Elder Quote/Belief: "Lard came from black bear fat. In the fall, they are the best because they eat berries. The steaks are good. The fat was an important part, like seal oil. You used it for cooking and I lamps. They also used duck oil from boiling ducks for burning in lamps too. They preserved berries with seal oil too."
Walter Meganack Sr. ${ }^{\text {i }}$

## Grade Level: 3-5

Overview: Traditional Food gathering and preserving of food gathered from the land and sea are still practiced today. Foods such as: sea and land mammals, intertidal foods, berries and plants are still gathered for winter supplies. Our foods keep us connected to where we came from and our Ancestors.

## Standards:

| AK Cultural: | AK Content Science: | CRCC: |
| :--- | :--- | :--- |
| D4- Gather oral and written history and <br> provide and appropriate interpretation of <br> its cultural meaning and significance | A 12: Students will be able to <br> distinguish the patterns of similarity and <br> differences in the living world in order to <br> understand the diversity of life and <br> understand the theories that describe the <br> importance of diversity for species and <br> ecosystems | SS3- Students should be able to gather <br> plants, berries and other edible foods |

## Lesson Goal:

Students will gain an understanding of the importance of gathering food seasonally.
Lesson Objective(s): Students will:

- Describe why it was so important to gather food.
- Identify habitat area for gathering at intertidal zone.
- Learn four Sugt'stun/Eyak words.

Vocabulary Words: Sugt'stun Dialects

| English: | Prince William <br> Sound: | Lower Cook Inlet: | Eyak: |
| :---: | :---: | :---: | :--- |
| Beach |  | Quteq |  |
| Land |  | Nuna |  |
| Chiton |  | Urritaq |  |
| Chitons (2) |  |  |  |
| Chitons (3 or more) |  | Urritak |  |
| Seaweed (black) |  | Caqallqaq |  |
| Limpet |  | Melungucaq |  |
| Limpets |  | Melungqucat |  |

## Materials/Resources Needed:

Invite Elder/Recognized Expert

## Books:

Imam Cimiucia- Our Changing Sea- find the bidarki/limpet picture on page VI
Alaska Sea Grant College Program: Life on the Beach among Friends and Anemones DVD Level 2
We are the Land, We are the Sea
Common Edible Seaweeds in the Gulf of Alaska
Alaska's Seashore Creatures

## Websites:

https://seagrant.uaf.edu/bookstore/pubs/M-29teacherguide.pdf
http://www.tidetable.net/southcentral-alaska
https://www.youtube.com/watch?v=in-7B93TQTo
Beach Zonation work sheet
Clip board
Permission slips for field trip
Zip-Loc baggies
Camera
Twine
Surveyor's tape

"All my life, I depended on that shoreline. I would go down to the beach to collect anything to make chowder for that night's dinner. If we needed food I knew where to get it. The beach provided for us." Elenore McMullen ${ }^{\text {ii }}$,

## Teacher Preparation:

- Review the books in the heritage kit
- https://seagrant.uaf.edu/bookstore/pubs/M-29teacherguide.pdf
- Create questions from the teacher guide from the Alaska Sea Grant site for first lesson.
- View the following YouTube video on bidarki gathering.
- https://www.youtube.com/watch?v=in-7B93TQTo
- Contact Local Education Coordinator, Elder or Recognized Expert and invite them to share about traditional food gathering and possibly join the class during the field trip.
- Review Sugt'stun/Eyak words.
- Make copies of permission slip to participate in the field trip and invite parents to join.
- Check tides for your area and plan a field trip (Lesson III), with students.
- http://www.tidetable.net/southcentral-alaska
- Photograph/video field trips as students, Elder/Recognized Expert are looking around the shores.
- Make a copy of the work sheet "Beach Zonation" for each student.
- Make copies of the bidarki pictures for each student.
- Locate a camera to take pictures during the field trip and make copies for each student to place in their 'Recipe book' they started in the first lesson.
- Have the books laid out on a table for students to look through as additional resource to enhance their writing project.
- Run the twine across the room to hang seaweed to dry.
- For late lesson, bring butter, oil, garlic powder/salt, soy sauce and little paper cups for dipping their chitons and limpets.
- Seaweed collection can be kelp as well, if kelp is gathered and it is the bulb kelp, just take the ribbon from the kelp.
- In the book Common Edible Seaweeds there are recipes for drying kelp in the oven, which take about 5 to 10 minutes in the oven; these can be eaten as chips.


## Opening:

Does your family gather anything from the shoreline for food to put away for winter? What type of food do you gather? Who does the gathering? Do you help? How do you preserve it?
Traditionally, the saying was "When the tide is out, the table is set." For the next few days, we are going to be learning about the traditional foods gathered from the shore that are full of nutrients.

## Activities:

## Class I:

1. Have students view you tube video on gathering bidarkies, https://www.youtube.com/watch? v=in-7B93TQTo
2. Ask questions from the Sea grant site and document responses.
3. Allow students to share their experiences of gathering foods from the land or sea shores.
4. Give students permission slips to take home and invite parents to join on the field trip to the beach.

## Class II:

5. Introduce Elder/Recognized Expert to the class and share their experience gathering resources from land and the shorelines. (If you cannot get an Elder, read "The Longest Night" by Patrick "Sweeney" Selanoff Jr., in We Are The Land, We Are The Sea page 98)
6. Go over any safety issues about being near the water and give each student the work sheet 'Beach Zonation' attached.
7. Review the labels on the work sheet; splash zone, upper and high intertidal zone, middle intertidal zone, and lower intertidal zone.
8. Ask students what they may find on these levels of the shorelines. Have student's record responses of what they think they will find and place responses and drawings on wall.

## Class III -Field Trip:

1. Have the students take their copy of the chiton/limpet pictures to easily identify what they find.
2. When everyone is at the beach, have student's use the surveyor's tape to mark off the zones of the shorelines, students can ask the Elder/Recognized Expert which areas plants and the beach critters live on.
3. Take pictures throughout this walk about to share for the next lesson.
4. Students can collect seaweed, kelp, chiton and limpets if available and bring back to sample in the classroom.
5. Have students rinse their seaweed in the salt water to bring back to school.

Class IV-

1. Once students are in class, ask the students to hang up their seaweed over the twine to dry for a couple of days, after the seaweed has dried it can be consumed.
2. If there were chitons and limpets gathered, follow the recipe below.
3. Note, the seaweed can be consumed when it is dried or fresh.
4. Bake the kelp if some were brought back to class (follow suggested recipes on page 42 from the book Common Edible Seaweeds) and eat like chips.
5. Have students write what they have been gathering and Elder/Recognized Expert information they remember, give them pictures that were taken during the field trip.
6. Students can place their writing/drawings on the wall of the classroom

## Assessment:

1. Student can describe what beach zones are and what may be found in each.
2. Student successfully identify a bidarki/gumboot, limpet and different types of seaweed/kelp from their area.
3. Student correctly pronounced the Sugt'stun/Eyak words.
4. Student able to traditionally prepare seaweed, bidarki/gumboot and limpets.

## Boiled Gumboots

(Chenega Bay recipe from; We Are the Land We Are the Sea)
2 dozen gumboots (Chitons)
Seal oil

During low tide, use a knife or scredriver to pry the bidarki/gumboots off the rocks. Throw the bidarki/gumboots into boiling water for a few monutes. As soon as their black skin starts to bubble, they are ready. Pull of their shells. Clean out their insides. Then dice them up. Afterwards, dunk them in seal oil and enjoy.

Seaweed Soup<br>By Pauline Demas<br>Recipes Gathered by Nanwalek Students<br>Sea Week 2007

PUT seaweed into a bowl
ADD boiling water
GARLIC powder to your taste
SOY sauce
Tsp Seal Oil


Courtesy of Catie Bursch and Kachemak Bay Reserve


Photo from Iman Cimiucia Our Changing Sea

[^0]
[^0]:    ${ }^{\text {i }}$ Fireweed Cillqaq, Life and times in Port Graham. Soldotna, AK: Kenai Peninsula Borough School District, 1982. Print.
    ii Elder and past chief, Port Graham, 2004
    "Living from the Sea." Imam Cimiucia Our Changing Sea. By Anne K. Salomon. Fairbanks, AK: Alaska Sea Grant College Program, 2011. 2. Print

