

Ocean Sense Program



Lesson 1

Module:
Nučamat

Time:
150 minutes (split into two 45 minute and one 60 minute class periods, with optional additional time for transportation to and from a local beach)

Learning pillars:

- Indigenous knowledge
- Ocean science

Grade & curriculum connection:

- **BC Science 9**

"The biosphere, geosphere, hydrosphere, & atmosphere are interconnected, as matter cycles and energy flows through them."

Created in partnership with:



Experiencing the Beach and "Xeel's the Creator"

Explore the concept of interconnected systems at the beach through *Xeel's the Creator* told by Squtxulenuhw (George Seymour) of the Stz'uminus First Nation. Hulqumínum language learning is infused throughout this lesson, and sharing personal stories about the beach is encouraged.

Squtxulenuhw (George Seymour) shared this story while situated at Kulleet Bay on Stz'uminus First Nation land. The story demonstrates the concept of **interconnectedness** between spheres which is reflected in the name of this module, Nučama:t 'i čícuwatl 'i iyatl. The **organisms** in the story can be viewed from the beach or in the **intertidal zone**, and they have cultural significance to the Stz'uminus, Snuneymuxw, and Snaw'Naw'As First Nations who are **Coast Salish** peoples. Field guides, personal experiences and stories encourage the students to become more familiar with organisms at the beach.

Learning objectives

- Learn the Hulqumínum names and facts about common species with cultural significance found at the beach.
- Discuss their experiences with and observations of the beach.
- Identify First Peoples' knowledge of interconnectedness through the telling of a story.

Materials

- Computer with internet connection
- Projector, screen, and speakers
- Slidedeck: **Nučamat**
- *Xeel's the Creator* video
- *Xeel's the Creator Cloze Worksheet*

- *Our Relatives at the Beach* activity and all materials listed therein
- *Connections to Our Relatives at the Beach* worksheet
- *Beach Connections* activity and all materials listed therein

Optional

- Transportation to and from a local beach

Teacher preparation

- Copy the worksheets, *Xeel's the Creator Cloze Worksheet* and *Connections to Our Relatives at the Beach*.
- Gather the materials for the two activities, *Our Relatives at the Beach* and *Beach Connections*.

Classroom instructions

Hook

1. In small groups or as a class, invite the students to share any of their experiences at local beaches. In particular, ask them to share the living and non-living things they observed at the beach.
2. Share that in Coast Salish understandings, many things that are considered in Western culture to be "not-alive" are considered to be alive and have a life force.

Step-by-step process

3. Share slides 1-3 to introduce where the Indigenous knowledge in this lesson comes from.
4. Share the location of Kulleet Bay on slides 4-6 to familiarize the students with the Indigenous knowledge and language that they will learn through this lesson.
5. If using, distribute the worksheet, *Cloze Activity and Discussion*.
6. Ask the students to pay close attention to the upcoming story in order to find examples of non-living things that are actually considered relatives by the Stz'uminus people.
7. Play the video: *Xeel's the Creator* using either the link or as embedded in the Activity Files slidedeck on slide 7.

8. In a manner that works best for your class, reflect on and discuss the story. You may wish to use the *Xeel's The Creator Discussion Questions* shown on slide 8.
 - a. Discuss examples of non-living things that are connected and considered relatives in the story. Show the map on slide 9 to provide a hint.

Potential answer: Near the end of the story, the five species of salmon turn into the Gulf Islands around Kulleet Bay. Squtxulenuhw (George Seymour) names a few of these islands specifically. This is one demonstration of how "non-living" things in Western culture are considered to be alive and have a life force in the Coast Salish understanding.

- b. How does the story show a connection between the biosphere, geosphere, hydrosphere, and atmosphere?

Potential answer: When Xeel's creates all life, he uses the Big Dipper (also known as Ursa Major) from the stars in the sky to scoop up lake water and pour it over a mountain. The water turns to ice and tumbles down the mountain side which then hits the ocean and creates a rainbow mist. This rainbow mist turns into the various living creatures.

8. Display the quote from Squtxulenuhw (George Seymour) on slide 10 in which he describes the meaning of Nučam̓at. Discuss parallels between the message in the story *Xeel's the Creator* and the phrase, Nučam̓at.
9. Share that they will learn the Hulq̓umíñuñ names for some organisms found at and around Kulleet Bay beach using a game in Scratch (slide 11 & 12 for a preview). As they go through the next activity, ask the students to consider why these particular organisms may have been selected.
10. Complete the science, language and cultural activity, *Our Relatives at the Beach*.
11. In a manner that works best for the students, discuss what stood out to them in the activity, *Our Relatives at the Beach*. Encourage discussions about the cultural significance of the organisms and the Hulq̓umíñuñ words.
 - a. You may wish to use the worksheet *Connections to Our Relatives at the Beach* which uses the Project Zero Thinking Routine, *I Used to Think, Now I Think* (Harvard

Graduate School of Education, 2016). Students record how their thinking has changed as a result of learning about the organisms. For example, "I used to think that bull kelp is just fun to play with, now I know that bull kelp has many uses to the Coast Salish people including holding wooden pieces as they were steamed into hooks."

12. Complete the activity, *Beach Connections* ideally at a local beach. Options are presented if beach access is not possible.
13. Conclude the lesson by sharing the Hulqumínum phrases on slide 13: take care of the Earth, take care of the water, take care of the air, and take care of your family. Celebrate the language learning and personal connections to the beach that the students have experienced and shared!

Modifications and adaptations

- Create a group in Flipgrid for students to share a recording of them practicing the Hulqumínum words. This may allow some students to feel more comfortable sharing their practice pronouncing the words.
- Organism photos, English words and Hulqumínum names could be printed out in advance for students to have on-hand.
- Pre-teach the vocabulary words in the glossary for this lesson.

Final remarks

Nučam̓at is a word used in Hulquminum that means "together as one; one piece". Though often used to describe a community of people, the concept can also be used to describe a greater community and systems of ecology.

This lesson includes a great gift and treasure, a story shared by Squtxulenuhw (George Seymour). Indigenous peoples have always used stories as a way to transfer knowledge and teachings. Many of these stories belong to families and individuals and are shared for specific purposes. They are the intellectual property, the belongings, of those who shared them. George heard the story from his sqe'eq (cousin), Qwulhutstun (Willy Seymour), and he has graciously shared it for the purposes of this lesson. It remains the intellectual property of Willy Seymour and his family. We share this teaching with you and ask you to honour the protocol

of this territory about the respectful use of stories by listening to it, seeing the connections with the world around you and not retelling it without permission; we encourage you to share the video link instead. Hay ce:p q̓a (Thank you).

Assessment

- Demonstrate the Hulqumínum names and cultural facts about common species with cultural significance to the Coast Salish people found at the beach.
- What are some observable features of a local beach?
- Describe an example of First Peoples' knowledge of interconnectedness in nature.

Extensions

- Take the students to the beach and encourage them to use the Hulqumínum name for the organisms they see.
- Using the organisms from the Our Relatives at the Beach activity, ask students to make an energy web out of them. Which direction do the students think the energy flows? Why? How could chemical pollution in one sphere get spread to another sphere?
- Allow the students time to explore [Native-Land website](#) to see the geographic range where Hulqumínum was and is spoken.

Glossary

(This lesson includes two glossaries due to the emphasis on Hulqumínum language learning.)

Coast Salish: Indigenous peoples of the Pacific Northwest Coast; multiple languages and cultures are part of the Coast Salish group including the Stz'uminus First Nation near Ladysmith and Chemainus, Snuneymuxw First Nation near Nanaimo, and Snaw'Naw'As First Nation near Nanoose Bay.

Interconnectedness: Being connected with each other.

Intertidal: The area of land between high and low tides.

Organisms: Living things that are made up of cells, reproduce, grow, and respond to stimuli.

| English | Hułqumínum (soundcloud recordings) | Definition including cultural significance to the Stz'uminus, Snuneymuxw and/or the Snaw'Naw'As First Nations |
|----------------|---------------------------------------|--|
| Butter clam | s'a̱xwa' | <ul style="list-style-type: none"> Shell is fairly smooth. An abundant popular food, often smoked or dried. |
| Cockel | st̄lulá'am | <ul style="list-style-type: none"> Shell has heavy ridges that run from the tapered end out towards the curved edge. A favourite food of many and is dried over the fire or above the woodstove. The siphon has often been used as a soother or pacifier. |
| Oyster | tlu̱xw̄tlu̱xw̄ | <ul style="list-style-type: none"> The native species can be found as deep as 50 metres. Literally means "hard, hard" and can be steamed, roasted and then dried or eaten raw. |
| Swan | s̄xwuw'qun | <ul style="list-style-type: none"> Large white bird with a low trumpeting call. Has strong spiritual purposes and feathers are used for ceremonies. |
| Orca | qullhánumucun | <ul style="list-style-type: none"> Black marine mammal with white/grey patches on the eye, tummy and saddle (behind the dorsal fin) areas. Known to be both a friend and lifesaver or an enemy. Believed to be brother to the steke:ye (wolf). |
| Octopus | st̄ulxw̄th | <ul style="list-style-type: none"> Eight armed and soft bodied. Traditionally caught with a gaff (spear). Used in medicines. |
| Sea lion | shes | <ul style="list-style-type: none"> Mammal with ear flaps and foreflippers that it can walk on when out of water. Related to seals. A source of food. Hide was used to make drums, whiskers also used ceremonially in different societies. |
| Sockeye salmon | sthuqí' | <ul style="list-style-type: none"> Fish species. Males change shape and colour when spawning (reproducing). The English word for sockeye comes from Hułqumínum. Often smoked, this was often fished on the mainland while visiting relatives. Traded in the Interior for mountain goat wool and soap berries. |

| English | Hul'qumínum (soundcloud recordings) | Definition including cultural significance to the Stz'uminus, Snuneymuxw and/or the Snaw'Naw'As First Nations |
|-----------|--|---|
| Bull kelp | qam' | <ul style="list-style-type: none"> A fast growing algae species that anchors to the seafloor and has multiple blades growing from a sphere-like float, called a pneumatocyst. The hollow stock was used for steaming wooden hooks, bows and hoops. Has strong spiritual properties. |
| Sand flea | xwuxwiyem | <ul style="list-style-type: none"> Jumping organism with two long antennae found in the sand. There is a s̓xwiém (story) about this tiny creature. |
| Deer | ha'put | <ul style="list-style-type: none"> Terrestrial mammal that walks on four hooved legs. An important food source and resource for tools. Shin bones for spear points, antlers for tools, hooves for rattles, hide for drums and clothing. In some of the origin stories, ha'put is said to be specially selected to nourish the people. |
| Plankton | syu'ilhtuns (literally "tiny food") | <ul style="list-style-type: none"> Small to microscopic organisms that can be either plants or tiny animals, young larvae of larger animals, and weak swimmers. Long ago people tried to transfer them into bay to encourage salmon and other fish, but they did not survive. |

References:

Harvard Graduate School of Education. (2016). I used to think, now I think. *Project Zero' Thinking Routine Toolbox*. <http://www.pz.harvard.edu/resources/i-used-to-think-now-i-think>

Hul'qumi'num Treaty Group. (2011). *Ecosystem Guide: A Hul'qumi'num' language guide to plants and animals of southern Vancouver Island, the Gulf Islands and the Salish Sea*. <https://nlpstearns.sd68.bc.ca/resources/ecosystem-guide/>

Seaquaria Ocean Education. (n.d.) *Seaquaria in schools animal and plant guide*. <https://se aquaria.org/wp-content/uploads/2020/04/Se aquaria-Animal-Plant-Algae-Guide.pdf>

Ocean Sense Program



Activity 1

Module:

Nuča'mat

Lesson:

**Experiencing the Beach and
"Xeel's the Creator"**

Time:

45 minutes

Learning pillars:

- Indigenous knowledge
- Ocean science

Grade & curriculum connection:

• BC Science 9

"The biosphere, geosphere, hydrosphere, & atmosphere are interconnected, as matter cycles and energy flows through them."

Created in partnership with:



Our Relatives at the Beach

Learn the Hul'qumínum names and facts about common species with cultural significance found at the beach.

Materials

- Internet connected devices for each student or small groups of students
- Headphones and/or speakers for each student or small groups of students
- Scratch game [Our Relatives at the Beach](#)
- Soundcloud playlist [Hul'qumínum Animal Names](#)

Teacher preparation

- Ensure that students have access to headphones and/or a quiet place to listen to the pronunciation of the words in Hul'qumínum.

Procedure

1. Allow the students to play the Scratch game, *Our Relatives at the Beach*.
 - You may remind them to hit the  icon in the top right corner above the game field so that the game appears larger.
2. In a manner that works best for the students, encourage them to say the organisms out loud multiple times in Hul'qumínum. Lots of practice is important for accurate pronunciation!
3. Use the following chart and the SoundCloud playlist, *Hul'qumínum Animal Names*, to help guide discussion about the organisms featured in the game.

| English | Hułqumínum (soundcloud recordings) | Definition including cultural significance to the Stz'uminus, Snuneymuxw and/or the Snaw'Naw'As First Nations |
|----------------|---|--|
| Butter clam | s'a̱xwa' | <ul style="list-style-type: none"> • Shell is fairly smooth. • An abundant popular food, often smoked or dried. |
| Cockel | stlulá'am | <ul style="list-style-type: none"> • Shell has heavy ridges that run from the tapered end out towards the curved edge. • A favourite food of many and is dried over the fire or above the woodstove. • The siphon has often been used as a soother or pacifier. |
| Oyster | tlu̱xw̱tlu̱xw | <ul style="list-style-type: none"> • The native species can be found as deep as 50 metres. • Literally means "hard, hard" and can be steamed, roasted and then dried or eaten raw. |
| Swan | sxwuw'qun | <ul style="list-style-type: none"> • Large white bird with a low trumpeting call. • Has strong spiritual purposes and feathers are used for ceremonies. |
| Orca | qullhánumucun | <ul style="list-style-type: none"> • Black marine mammal with white/grey patches on the eye, tummy and saddle (behind the dorsal fin) areas. • Known to be both a friend and lifesaver or an enemy. • Believed to be brother to the steke:ye (wolf). |
| Octopus | stúlxwuth | <ul style="list-style-type: none"> • Eight armed and soft bodied. • Traditionally caught with a gaff (spear). • Used in medicines. |
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| Deer | ha'put | <ul style="list-style-type: none"> Terrestrial mammal that walks on four hooved legs. An important food source and resource for tools. Shin bones for spear points, antlers for tools, hooves for rattles, hide for drums and clothing. In some of the origin stories, ha'put is said to be specially selected to nourish the people. |
| Plankton | syu'ilhtuns (literally "tiny food") | <ul style="list-style-type: none"> Small to microscopic organisms that can be either plants or tiny animals, young larvae of larger animals, and weak swimmers. Long ago people tried to transfer them into bay to encourage salmon and other fish, but they did not survive. |

Conclusion

Whenever possible, find opportunities for the students to practice the Hulqumínum words they've learned.

Ocean Sense Program



Activity 2

Module:

Nučam̓at

Lesson:

Experiencing the Beach and
"Xeel's the Creator"

Time:

60 minutes (20-30 minutes in class,
15-30 minutes outside)

Learning pillars:

- Indigenous knowledge
- Ocean science

Grade & curriculum connection:

• BC Science 9

"The biosphere, geosphere, hydrosphere, & atmosphere are interconnected, as matter cycles and energy flows through them."

Created in partnership with:



Beach Connections

Explore the beach, either first hand or through photos and video, hone obersvation skills, and practice the Hulq'umínum names for common species with cultural significance to the Coast Salish people.

Materials

- ~3 popsicle sticks or flat bamboo skewers/student
- ~3 copies/student of the worksheet: *Nature Gallery Cards*
- Species identification guides and other beach reference materials. Some online options include the following:
 - *Seaquaria in Schools: Animal and Plant Guide*
 - *Ecosystem Guide: A Hul'q'umi'num language guide to plants and animals of southern Vancouver Island, the Gulf Islands and the Salish Sea*
- Transportation to and from a local beach
 - *If a trip to the beach isn't possible, use the optional beach photos or gather a sample collection of beach organisms for the students (i.e. oyster, cockle, and clam shells, kelp, etc.)*

Optional:

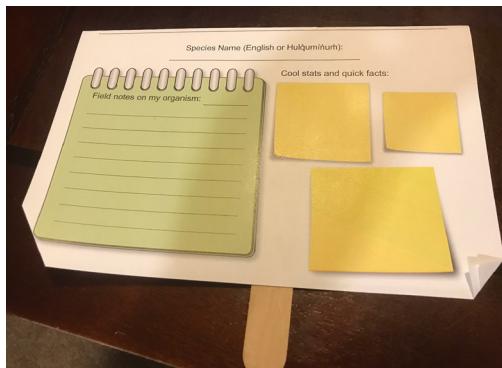
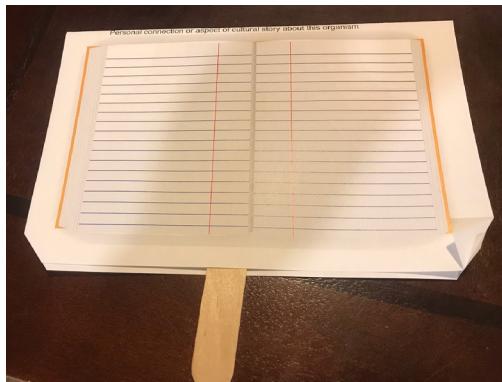
- Computers or device for each student or small groups of students if using the online identification guides
- Internet access if using the online identification guides

Teacher preparation

- Print *Nature Gallery Cards* for each student
- Prepare reference materials, and if using the suggested linked resources, ensure you have internet access and devices for the students

Procedure

1. Have the students select an organism of their choosing that they think they are likely to find at the beach (or is available in the collection).
2. Allow the students to fill out the *Nature Gallery Card* for their organism using the reference books, what they have learned in this module so far, and their own experiences.
3. When the students have finished writing, have them fold the paper in half along the line and fold the corners up in opposite directions. This will create a pocket with no glue. You can also use a stapleless paper stapler if available.
4. Insert a popsicle stick to create a gallery card/ marker for the organisms at the beach.



Nature Gallery Cards with the popsicle stick inserted.

Conclusion

Encourage the students to see as many of the "exhibits" as possible on the beach and to share their own ideas about the ones they know. If it is reasonable for your class, you can record the event or take pictures of each student with their specimen and use this to create a poster/wall template to be shared with other students.

5. Head to the beach and have the students find their chosen item in nature and identify it by placing their stick near the item they are sharing. This will create a natural "exhibit gallery" of the species they know and have learned about.

Name: _____

"Xeel's, the Creator" Cloze Worksheet

Story as told by Squtxulenuxw (George Seymour)

OCEAN
NETWORKS
CANADA

OK, Xeel's, the creator - he was standing in the mountain behind what we know as _____ today. And he had his arms folded and he was admiring - admiring the view, the ocean, the points, the beach, the creeks. Everything, he was admiring everything.

And Xeel's the creator, thought, "There's something missing."

So Xeel's grabbed the dipper. And at the foot of the mountain there's a lake. He filled the dipper, and it raised it over his head, and he dumps the water. And as the water hits the mountainside, it turns to _____, and it rumbles, and it tumbles and roars down the mountainside until it hits the ocean - the saltwater. And it creates a beautiful, beautiful ocean mist, a rainbow mist.

And out of the rainbow mist comes all the great _____: the orca Ɂullhánumucun, the st̄ul̄xwut̄h the octopus, sea lions, the seals. All the great sea creatures came out of there.

And once again Xeel's was happy to see the creation. And he thought, he kept looking at his creation and beautiful land, beautiful oceans, beautiful points and now all the beautiful giant sea creatures and he realizes there's still something missing.

So once again he reaches for the dipper at the foot of the mountain. He fills the dipper with the _____ from the lake, raises it over his head and he dumps the water. As the water hits the mountainside it turns to ice, and it rumbles and tumbles and roared on the mountainside again. As it hits the _____, it creates a beautiful, beautiful rainbow mist.

And this time, out of the rainbow mist flies all the beautiful, beautiful_____. If you could think of the swans, the eagles, the owls, the hummingbirds and all the different ducks. So, all the beautiful flying fowl flew out of that mist and he was happy. Happy to see, now all the beautiful birds, and then all the beautiful giant sea creatures.

He was able to really enjoy the beauty of his creation. And he thought again, arms folded, he really enjoyed it,

he says, "There's still something else missing."

And once again he reaches for the _____, and at the foot of the mountain, he holds the dipper. Raised it over his head. He dumps water and once again as the water hits the _____, and it rumbles and tumbles and roars down the mountainside and when it hits the saltwater, it creates a beautiful mist. And this time out of that mist walks all of the land creatures, the bear, the deer, the elk, and the wolves and all the beautiful land creatures that you could think of.

And now he's looking at all the land creatures. Then he sees all the beautiful birds, and he sees all the majestic sea creatures, animals, the whales or whatever.

And once again, he thought, "There's still something missing."

So once again he reaches with a big dipper into the lake and he raises it over his head. He dumps it, and as it hits the mountainside it turns to ice and rumbles and tumbles and roars down the mountainside.

And this time, it creates a huge rainbow mist. And it took a long time for that _____ to dissipate - disappear this time. And after it disappeared, dissipated, there was five, the five species of salmon that were waiting for the command of Xeel's on what they were going to do.

So it took few moments and Xeel's says, "I'm gonna send you to one of the beautiful _____ of your choice. You're going to go North. You're gonna go South. You're going to go East, you're going to go West. And you have to travel as fast as you can to the river of your choice. And he says, "If you don't reach that -your destination, some of you are gonna be transformed into _____, so those are the Gulf Islands we're looking at now. Valdes and Thetis Island, all the Gulf Islands: Salt Spring, Newcastle, all the Gulf Islands. The ones that make it up the river, you're going to become the people. And each time you're going to each area you're gonna speak a different _____.

So... and that's what happened. So he sent them on their way and they went as fast as they can, as a salmon could go and the time was up and they actually turned into the Gulf Islands. And he tells the Gulf Islands you're going to take care of your visitors. You're gonna _____ of the beach. You're gonna take care of the water you're gonna take care of the land.

And then he tells the people that became the _____ people, "You're gonna, you're gonna take care of the land. You're going to make sure you take care of your food, the salmon that were coming up.

"Xeel's, the Creator" Cloze Worksheet

Story as told by Squtxulenuxw (George Seymour)

TEACHER ANSWER KEY (in order of appearance)

Ladysmith

ice

sea

creatures

water

saltwater

birds

Big

Dipper

mountaininside

mist

rivers

Gulf

Islands

language

take

care

First

Nations

Name: _____

OCEAN
NETWORKS
CANADA

Connections to Our Relatives at the Beach

Use the following sheet to record how your understanding of the organisms has changed after completing the *Our Relatives at the Beach* activity.

| English | Huíqumíñum̓ | I used to think..., | Now I think..., |
|-------------|---------------|---------------------|-----------------|
| Butter clam | s'áxwa' | | |
| Cockle | stlulá'am | | |
| Oyster | tlu̕xw̕tlu̕xw | | |
| Swan | sxwuw'qun | | |
| Orca | qullhánumucun | | |
| Octopus | stúlxwuth | | |
| Sea lion | shes | | |

| English | Hulqumínum̓ | I used to think.... | Now I think.... |
|----------------|--|---------------------|-----------------|
| Sockeye salmon | sthuq̓i' | | |
| Bull kelp | q̓am' | | |
| Sand flea | xwuxwiyem | | |
| Deer | ha'put | | |
| Plankton | syu'ilhtuns (literally "tiny food") | | |