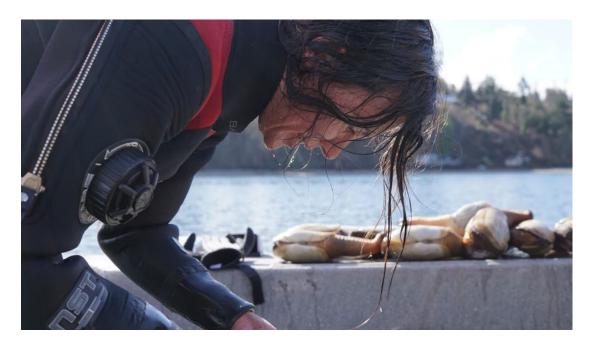


Inquiry Question

What are geoducks and why is their discovery at an archeological site important to the *Nuu chah nulth*?

Exploring Eurocentric and Nuu chah nulth perspectives.

Name:	Date:



Hozoji Matheson Margullis, The Gwidəq Diver

G^widək is a Coast Salish name that led to common name of Geoduck (pronounced gooey-duck).

Hozoji is an musician, drummer, and an Indigenous marine biologist

Image accessed at https://www.vice.com/en/article/3kj87n/hozoji-matheson-margullis-native-american-indigenous-science-movement

Did you know...

- that geoducks can command up to C\$30.00 per pound on the international market?
- that geoduck harvesting is a 50 million dollar industry in BC?
- that Indigenous people in BC have the right to harvest sea life in their traditional territories only if they can prove that they did so traditionally (pre-European contact)?



General Instructions

- complete the Unit 8 Learning Guide paying particular attention to the
- read the article, Archeologists unearth evidence of geoduck harvesting at ancient Tseshaht village site, attached below
- research and complete the questions
- scan and submit your project online once completed

Learning Goals

- to explore and reflect on a variety of experiences, perspectives, and worldviews
- to be able to respect and apply First Peoples' ways of knowing and being in nature as valid sources of scientific knowledge
- to practice constructing evidence-based arguments using appropriate scientific language
- to practice recognizes assumptions and biases and identifying how they affect science and policy
- to consider the social, ethical, and environmental implications of the findings from others' investigations
- to reinforce our understanding of the key features of the Phylum Mollusca



What are geoducks and why is their discovery at an archeological site important to the *Nuu Chah Nulth*?

Article



Archaeologists unearth evidence of geoduck harvesting at ancient Tseshaht village site

By Denise Titian / July 22, 2019



Archaeologist and assistant professor Iain McKechnie holds an intact geoduck clam shell recently found more than a meter deep in a pit on Keith Island in Tseshaht territory. The discovery provides evidence that the First Nation historically harvested geoducks, and could progress the Nuu-chah-nulth right to undertake the practice in modern times. (Denise Titian photos)



Broken Group Islands, BC

Archaeologists working on Keith Island have made a significant discovery that proves Nuu-chahnulth-aht ate geoduck clams prior to contact with Europeans. Archaeologist and assistant professor lain McKechnie said several shell fragments and a large, intact geoduck clam shell was found more than a meter deep in a pit on Keith Island, in Tseshaht territory, on July 13.

"To my knowledge this is the first time I've seen geoduck archaeological remains – we are confident that this is not a horse clam," McKechnie stated. He went on to say that this is the first find of this type in Nuu-chah-nulth territory and even on the coast of British Columbia. "I am not aware of others," he said.

Over the past three summers archaeology students unearthed thousands of artifacts on Keith Island, including a full set of bones from a woolly dog that is now extinct. The geoduck shells were found nearby, in a place that had been used continuously by Tseshaht for hundreds of years. Archaeologist teams work at the site for two weeks each summer. This year is the third at Keith Island. The work is made possible through a partnership between the UVic Archaeology Field School, Parks Canada and Tseshaht First Nation.

McKechnie said the shells were located in a deposit that is at least 500 years old but could date back as much as 1,000 years. "It was in a feature with other clams," he said, adding that it appeared that the collection of shells may have been part of an ancient clam bake. The shells appeared to be arranged purposefully and many intact shells were found with both sides of the shell aligned. In addition, the shells in that layer of earth had evidence of oily residue inside the shells along with charred organic materials, like vegetation. What this shows is that past generations of Tseshaht harvested these and more than 40 other species of shellfish, and brought them home for processing at this site, said McKechnie.

"This (dig site) contains a record of the people living here; it gives us information about the people living here, where they were going for food, what they are eating and how they harvested their food," said McKechnie.

Denis St. Claire has been an archaeologist since 1970 and has close ties with Tseshaht First Nation, having consulted and formed friendships with elders early on in his career. He pointed to a long ridge that runs parallel to the beach, saying that it was a mulch pile made up of bones and shells that would have been outside the longhouses that were once there. A few feet away lies a toppled tree, its roots studded with seashells hundreds of years old - shells that nurtured the tree until it fell. There were pits on each side of the ridge, each about two meters square and just under two meters deep. The UVic archaeologists uncovered several generations of cooking hearths in one pit and even a shadowy impression left from a wooden house post. The island was inhabited up until the 1950s, so the top layers of soil contain items that came after contact, like metal nails and wood stove parts. "This island contains both a past and current history," said St. Claire.

The geoduck shells and other materials unearthed at Keith Island this summer will be sent to the University for analysis. Tseshaht Councilor Luke George said that members of his nation heard the news about the geoduck find and were excited. "It is exciting to have proof that helps our case when it comes to our rights to harvest shellfish; this solidifies something for Tseshaht and for that, we are grateful," he said.

The find proves that Tseshaht had access to and consumed geoduck clams, among other species. This discovery could support other coastal First Nations' fisheries rights claims when it comes to



shellfish. Geoduck clams were excluded from the 2009 Nuu-chah-nulth fisheries court case victory. In 2009 the B.C. Supreme Court ruled that Nuu-chah-nulth-aht have a constitutional right to fish and sell fish from their territory. Geoduck clams were not included in the decision because the court argued that the species have only been harvested since the invention of modern equipment and there was no evidence that First Nations collected them.

Helpful Resources

- Boissoneault, L. (2019, August). This Centuries-Old Geoduck Shell May Rewrite the Rules About Who
 Can Harvest the Fancy Clam. Smithsonian Magazine. https://www.smithsonianmag.com/science-nature/centuries-old-geoduck-shell-may-rewrite-rules-about-who-can-harvest-fancy-clam-180972984/
 - a brief look at how perspective can influence law and archeology and the importance of archeological finds to indigenous rights
- Kuhnlein, H.V. and M.M. Humphries. (2017). Traditional Animal Foods of Indigenous Peoples of Northern North America: Clams. http://traditionalanimalfoods.org/. Centre for Indigenous Peoples' Nutrition and Environment, McGill University
 - o discusses harvesting, preparation, and other uses of clams in general by a variety of coastal nations
- Al Jazeera. (2019, Nov 22). Why is this \$300 clam so important to Native Americans and China? Posted on YouTube. https://www.youtube.com/watch?v=IrsPxHbbOqo
 - o entertaining and interesting 20 minute video looking at Indigenous farming of geoducks, the market, and their use
- Aboriginal Aquaculture Association. (2016). Shellfish Facts Geoducks.
 https://static1.squarespace.com/static/532c61f8e4b0d901d03ed249/t/53433f55e4b089b274b0b665/1396916
 053779/AAA+Geoducks+Fact+Sheet+Final.pdf
 - o a short summary of geoducks and geoduck farming in BC
- Paul, B.. (2020, June). **B.C.'s \$50 million geoduck industry hit after China's market slump.** Victoria News. https://www.vicnews.com/news/b-c-s-50-million-geoduck-industry-hit-after-chinas-market-slumps/
 - o a short article looking at impact of Covid19 on BC's geoduck industry
- Government of Canada. (2019). **Geoduck Clam**. DFO. https://www.dfo-mpo.gc.ca/species-especes/profiles-profils/geoduck-clam-panope-pac-eng.html
 - o brief description of geoduck classification, biology, and status in Canadian waters
- Hall-Geisler K. (2019, September). Geoducks: The World's Most NSFW Mollusk. HowStuffWorks. https://animals.howstuffworks.com/marine-life/geoducks.htm
 - easy to read facts on geoducks



Questions to Further Your Learning Learn About Geoducks

Please answer in point form.

1.	What is the Linnaean	classification of	geoducks	(kingdom	through to	species)	?

2. What does the indigenous name, G^widəq, mean and why is it appropriate when describing a geoduck?

3. Draw a basic diagram of the G^widəq anatomy. Label its key molluskan features.



4.	Explain how the G ^w idəq's anatomy allows it to bury itself and to feed.
	Why was it assumed that Indigenous nations did not harvest Gwideq before Europear contact?
6.	What are the implications of this assumption?

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- 7. There are several lines of evidence that make this assumption invalid. What are they?

 Check out these websites for some helpful hints:
 - https://ecampusontario.pressbooks.pub/knowinghome/chapter/chapter-11/ Figures 11.9 and 11.10
 - https://www.swallowtail.ca/blog/harvesting-geoduck-clams/
 - https://thetyee.ca/News/2019/07/26/Unearthed-Clambake-May-Change-Indigenous-Fortunes-BC/

8. Whether its archeology, science, relationships, or life in general, personal perspective can change how we interpret things. How did the archeologists in the article have to change their digging perspective to come across this important archeological find?