Native American flood story both describe a tsunami that flooded the Northwest around the year 1700.

According to “Orphan Tsunami,” geologists used tree rings to figure out a tsunami that affected North America and Japan had come from an earthquake near the Olympic Peninsula. According to the Lower Elwha Klallam “Flood Story,” there was a large flood in the Olympics a few hundred years ago.

Geologists figured out the details of the tsunami from more than 300 years ago. From a geographic perspective, this shows how events across the ocean can be connected. “Flood Story” explains how a large flood in the Olympics was predicted by an old wise man who saw the signs and warned the people. From a cultural perspective, stories are ways to pass knowledge on how to be prepared on to future generations.

Reason/Evidence/Explanation 3: On the Olympic Peninsula there are connections between the Native American stories and geologic evidence of how Olympic Peninsula rivers were formed.

According to “Wild History of Olympic Peninsula Rivers,” rivers are carved out and shaped by water moving down mountains. According to “Thunderbird and Killer Whale” by Benjamin K. Charles, rivers were carved by killer whale squirming to get back to the ocean after being dropped in the mountains by thunderbird.

Both these accounts show rivers being carved on the Peninsula, and we can think of thunderbird as the storm clouds and killer whale as the water in the rivers or glaciers in the valleys. From a geographic perspective, the forces carving rivers start high in the mountains and move down toward the ocean. From a cultural perspective, having natural forces be portrayed as mythical beasts helps people develop deep connections with the land.