

Woody Island Ice Company

History of Woody Island is shared through pictures and the written history of the Woody Island Ice Company. Students learn how ice was manufactured on Lake Tanignak in the 1860s and shipped to California by sailing ship.

Grade Level: 3-6

Alaska Standards Addressed (p. 2)

Timeframe: 1-2 hours

Materials:

Teacher Background materials:

- *A Brief Look at the History and Culture of Woody Island, Alaska* [2010] by Gordon Pillar, Jr.
- *Background History of Woody Island (Tangirnaq)* by J Lipka, Baranov Museum
- *A Chilling History and Science of Ice Transportation Seen Through the Wreck of the Kad'yak in 1860, (Curriculum)* [2005] by Balika Haakanson (L. 4c Kodiak's Ice, & L.5 Make Ice Cream)
- *The Woody Island Ice Company* [1986] by Gary Stevens

Student materials:

- Digitized photos from the Baranov Museum collection:
 - *Cutting Ice at Woody Island:*
 - P-612-27
 - P-612-59
 - P-612-14
 - P-498-197-b
 - *4th of July trip to Woody Island* PR-354-155a
 - Learn Collection Photos
 - Sawdust or hamster
 - 3 ice cubes per student
 - 1 Shoebox or small box per student
 - Digital projector, screen, and computer-generate slide show



Procedure:

- Introduce the history of Woody Island, highlighting times in recorded history.
- Share its uniqueness in Kodiak's history (first horses, ice factory, orphanage, Baptist church, etc.) with students through a brief slide show of Woody Island.
- Explain how the ice was manufactured, stored and shipped to San Francisco
- Review the properties of insulation and conduction, heating and cooling, and ask students how they think the ice was protected from melting.
- After theories are discussed, explain that sawdust from the logged spruce forests was used at Woody Island to pack the ice and protect it from melting.
- Distribute boxes and sawdust, ask students to create a well-insulated container for the 3 ice cubes they will receive. It must be able to keep the ice frozen for the rest of the day.
- Distribute the ice cubes (a helper is handy) and have students record their predictions for results in their science journals. Students should label their "ice box", and put it where they think is the coolest place in the room.
- At the end of the day, students will open the boxes and record their results.

Assessment:

1. Success will be determined by:
 - Students can recall history of Woody Island in the 1850s-1870s;
 - Students' understanding of the properties of insulation and conduction will be enhanced by their packaging of the ice cubes; and
 - Students review of the properties of water enhanced by making ice cream.

Alaska Standards Addressed:

History Standards

C: A student should develop the skills and processes of historical inquiry

A student who meets the content standard should:

C.2 use historical data from a variety of primary resources, including ... photos, historical sites, documents, and secondary research materials;
C.3 apply thinking skills, including classifying, interpreting, analyzing, summarizing, synthesizing, and evaluating, to understand the historical record;

Geography Standards

E: A student should understand and be able to evaluate how humans and physical environments interact

A student who meets the content standard should:

E.1 understand how resources have been developed and used;
E.2 recognize and assess local, regional, and global patterns of resource use;

Science Standards

A: A student should understand and be able to apply the processes and applications of scientific inquiry.

A student who meets the content standard should:

A.1 develop an understanding of the processes of science used to investigate problems, design and conduct repeatable scientific investigations, and defend scientific arguments; and
A.2 develop an understanding that the processes of science require integrity, logical reasoning, skepticism, openness, communication, and peer review.

B: A student should understand and be able to apply the concepts, models, theories, universal principles, & facts that explain the physical world.

A student who meets the content standard should:

B.1 develop an understanding of the characteristic properties of matter and the relationship of these properties to their structure and behavior;

B.2 develop an understanding that energy appears in different forms, can be transformed from one form to another, can be transferred or moved from one place or system to another, may be unavailable for use, and is ultimately conserved;

B.3 develop an understanding of the interactions between matter and energy, including physical, chemical, and nuclear changes, and the effects of these interactions on physical systems;



P-498-197-12 *Chopping ice on Woody Island,*
Michael Nore Collection