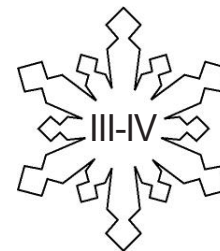


# Identifying Sea Ice

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Levels



Grades 5-8

## Overview:

During this lesson students use the Yupik Sea Ice Dictionary and interview local Elders and hunters to learn local native language terms for different kinds of marine ice. Note: students in Savoonga and Gambell can find local terms for sea ice in the dictionary, and may not need to interview community members to determine these terms.

## Objectives:

The student will:

- identify native language terms for sea ice types; and
- interview an Elder/local hunter.

## GLEs Addressed:

### *Science*

- [5-8] SA 1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring, and communicating.
- [8] SD 2.1 The student demonstrates an understanding of the forces that shape Earth by interpreting topographical maps to identify features (i.e., rivers, lakes, mountains, valleys, island, and tundra).

## Overview:

People who live on or near Alaska's northern coast have used sea ice for centuries. They travel on it, hunt on it, and think about how to remain safe as it shifts, drifts, grows, and melts. Yupik-speaking St. Lawrence Islanders have many words and phrases for sea ice and ice formations. Those words include "Siku," which means ice; "Analghu," which means a pile of ice slabs known as a pressure ridge, where ice pushes together and presses upward, making a good place to climb and search for animals; and "Sigiin," new ice that forms like cold glue within cracks in larger pieces of ice. These words were not written down until 1986, when a Yupik Elder named Conrad Oozeva helped to make a dictionary of the terms. People only spoke the words before that.

## Materials:

- Oozeva, C., Noongwook, G., Noongwook, G., Alowa, C., and Krupnik, I. *Watching Ice and Weather Our Way/Sikumengllu Eslamengllu Esghapalleghput*. (2004). Washington, DC.: Arctic Studies Center, Smithsonian Institution.
- Colored pencils
- Paper
- CLASS WORKSHEET: "Sea Ice Dictionary"
- STUDENT WORKSHEET: "Identifying Sea Ice"

## Activity Preparation:

1. Identify local community members (possibly Elders or hunters) who are knowledgeable about sea ice.

2. Ask students to prepare cards or letters (using the paper and colored pencils) to invite community members to the classroom to discuss their sea ice experiences and knowledge with students. Students also may invite the community members in person.
3. Before the visit, prepare snacks and beverages for guests. Consider inviting the guests just before lunch so that they may stay for lunch with the students. Review respectful listening skills with students.

### Activity Procedure:

1. Welcome community members to the classroom and share snacks/lunch/beverages as appropriate. Explain that students are learning native words for sea ice and share the Yupik Sea Ice Dictionary within *Watching Ice and Weather Our Way/Sikumengllu Eslamengllu Esghapalleghput*.
2. Ask community members to work together with small groups of students to record local native language terms for the sea ice depicted in the dictionary.
3. At a table, provide community members and the first student group with the book *Watching Ice and Weather Our Way/Sikumengllu Eslamengllu Esghapalleghput* and the CLASS WORKSHEET: "Sea Ice Dictionary." Explain that the worksheet is numbered to match the definition numbers within the dictionary beginning on page 29 of the book. Ask community members to look at each definition and illustration and tell students of any local words they know for that type of sea ice. The students should record the local term next to the appropriate definition number on the worksheet.
4. In the case that a local word does not exist or is not known for a specific sea ice type, ask students to write Not Available or N/A next to that definition number on the worksheet. Ensure all students have a turn working with the community members. Only one CLASS WORKSHEET packet should be used. Each student group should give the packet to the next group to continue the recording process as students take turns working with the community members.
5. After students and community members finish the 99 terms within the dictionary, ask if there are any local sea ice terms that do not match the pictures or definitions in this dictionary. Ask students to record these terms (if any) along with definitions and/or illustrations in the space provided at the end of the CLASS WORKSHEET: "Sea Ice Dictionary."
6. Thank community members for visiting and sharing their knowledge. After community members have departed, discuss the native language terms for sea ice that students learned.
7. Distribute colored pencils and the STUDENT WORKSHEET: "Identifying Sea Ice" and ask students to write the local word for, illustrate and define three types of sea ice they learned from the community members.
8. Explain that Native people living in coastal regions of the Arctic have many terms to describe sea ice. Ask students why this might be so.

### Answers:

CLASS WORKSHEET: Answers will vary

STUDENT WORKSHEET:

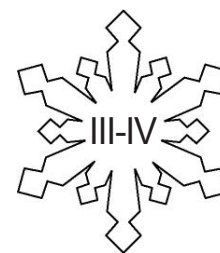
1-3. Answers will vary

4. Answers will vary, but should demonstrate an understanding that Native people living in the Arctic perform subsistence activities that are directly tied to ice conditions. Clear descriptions of ice conditions are required for safety and prosperity. Therefore, many words to describe specific ice conditions have been developed.

# Sea Ice Dictionary

## Class Worksheet (page 1 of 2)

Levels




**Directions:** Look at the Yupik Sea Ice Dictionary beginning on page 29 of *Watching Ice and Weather Our Way/Sikumengllu Eslamengllu Esghapalleghput*. Each sea ice word is numbered and an illustration and definition are included. Ask your community members if there is a local language word for each type of sea ice, and record this word next to the appropriate number on this worksheet. If a local language word does not exist or is unknown for a specific ice type, write N/A (Not Available) next to that number and continue down the list.

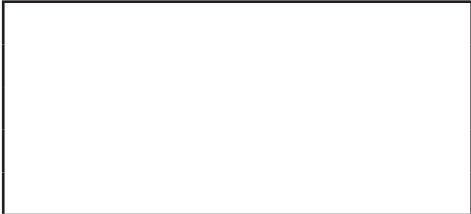
1	34	67
2	35	68
3	36	69
4	37	70
5	38	71
6	39	72
7	40	73
8	41	74
9	42	75
10	43	76
11	44	77
12	45	78
13	46	79
14	47	80
15	48	81
16	49	82
17	50	83
18	51	84
19	52	85
20	53	86
21	54	87
22	55	88
23	56	89
24	57	90
25	58	91
26	59	92
27	60	93
28	61	94
29	62	95
30	63	96
31	64	97
32	65	98
33	66	99


# Sea Ice Dictionary


## Class Worksheet (page 2 of 2)


**Directions:** Ask your community members if they know of any words for sea ice that do not match the pictures or definitions in the Yupik Sea Ice Dictionary. If so, write, illustrate and define them below.

Word	Illustration	Definition
<hr/>		<hr/> <hr/> <hr/> <hr/>

Word	Illustration	Definition
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Word	Illustration	Definition
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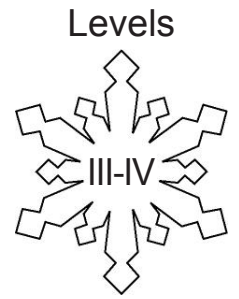
Word	Illustration	Definition
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Word	Illustration	Definition
<hr/>		<hr/> <hr/> <hr/> <hr/>

Name: \_\_\_\_\_

# Identifying Sea Ice

## Student Worksheet



**Directions:** Write, illustrate and define three local words for sea ice that you learned from your community members.

1. Word _____	Illustration <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	Definition _____ _____ _____ _____
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2. Word _____	Illustration <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	Definition _____ _____ _____ _____
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3. Word _____	Illustration <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	Definition _____ _____ _____ _____
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4. Native people living in coastal regions of the Arctic have many terms for sea ice. Why might this be so?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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