



TRADITIONAL FISHING



Developed by Wanda Kvasnikoff

A Publication of Chugachmiut Heritage Preservation Department

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Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

Planning Guide

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1. Introduction

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

“I never saw rods and reels before, but my dad used to have some kind of spear-like things...”
(Juanita Melsheimer 1980: 7)

[Chugachmiut Heritage Kits have been developed to help classroom teachers and community members present the cultural traditions of the Native people of the Chugach Alaska Region to today’s youth. This program is undertaken with a sense of faith in the youth of the region; specifically, that they will assure the survival of the Sugpiaq traditions and begin a lifelong journey of learning Sugt’stun, their traditional language.]

The Cuumi Iqallugsuucillrat “Iqalluk”, Old Fishing “Salmon” Heritage Kit explores questions of salmon and salmon fishing in a Sugpiaq cultural context, as well as historical and current issues in fishing and fish regulations. Through the exhibition and the accompanying curriculum material, students also learn about the traditional fishing techniques and tools of their ancestors, as well as their contemporary interpretations.

Sugpiaq fishermen have used fish traps and traditional fishing tools for thousands of years. Today, only some of the traditional tools and techniques are used, because everyone has become accustomed to using fishing poles and/or fishing nets; however, there are a few Elders who have first hand knowledge of traditional Sugpiaq fishing. In the past, Sugpiaq fishermen had an extensive knowledge of their fishing areas, and the likelihood of an abundant fish run. Consequently, they fished according to their specific circumstances and they took only what was needed for their families, communities, and their traditional economy. For example, during the fishing season, families traveled to fishing grounds, where Sugpiaq fishermen built a Stone Fish Trap to collect the various species of fish available in their area, while women cleaned and processed the catch for the winter months. Sometimes, if the river was too high for the Stone Fish Trap to be effective, the fishermen would build a fish trap out of straight spruce limbs or saplings, while logs and rocks were placed in the river to catch salmon. The limbs or saplings were situated closely together to trap the larger salmon, but far enough apart to allow the smaller fish to swim through.

When canneries started operating in the state of Alaska around the mid 1800s and early 1900s, Sugpiaq fishermen started using saltwater fish traps. These traps were used in the ocean to catch a multitude of fish, thus creating a source of income for many Sugpiaq families. In 1959 the State of Alaska banned fish traps because they felt the Alaska residents were monopolizing the fishing industry in Alaska and wanted more people to benefit from selling fish to the canneries (Naske and Slotnick 1987: 102). In this era, seining became a new source of income for Sugpiaq families, although, they were competing with other fishermen from Alaska, as well as from the Lower 48 States. In 1989 fishing practices in the Chugach Region changed again, as the Exxon Valdez Oil Spill dramatically impacted many Sugpiaq lives, putting an end to fishing for many in the Sugpiaq communities of the region.

In this Heritage Kit, students will learn to appreciate the significance of the Sugpiaq cultural knowledge and traditions on subsistence in general, and fishing in specific. The Cuumi Iqallugsuucillrat “Iqalluk”, Old Fishing “Salmon” Heritage Kit will also provide information

for teachers and educators to guide their students in exploring and applying Sugpiaq traditional knowledge in their contemporary lives.

[The teaching and demonstrational material of this Kit is designed as a culturally focused curriculum that acknowledges the legitimacy of the cultural heritage of all students in the classroom. Culturally responsive teaching is validating (Gay 2000) because it uses cultural knowledge, prior experiences, and performance styles to make learning more appropriate and effective for students. Furthermore “it builds bridges of meaningfulness between home and school experiences as well as between academic abstractions and sociocultural realities” (Gay 2000: 29) by encouraging students to develop critical thinking and cultural awareness.

In addition to reinforcing cultural values, the Heritage Kit also creates a teaching environment where students can incorporate and actively use their personal knowledge, learned from their parents, uncles, aunts, and grandparents, into their school work. Through immersing in their Sugpiaq culture, students develop a sense of accomplishment, which will prompt and empower them to develop their own sense of ethnic identity, while also reinforcing their ability to live in the multicultural realities of today’s world (Kawagley and Barnhardt 1999: 137).

It is the position of Chugachmiut that academic standards can be met when content is based on the history, traditions, and language of the region in which students live. For this reason, Heritage Kits are based on both the Content and Performance Standards for Alaska Students (2006) and the Chugach Regional Cultural Content Standards developed by a working group of the region’s Elders and educators.

Material presented through the Heritage Kits focus on the many facets of Sugpiaq life and the social-cultural change that expired in the communities of the Chugach Region. Therefore, Heritage Kits provide opportunities to create academic subject matters recognizing traditional Sugpiaq content by integrating standardized academic disciplines with Sugpiaq traditional knowledge.

The question still remains: How much can the schools really do to teach the culture, history, traditions, and language of the Chugach Region? It is not the intent of Chugachmiut Heritage Kits that schools take on the communities’ responsibility of teaching their youth Sugpiaq culture, history, and language. Rather, the Heritage Kit is developed with the understanding that schools work in partnership with communities (Tuhiwai Smith 1999: 152) by recognizing the importance of the culture, history, and language in developing well-rounded Sugpiaq students.]

Consequently, the Cuumi Iqallugsuucillrat “Iqalluk”, Old Fishing “Salmon” Heritage Kit provides educators with a comprehensive and diverse collection of teaching material, in order to foster a successful collaboration in teaching the students of the Chugach Region recognizing the importance of, and respect given to, their Sugpiaq cultural traditions. By participating in this heritage experience, students will come to understand that fish are vital to human survival and it is deeply embedded in the culture and history of Sugpiaq people.

Heritage Kits are designed for students from all grade levels from kindergarten to high school, engaging students according to their appropriate learning levels. The material of this Kit should

not be used in isolation, but should be integrated into the classroom curriculum. As the activities are multidimensional and teach from various disciplines, such as humanities, science, social science, health, the arts, and language, they are designed to be used in conjunction with other teaching material content from these subjects. The Kit offers educators an opportunity to collaborate with the community by utilizing the expertise of Elders, culture bearers and traditional storytellers in the classroom, as also by taking fieldtrips so that local events, daily life, and the resources of the community become a natural part of the classroom experience.

Through the Cuumi Iqallugsuucillrat “Iqalluk”, Old Fishing “Salmon” Heritage Kit students will learn to use a wide range of resources, both material and conceptual. Students will learn to respect the land around them, their local natural resources and Sugpiaq cultural heritage. Moreover, students will learn about the various salmon species found in their local environment, the anatomy and life cycle of the fish they eat on a daily basis, as well as fish habitat in their sociocultural and natural landscape. Additionally, students will learn about a variety of fishing techniques by listening to, and working with, oral histories of Sugpiaq Elders, as well as by building replicas and models of traditional fishing tools.

Finally, students will take short field trips to gather natural resources and materials necessary for building fishing tools and fish trap models, while simultaneously integrating cultural knowledge through working with traditional stories and narratives and Sugt’stun language material.

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2. Activity Overview

	What is a salmon?	How to catch a salmon?	What do we think about a salmon?
	Anatomy and Life Cycle	Tools and Techniques	Fishing in Social Context
PK-2	<ul style="list-style-type: none"> - Salmon Species Game - Stuffed Fish Activity - Life Cycle Puzzle 	<ul style="list-style-type: none"> - Salmon Habitat - Hand-thrown Line Fishing - Fish Net 	<ul style="list-style-type: none"> - The Tradition of the First Catch - Fish Recipe Coloring Book - Presentation and Participation in Potluck
3-5	<ul style="list-style-type: none"> - Salmon Species Spread Sheet - Salmon Body Parts Model - Life Cycle Workbook 	<ul style="list-style-type: none"> - Rock Fish Trap - Habitat Clean-up - Fishing Boats 	<ul style="list-style-type: none"> - Oral History Worksheet - Writing a Fish Cookbook - Presentation and Participation in Potluck
6-8	<ul style="list-style-type: none"> - Salmon Species Poster - Internal External Parts Dissection Game - Life Cycle Migration Board Game* 	<ul style="list-style-type: none"> - Habitat Local Map - Fishing Techniques Worksheet - Fish Net Repair 	<ul style="list-style-type: none"> - Making Smoked Salmon - Compare-Contrast Essay - Presentation and Participation in Potluck
9-12	<ul style="list-style-type: none"> - Salmon Species Research - Cleaning and Cutting Fish – video and essay - Life Cycle Calendar 	<ul style="list-style-type: none"> - Drawing a Fishing Spear - Habitat Water Samples - Salt Water Fish Trap 	<ul style="list-style-type: none"> - Local Fishing Jobs - Writing a Poem on Fishing/Salmon - Presentation and Participation in Potluck

3. Standards

It is the Chugachmiut position that academic standards can be met when content is based on the history, culture, and language of the region in which students live. Activities suggested in the Cuumi Iqallugsuucillrat “Iqalluk”, Old Fishing “Salmon” will introduce or reinforce the following educational standards.

ALASKA CONTENT STANDARDS

English/Language Arts

- (A) A student should be able to speak and write well for a variety of purposes and audiences.
- 1) apply elements of effective writing and speaking; these elements include ideas, organization, vocabulary, sentence structure, and personal style;
 - 2) in writing, demonstrate skills in sentence and paragraph structure, including grammar, spelling, capitalization, and punctuation;
 - 3) in speaking, demonstrate skills in volume, intonation, and clarity;
 - 4) write and speak well to inform, to describe, to entertain, to persuade, and to clarify thinking in a variety of formats, including technical communication;
 - 5) revise, edit, and publish the student’s own writing as appropriate;
 - 6) when appropriate, use visual techniques to communicate ideas; these techniques may include role playing, body language, mime, sign language, graphics, Braille, art, and dance;
- (B) A student should be a competent and thoughtful reader, listener, and viewer of literature, technical materials, and a variety of other information.
- 1) comprehend meaning from written text and oral and visual information by applying a variety of reading, listening, and viewing strategies; these strategies include phonic, context, and vocabulary cues in reading, critical viewing, and active listening;
 - 2) reflect on, analyze, and evaluate a variety of oral, written, and visual information and experiences, including discussions, lectures, art, movies, television, technical materials, and literature; and
 - 3) relate what the student views, reads, and hears to practical purposes in the student’s own life, to the world outside, and to other texts and experiences.
- (C) A student should be able to identify and select from multiple strategies in order to complete projects independently and cooperatively.
- 1) make choices about a project after examining a range of possibilities;
 - 2) organize a project by
 - a. understanding directions;
 - b. making and keeping deadlines; and
 - c. seeking, selecting, and using relevant resources;
 - 3) select and use appropriate decision-making processes;
 - 4) set high standards for project quality; and
 - 5) when working on a collaborative project,
 - a. take responsibility for individual contributions to the project;
 - b. share ideas and workloads;

- c. incorporate individual talents and perspectives;
 - d. work effectively with others as an active participant and as a responsive audience; and
 - e. evaluate the processes and work of self and others.
- (D) A student should be able to think logically and reflectively in order to present and explain positions based on relevant and reliable information.
- 1) develop a position by
 - a. reflecting on personal experiences, prior knowledge, and new information;
 - b. formulating and refining questions;
 - c. identifying a variety of pertinent sources of information;
 - d. analyzing and synthesizing information; and
 - e. determining an author’s purposes;
 - 2) evaluate the validity, objectivity, reliability, and quality of information read, heard, and seen;
 - 3) give credit and cite references as appropriate; and
 - 4) explain and defend a position orally, in writing, and with visual aids as appropriate.
- (E) A student should understand and respect the perspectives of others in order to communicate effectively.
- 4) recognize the communication styles of different cultures and their possible effects on others.

Science

- (A) Science as Inquiry and Process. A student should understand and be able to apply the processes and applications of scientific inquiry.
- 1) develop an understanding of the processes of science used to investigate problems, design and conduct repeatable scientific investigations, and defend scientific arguments;
 - 3) develop an understanding that culture, local knowledge, history, and interaction with the environment contribute to the development of scientific knowledge, and local applications provide opportunity for understanding scientific concepts and global issues.
- (C) Concepts of Life Science. A student should understand and be able to apply the concepts, models, theories, facts, evidence, systems, and processes of life science.
- 1) develop an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection, and biological evolution;
 - 2) develop an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms; and
 - 3) develop an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy.
- (E) Science and Technology. A student should understand the relationships among science, technology, and society.

- 1) develop an understanding of how scientific knowledge and technology are used in making decisions about issues, innovations, and responses to problems and everyday events;
 - 2) develop an understanding that solving problems involves different ways of thinking, perspectives, and curiosity that lead to the exploration of multiple paths that are analyzed using scientific, technological, and social merits; and
 - 3) develop an understanding of how scientific discoveries and technological innovations affect and are affected by our lives and cultures
- (F) Cultural, Social, Personal Perspectives and Science. A student should understand the dynamic relationships among scientific, cultural, social, and personal perspectives.
- 1) develop an understanding of the interrelationships among individuals, cultures, societies, science, and technology;
 - 2) develop an understanding that some individuals, cultures, and societies use other beliefs and methods in addition to scientific methods to describe and understand the world; and
 - 3) develop an understanding of the importance of recording and validating cultural knowledge.

World Languages

- (A) A student should be able to communicate in two or more languages, one of which is English.
- 1) understand written and oral communication in two or more languages;
 - 2) write and speak understandably in two or more languages;
 - 3) use two or more languages effectively in real life situations; and
 - 4) use two or more languages to learn new information in academic subjects.
- (B) A student should expand the student’s knowledge of peoples and cultures through language study.
- 1) understand the relationship between language and culture;
 - 2) learn about and experience surface characteristics of the culture, including art, cuisine, dance, dress, geography, history, music, and literature;
 - 3) learn about and experience deep characteristics of the culture, including folkways, mores, laws, traditions, customs, and patterns of behavior;
 - 6) recognize through language study that all cultures contribute to the global society.
- (C) A student should possess the language skills and cultural knowledge necessary to participate successfully in multilingual communities and the international marketplace.
- 1) interact appropriately in multilingual communities through various means, including printed and electronic media, audio and visual sources, face-to-face conversations, penpals, and travel;
 - 4) apply language skills and cultural knowledge to enhance the student’s intellectual and social growth and to promote lifelong learning.

Technology

- (A) A student should be able to operate technology-based tools.
- 1) use a computer to enter and retrieve information;
 - 2) use technological tools for learning, communications, and productivity;

- 3) use local and worldwide networks;
- (B) A student should be able to use technology to locate, select, and manage information.
 - 1) identify and locate information sources using technology;
 - 2) choose sources of information from a variety of media; and
 - 3) select relevant information by applying accepted research methods.
- (C) A student should be able to use technology to explore ideas, solve problems, and derive meaning.
 - 1) use technology to observe, analyze, interpret, and draw conclusions;
 - 2) solve problems both individually and with others; and
 - 3) create new knowledge by evaluating, combining, or extending information using multiple technologies.
- (D) A students should be able to use technology to express ideas and exchange information.
 - 1) convey ideas to a variety of audiences using publishing, multi-media, and communications tools;

Library/Information Literacy

- (B) A student should understand and use research processes necessary to locate, evaluate, and communicate information and ideas.
 - 2) consider the variety of available resources and determine which are most likely to be useful;
 - 3) access information;
 - 4) evaluate the validity, relevancy, currency, and accuracy of information;
 - 5) organize and use information to create a product; and

Geography

- (A) A student should be able to make and use maps, globes, and graphs to gather, analyze, and report spatial (geographic) information.
 - 1) use maps and globes to locate places and regions;
 - 2) make maps, globes, and graphs;
 - 5) evaluate the importance of the locations of human and physical features in interpreting geographic patterns; and
- (B) A student should be able to utilize, analyze, and explain information about the human and physical features of places and regions.
 - 1) know that places have distinctive geographic characteristics;
 - 7) understand that a region is a distinct area defined by one or more cultural or physical features; and
- (C) A student should understand the dynamic and interactive natural forces that shape the Earth’s environments.
 - 1) analyze the operation of the Earth’s physical systems, including ecosystems, climate systems, erosion systems, the water cycle, and tectonics;
 - 3) recognize the concepts used in studying environments and recognize the diversity and productivity of different regional environments.
- (E) A student should understand and be able to evaluate how humans and physical environments interact.
 - 1) understand how resources have been developed and used;
 - 2) recognize and assess local, regional, and global patterns of resource use;

- 3) understand the varying capacities of physical systems, such as watersheds, to support human activity;
 - 4) determine the influence of human perceptions on resource utilization and the environment;
 - 5) analyze the consequences of human modification of the environment and evaluate the changing landscape; and
- (F) A student should be able to use geography to understand the world by interpreting the past, knowing the present, and preparing for the future.
- 3) analyze resource management practices to assess their impact on future environmental quality;
 - 6) utilize geographic knowledge and skills to support interdisciplinary learning and build competencies required of citizens.

History

- (A) A student should understand that history is a record of human experiences that links the past to the present and the future.
- 4) understand that history relies on the interpretation of evidence;
 - 5) understand that history is a narrative told in many voices and expresses various perspectives of historical experience;
 - 6) know that cultural elements, including language, literature, the arts, customs, and belief systems, reflect the ideas and attitudes of a specific time and know how the cultural elements influence human interaction;
 - 8) know that history is a bridge to understanding groups of people and an individual’s relationship to society; and
 - 9) understand that history is a fundamental connection that unifies all fields of human understanding and endeavor.
- (B) A student should understand historical themes through factual knowledge of time, places, ideas, institutions, cultures, people, and events.
- 1) comprehend the forces of change and continuity that shape human history through the following persistent organizing themes:
 - a. the development of culture, the emergence of civilizations, and the accomplishments and mistakes of social organizations;
 - b. human communities and their relationships with climate, subsistence base, resources, geography, and technology;
 - 2) understand the people and the political, geographic, economic, cultural, social, and environmental events that have shaped the history of the state, the United States, and the world;
 - 3) recognize that historical understanding is relevant and valuable in the student’s life and for participating in local, state, national, and global communities;
 - 5) evaluate the influence of context upon historical understanding.
- (C) A student should develop the skills and processes of historical inquiry.
- 2) use historical data from a variety of primary resources, including letters, diaries, oral accounts, archeological sites and artifacts, art, maps, photos, historical sites, documents, and secondary research materials, including almanacs, books, indices, and newspapers;

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- 3) apply thinking skills, including classifying, interpreting, analyzing, summarizing, synthesizing, and evaluating, to understand the historical record; and
 - 4) use historical perspective to solve problems, make decisions, and understand other traditions.
- (D) A student should be able to integrate historical knowledge with historical skill to effectively participate as a citizen and as a lifelong learner.
- 1) understand that the student is important in history;
 - 6) create new approaches to issues by incorporating history with other disciplines, including economics, geography, literature, the arts, science, and technology.

Skills for a Healthy Life

- (C) A student should understand how well-being is affected by relationships with others.
- 6) assess the effects of culture, heritage, and traditions on well-being.

Government and Citizenship

- (C) A student should understand the character of government of the state.
- 2) accept responsibility for protecting and enhancing the quality of life in the state through the political and governmental processes;
 - 4) understand the importance of the historical and current roles of Alaska Native communities;
 - 6) understand the importance of the multicultural nature of the state
- (G) A student should understand the impact of economic choices and participate effectively in the local, state, national, and global economies.
- 2) understand that choices are made because resources are scarce;
 - 3) identify and compare the costs and benefits when making choices;
 - 5) understand how jobs are created and their role in the economy;

Art

- (A) A student should be able to create and perform in the arts.
- 1) participate in dance, drama, music, visual arts, and creative writing;
 - 2) refine artistic skills and develop self-discipline through rehearsal, practice, and revision;
 - 3) appropriately use new and traditional materials, tools, techniques, and processes in the arts;
 - 4) demonstrate the creativity and imagination necessary for innovative thinking and problem solving;
 - 5) collaborate with others to create and perform works of art;
 - 6) integrate two or more art forms to create a work of art; and
- (B) A student should be able to understand the historical and contemporary role of the arts in Alaska, the nation, and the world.
- 1) recognize Alaska Native cultures and their arts;
 - 3) recognize the role of tradition and ritual in the arts;
 - 4) investigate the relationships among the arts and the individual, the society, and the environment;

- 5) recognize universal themes in the arts such as love, war, childhood, and community;
- 8) respect differences in personal and cultural perspectives
- (D) A student should be able to recognize beauty and meaning through the arts in the student’s life.
 - 6) recognize that people connect many aspects of life through the arts;

Employability

- (A) A student should be able to develop and be able to use employability skills in order to effectively make the transition from school to work and lifelong learning.
 - 2) understand how to apply skills and academic knowledge in a variety of work settings;
 - 3) understand the process for seeking employment including résumé development, application completion, interview skills, and appropriate dress for work settings;
 - 5) understand how an individual job fits into the overall organization and how the organization fits into the overall economy;
 - 6) understand the need for safe practices in workplaces;
- (B) A student should be able to identify career interests and plan for career options.
 - 5) identify resources available to support education and training related to career possibilities.

ALASKA CULTURAL STANDARDS

- (A) Culturally-knowledgeable students are well-grounded in the cultural heritage and traditions of their community.
 - 1) assume responsibilities for their role in relation to the well-being of the cultural community and their lifelong obligations as a community member;
 - 3) acquire and pass on the traditions of their community through oral and written history;
 - 4) practice their traditional responsibilities to the surrounding environment;
 - 5) reflect through their own actions the critical role that the local heritage language plays in fostering a sense of who they are and how they understand the world around them;
 - 6) live a life in accordance with the cultural values and traditions of the local community and integrate them into their everyday behavior; and
- (B) Culturally-knowledgeable students are able to build on the knowledge and skills of the local cultural community as a foundation from which to achieve personal and academic success throughout life.
 - 1) acquire insights from other cultures without diminishing the integrity of their own;
 - 2) make effective use of the knowledge, skills, and ways of knowing from their own cultural traditions to learn about the larger world in which they live;
 - 3) make appropriate choices regarding the long-term consequences of their actions; and

- 4) identify appropriate forms of technology and anticipate the consequences of their use for improving the quality of life in the community.
- (C) Culturally-knowledgeable students are able to actively participate in various cultural environments.
- 1) perform subsistence activities in ways that are appropriate to local cultural traditions;
 - 2) make constructive contributions to the governance of their community and the well-being of their family;
 - 3) attain a healthy lifestyle through which they are able to maintain their social, emotional, physical, intellectual, and spiritual well-being;
 - 4) enter into and function effectively in a variety of cultural settings.
- (D) Culturally-knowledgeable students are able to effectively engage in learning activities that are based on traditional ways of knowing and learning.
- 1) acquire in-depth cultural knowledge through active participation and meaningful interaction with Elders;
 - 2) participate in and make constructive contributions to the learning activities associated with a traditional camp environment;
 - 3) interact with Elders in a loving and respectful way that demonstrates an appreciation of their role as culture-bearers and educators in the community;
 - 5) identify and utilize appropriate sources of cultural knowledge to find solutions to everyday problems; and
 - 6) engage in a realistic self-assessment to identify strengths and needs and make appropriate decisions to enhance life skills.
- (E) Culturally-knowledgeable students demonstrate an awareness and appreciation of the relationships and processes of interaction of all elements in the world around them.
- 2) understand the ecology and geography of the bioregion they inhabit;
 - 3) demonstrate an understanding of the relationship between world view and the way knowledge is formed and used;
 - 4) determine how ideas and concepts from one knowledge system relate to those derived from other knowledge systems;
 - 5) recognize how and why cultures change over time;
 - 6) anticipate the changes that occur when different cultural systems come in contact with one another;
 - 8) identify and appreciate who they are and their place in the world.

CHUGACH REGIONAL CULTURAL STANDARDS

Language Standards

1. Students should understand the value and importance of the Sugt’stun language and be actively involved in its preservation.
2. Students should have basic understanding and be able to speak with skill for a variety of purposes to Sugpiaq/Alutiiq and non– Sugpiaq/Alutiiq audiences.
3. Student should be able to read basic Sugt’stun Language

Community Standards

1. Students should know the Sugpiaq/Alutiiq traditional ways of their community:
 - Helping Elders
 - Respect for others
 - Sharing
 - Subsistence
 - Pride in the community

Subsistence Standards

1. Students should be taught the appropriate use for subsistence equipment and identify for flaws:
 - Be able to identify appropriate equipment for task(s)
2. Students should be familiar with habits and behavioral characteristics of traditional subsistence animals, fish, and birds:
 - Migration patterns
 - Seasonal/cycles for safe use/eating
3. Students should know the appropriate seasons to fish, hunt, and gather.
4. Students should have knowledge of preservation techniques for traditional foods/plants.
5. Students should be able to prepare subsistence foods, such as:
 - Fish/shellfish
6. Students should know the value and importance of sharing subsistence with Elders and community.

Survival Standards

1. Student should know the importance of survival using traditional knowledge/ways of surviving and traditional tools.
2. Students should know the proper use, respect, and care of each traditional tool.
3. Students should know how to make tools from natural resources in the outdoor environment.
4. Students should be able to learn/observe the weather and tides.

Geography Standards

1. Students should learn the name of places in Sugt'stun, and the history of the places of their region.

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2. Students should be able to read local, regional, and navigational maps.
3. Students should have knowledge of geographic land marks, safe shelters, and resource maps in their area:
 - Fishing locations
4. Student should be knowledgeable about natural vegetation.
5. Students should have a cultural understanding and practice of respecting personal sites of others.
6. Students should learn the name of places in Sugt’stun, and the history of the places of their region.
7. Students should be knowledgeable about environmental and natural impacts of the area.

Cultural Expression Standards

1. Students should have knowledge of traditional and contemporary Sugpiaq/Alutiiq song, dance; and performance.
2. Students should have knowledge of Sugpiaq/Alutiiq traditional and contemporary art.
3. Students should have knowledge of traditional stories and methods of teaching through storytelling.
4. Students should have knowledge of traditional and contemporary tool making.
5. Students should have respect and appreciation for their own culture as well as the cultures of others.

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4. Materials

5. Lecture Series Ideas Connected to this Heritage Kit:

- Local Experts in Traditional Sugpiaq Fishing Techniques
- Sugt’stun Language Experts

In addition to local experts:

Dr. Jeff Leer
Alaska Native language Center
University of Alaska, Fairbanks
907-474-6587, jeffleer@gmail.com

- Elders
- Museum Representatives, Museologists, Archivists

Pratt Museum (Homer)
Ryjil Christianson
Director of Education
907-235-8635, education@prattmuseum.org

Valdez Museum
Steve Richardson
Curator of Education
Valdez Museum & Historical Archive
907-835-2764, info@valdezmuseum.org

Cordova Museum
Sharon Ermold
Museum Assistant
“Education Leader”
907-424-6665, infoservices@cityofcordova.net

Seward Museum
Resurrection Bay Historical Society / Seward Museum
907-224-3902

Anchorage Museum
Monica Garcia
Director of Education & Public Programs
907-929-9271, mgracia@AnchorageMuseum.org

Alaska Native Heritage Center
Glenn Olson,
Education Program Manager
907-330-8000, golson@alaskanative.net

- Fish and Game Representatives

Homer
Nicky Szarzi
Lower Kenai Peninsula Area Management Biologist
907-235-8191, nicky.szarzi@alaska.gov

Anchorage
To contact habitat biologists: 907-465-2747
To contact wildlife conservation: 907-465-4190
To contact regarding subsistence: 907-465-4147

- Marine Biologists

University of Alaska, Fairbanks
School of Fisheries and Ocean Sciences
907-474-7824, info@sfos.uaf.edu

University of Alaska, Anchorage
Department of Biological Sciences
907-786-4770

- Historians

Alaska Historical Society
907-276-1596, members@alaskahistoricalsociety.org

- Oral History Expert

Dr. William Schneider
Curator, Oral History
University of Alaska, Fairbanks
907-474-5355, wsschneider@alaska.edu

- Local Salmon Enhancement Project Representatives

- Experts in Preparing Fish Dishes Consumed in the Sugpiaq Region

- Other Organizations

Cook Inletkeepers
Rachel Lord
Outreach and Monitoring Coordinator
Lower Inlet Office (Headquarters)
Homer, Alaska

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

907-235-4068, keeper@inletkeeper.org

Kasitsna Bay Laboratory
Seldovia, AK
907-235-4042

Seward Marine Center (SMC)
Seward, AK
907-224-5261

Alaska Sea Life Center (Seward)
Nicole Nelson
Education Director
nicolen@alaskasealife.org

Prince William Sound Science Center
Cordova, AK
907-424-5800, pwssc@pwssc.org

6. Display Information:

- Nanwalek has a 3 ft wide, 2 ft deep, and 7 ft tall space for displaying artifacts. Additionally, the school has an adjacent 3.5 ft x 16 ft wall space for posters and other visuals.
- Salmon Species Prints
- Rock Fish Trap model
- Salt Water Fish Trap Model
- Salmon Life Cycle Poster
- Fishing Spear
- Fishing Net Model
- Pictures of various foods made with, and of, salmon - 6
- Fish Hook on Twine (Hand-Thrown Line)
- Exhibit Statement
- Fish Spear Description
- “But He Would Be Proud” story

7. Unpack and Set-up

8. Repack

9. Activity Plans

Overview of PK-2 activities

	What is a salmon?	How to catch a salmon?	What do we think about a salmon?
	Anatomy, Life Cycle	Tools and Techniques	Fishing in Social Context
PK-2	<ul style="list-style-type: none"> - Salmon Species Game - Stuffed Fish Activity - Life Cycle Puzzle 	<ul style="list-style-type: none"> - Salmon Habitat - Rope Fishing - Fish Nets 	<ul style="list-style-type: none"> - The Tradition of the First Catch - Fish Recipe Coloring Book - Presentation and Participation in Potluck

SALMON SPECIES GAME

CAKUCIQ IQALLUK

Grade: PK-2

Estimated time: 90 minutes

Standards: English A3; Science C2; World language A3, A4; AK Cultural B2

Focus: By completing the Salmon Species Game, students will learn the Sugt’stun and English names for the five species of salmon. Additionally, students will also be able to point out the differences in physical features of the various species of salmon, as well as recognize them in their local environment.

Vocabulary words:

Sugt’stun: **Qakiaq, Amartuq, Nikliq, Lluq’akaaq, Alimaq**

English: Species, Salmon, Red, King, Silver, Dog, Pink

Materials/Resources:

- Salmon prints (included in the Kit exhibition)
- Grade PK-2 CD (included in the Kit)
- Salmon Species Coloring Page (one per student)
- Crayons
- Color pencils

Teacher Preparation:

- Make copies of the Salmon Species Coloring Page
- Gather the above listed materials from the Kit display/storage
- Review CD in advance
- Review the procedures for the Salmon game
- *Optional:* Ask and make arrangements for an Elder or Sugt’stun expert to visit the class

Activity Procedure:

A: Learn the names of the 5 species of Salmon in Sugt’stun and English

1. Use salmon prints to have students compare the differences in color, body shape, size, and physical attributes of the various salmon species.
2. Ask students to repeat the characteristics of each salmon species based on the picture. Ask students if they can find any other difference amongst the various salmon species?
3. Distribute the Salmon Species coloring page.
4. Instruct students to color each the salmon species as based on the salmon prints.
5. Use the CD to review the English and Sugt’stun name of each salmon species. Ask students to repeat the Sugt’stun names, until they have a good grasp on the Sugt’stun material.

6. Ask students to write down the name of each species, in English and/or Sugt’stun.
7. Display student’s work either in the classroom, or in the hallways.

B: Identify Salmon Species

1. Use the CD to help students learn the Sugt’stun names of each salmon species. Click through the CD pages to cover all salmon species. Make sure to give enough time for students to repeat expressions. E.g.
 - **Cacaq tangran?** – What do you see?
 - **Ggwi tangraqa lluq’akaaq.** – I see a king salmon.
 - **Cacaq tangran?**
 - **Ggwi tangraqa lluq’akaaq.**
2. Once students understand the procedure, incorporate all five salmon species into the activity.
 - Red salmon: **Cacaq tangran?** – What do you see? **Ggwii tangraqa niklliq** – I see a red salmon.
 - Silver salmon: **Cacaq tangran?** – What do you see? **Ggwii tangraqa qakiaq** – I see a silver salmon.
 - Dog salmon: **Cacaq tangran?** – What do you see? **Ggwii tangraqa aliimaq** – I see a dog salmon.
 - Pink salmon: **Cacaq tangran?** – What do you see? **Ggwii tangraqa amartuq** – I see a Pink salmon.
3. The activity can be further extended by using a round robin question/answer format. Students can take the salmon prints and pass it around the classroom, while taking turns asking each other, “**Cacaq tangran?**”, and answering the question based on the salmon study prints being passed around.

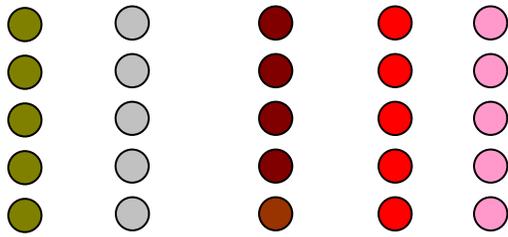
C: Salmon Game

1. The goal of the game is to teach and reinforce English and Sugt’stun names for salmon inhabiting the local environment of Sugpiaq people.
2. Divide children into five salmon groups (when working with a small class, use 2 or 3 salmon species)
3. Each group of children will “transform” into one of the salmon species. List of Sugt’stun and English names are below:

a. Qakiaq	Silver (Coho)
b. Amartuq	Pink (Humpy)
c. Niklliq	Red (Sockeye)
d. Lluq’akaaq	King (Chinook)
e. Alimaq	Dog Salmon (Chum)
4. Instruct children to line up on one end of the field/room. Children need to form a line based on the salmon group they belong to (see diagram below).
5. Have the teacher or an Elder stand at the middle of the field.
6. When the Elder or teacher calls out the name of one salmon species, all the students who represent this salmon run to the other side of the field “swimming upstream”.
7. The person in the space attempts to catch one of the salmon trying to go up stream.
8. When caught, this “salmon” replaces the teacher or Elder calling a different name, and the student’s salmon position in the line is taken up by the original caller.

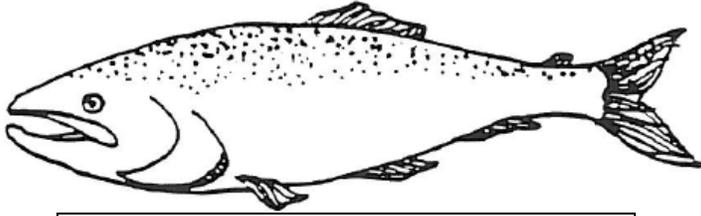
Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

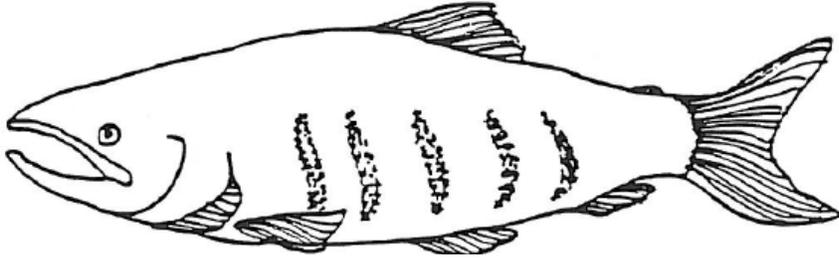


Teacher/Elder

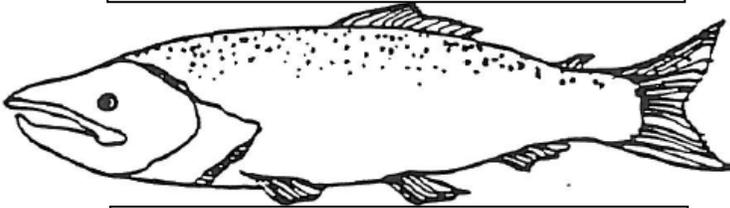




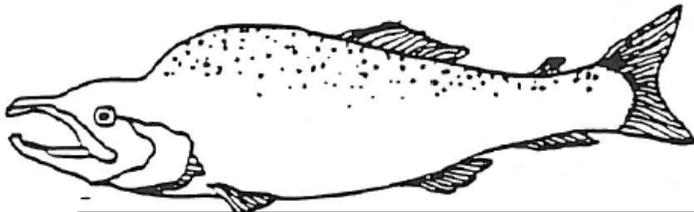
Coho – Silver - Qakiaq



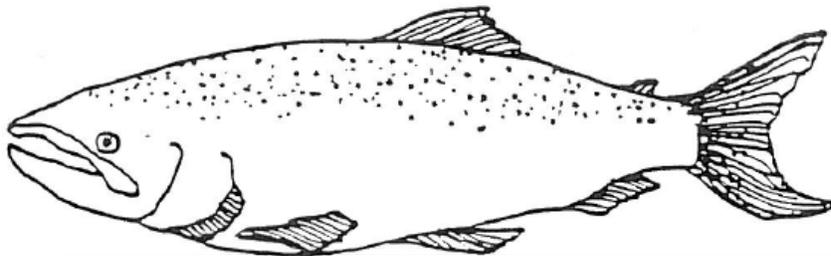
Chum –Dog – Alimaq



Sockeye – Red – Niklliq



Humpy – Pink – Amartuq



Chinook – King – Lluq’akaaq

Here Are 5 Types of Salmon...

Adapted from Port Graham School Curriculum Guide by Becky Norman, Rochelle Hanson and Allan Baldwin. 1994, Kenai Peninsula Borough School District

STUFFED FISH ACTIVITY

Grade: PK-2

Estimated time: 90 minutes

Standards: Science A3, F1, F2; World Languages A4, C4; AK Cultural A4, C1, E2

Objectives: Students will learn to identify the external and internal parts of a salmon, the function of the various organs, and their location within the salmon’s body. Through this activity, students will also learn about the various parts of a fish that are used as food sources in their community. Finally, children will have the opportunity to learn the Sugt’stun names of the various body parts alongside their English equivalents.

Vocabulary words:

Sugt’stun: **Nasquq** – Head, **Ik** – Eye, **Qaneq** – Mouth, **Culugsutia** - Fins, **Rririt** – Scales, **Pumyaq** – Tail Fin, **Napateq** – Heart, **Tenguk** – Liver, **Qaryat** – Eggs, **Cungaq** – Gall bladder, **Anerrteqsutai** – Air sac, **Aqsaquq** – Stomach, **Pacik** – Gills

English: Fins, Scales, Heart, Liver, Eggs, Gall bladder, Air sac, Stomach, Gills

Materials/Resources:

- Stuffed Salmon with removable inside organs (included in the Kit)
- Grade PK-2 CD (included in the Kit)
- Parts of a Salmon activity page (one per student)
- Crayons
- Color pencils
- Scissors (one per student)
- Stapler (to be used by the teacher)

Teacher Preparation:

- Make copies of the Parts of Salmon activity page
- Gather the above listed materials from the Kit display/storage
- Review CD in advance
- Prepare an activity page in advance, so that students can see an example of the finished work
- Check classroom supplies (crayons, color pencils, scissors, stapler)
- *Optional:* Arrange for an Elder or for a local fishing expert to visit the class

Activity Procedure:

A: Students Learn the Sugt’stun and English names for the external parts of a salmon

1. Help students recall the information they already know (perhaps learned in the previous activity) about salmon through guiding questions. Example: Where do salmon live? What do salmon look like? What kinds of salmon are there? Etc.
2. Use the stuffed salmon to help students learn to identify the following external bodyparts:
 - a. **Nasquq** – Head
 - b. **Ik** – Eye
 - c. **Qaneq** – Mouth
 - d. **Culugsutia** - Fins
 - e. **Rririt** – Scales
 - f. **Pumyaq** – Tail Fin
3. Point at a body part and ask students to say its name out loud. Pass the stuffed fish to the nearest student and tell him or her to point at a body part. Ask the rest of the students to name it, then pass the stuffed fish down the line until it makes its way back around to the teacher.

B: Students Learn about the internal parts of a salmon in Sugt’stun and/or in English

1. Open up the stuffed fish and remove its internal organs. By using the following information point out, describe, and identify the function of each organ. Also, ask children to contribute their personal experience of cutting, cleaning, and eating the internal organs of a fish.
 - a. **Napateq** – Heart – It circulates blood through the fish’s body.
Example: Do we eat the heart? Have you ever ate salmon heart? How was it prepared? Who made it?
 - b. **Tenguk** – Liver – It is very nutritional, oftentimes people fry and eat it.
Example: Have you ever tried it?
 - c. **Qaryat** – Eggs – They are pink or orange depending on the species of salmon. Eggs are located in two sacs, and there are many of them. When female adult salmon are swimming upstream and ready to spawn, the eggs become loose in the salmon’s body.
Example: How many of you have ever had salmon eggs? How was it prepared? What did it taste like?
 - d. **Cungaq** – Gall bladder –When people are cleaning a fish, they are always very careful not to puncture or cut into the gall bladder, otherwise, sour green liquid spills out and ruins the meat of the salmon.
Example: Can we eat the gall bladder? (No). Have you ever seen an adult clean fish before? Did they tell you about being very careful when cutting up the stomach? Can you eat the fish if you see a green liquid spreading on the meat while it is being cleaned?
 - e. **Anerrteqsutai** – Air sac – It is a balloon like organ located along the spine of the salmon. It helps fish in swimming upright.
Example: Explain the importance of the air sac in cleaning salmon. When a finger is inserted between the air sack and the backbone, it is very easy to remove all the internal organs of a salmon in one motion. What would happen to a salmon if it did not have an air sack?

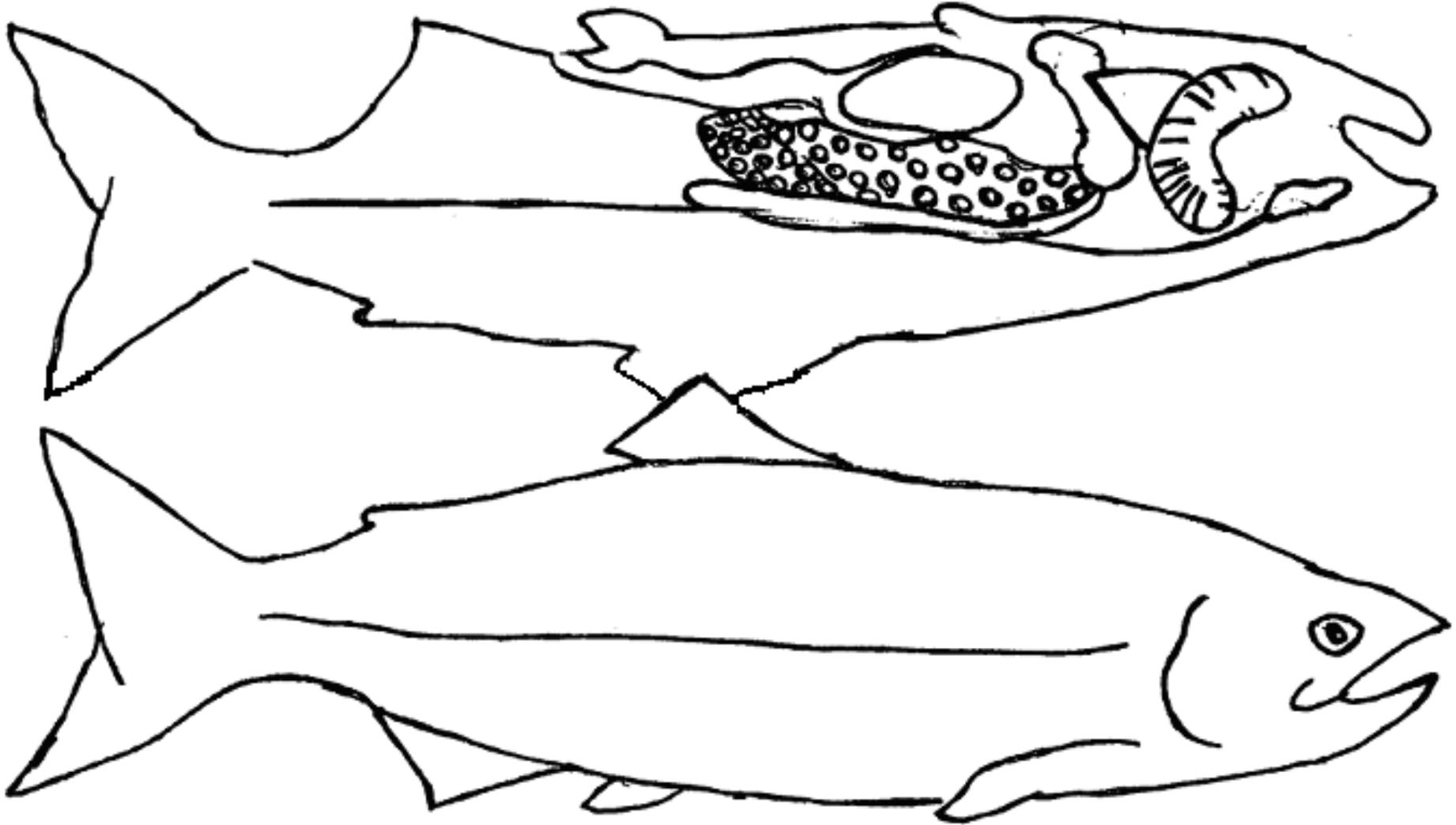
- f **Aqsaquq** – Stomach – It is sack, where the food is digested and broken down. The stomach is the part of the fish’s digestive system, and it is connected to the intestine.
Example: When we clean the fish, we have to remove all parts of the stomach. But if we want to learn about the life of a salmon, we can look inside and find out what is in the stomach (sometimes smaller fish).
 - g **Pacik** – Gills – Gills are located on the two sides of the fish’s head and they are red in color. Salmon breathe through their gills, by filtering oxygen out of water.
Example: Can we eat the gills? Do we have to remove them? How do the gills work?
2. Once our salmon is clean, we take the unused parts down to the beach, and throw them back to the water. Why do you think we do this?
 3. Explain the concept of respect to the students. Point out to children that using words such as “yucky” and “gross” when talking about salmon are not respectful. Explain the importance of respecting our environment and the resources we rely on locally in our everyday lives.

C: Coloring the insides and external parts of a salmon

1. Based on the information they learned, students will create their own “stuffed salmon”
2. Distribute the salmon worksheet, and prompt students to color side A. (external parts of the fish) based on the stuffed salmon they have been working with.
3. Once they are finished, ask students to turn their pages around and color page B. (internal parts of a salmon), using the “stuffed salmon” insides as an example.
4. Once they are done coloring, instruct students to carefully cut alongside the outlines of their fish, paying attention NOT to cut their fish in half by accident.
5. Fold the salmon in half along the back, the exterior covering the internal parts.
6. Staple the fish along the head and the tail.
7. Then direct students to gather their scraps of paper from stuff scraps into the inside to give their salmon a three dimensional appearance.
8. Save salmon models for the last unit (potluck and presentation) of the Heritage Kit.

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”



LIFE CYCLE PUZZLE

Grade: PK-2

Estimated time: 60 minutes

Standards: English B1; Science A3, C2, C3, E3; Geography C3, E2; Art A4; AK Cultural A4

Objectives: Through this activity, students will learn about the life of salmon: their physical characteristics, habitat, routines and traditional uses of fish in each stages of the salmon’s life. Additionally, children will have an opportunity to use their knowledge on identifying salmon species.

Vocabulary words:

Sugt’stun:

English: Life cycle, Habitat, Diet, Spawning, Alevin

Materials/Resources:

- Life Cycle Activity page (one per student)
- Life Cycle Poster (included in the Kit)
- Color pencils
- Glue stick

Teacher Preparation:

- Make copies of the Life Cycle Activity page and cut them up into pieces. They do NOT need to be kept separated
- Gather the above listed materials form the Kit display/storage
- Prepare an activity page in advance, so that students can see an example of the finished work
- Check classroom supplies (color pencils, glue sticks)
- *Optional:* a local fishing expert (e.g. Fish and Game, Enhancement projects, marine biologists) to visit the class and talk to children about the life cycle of a salmon

Activity Procedure:

A: Students will learn the various stages in the life of a salmon.

1. Gather the students and ask them to form a circle on the floor around the teacher.
2. Place the Life cycle Poster in a place, where it is clearly visible to all students.
3. Explain students what does the word Life Cycle mean. Emphasize the word “cycle” by showing on the poster how salmon return to their spawning ground before they die.
4. Review each stage of the life cycle by using the following topics: fish characteristics, fish habitat, fish diet, the importance of the fish in a local context.

Example: Spawning grounds.

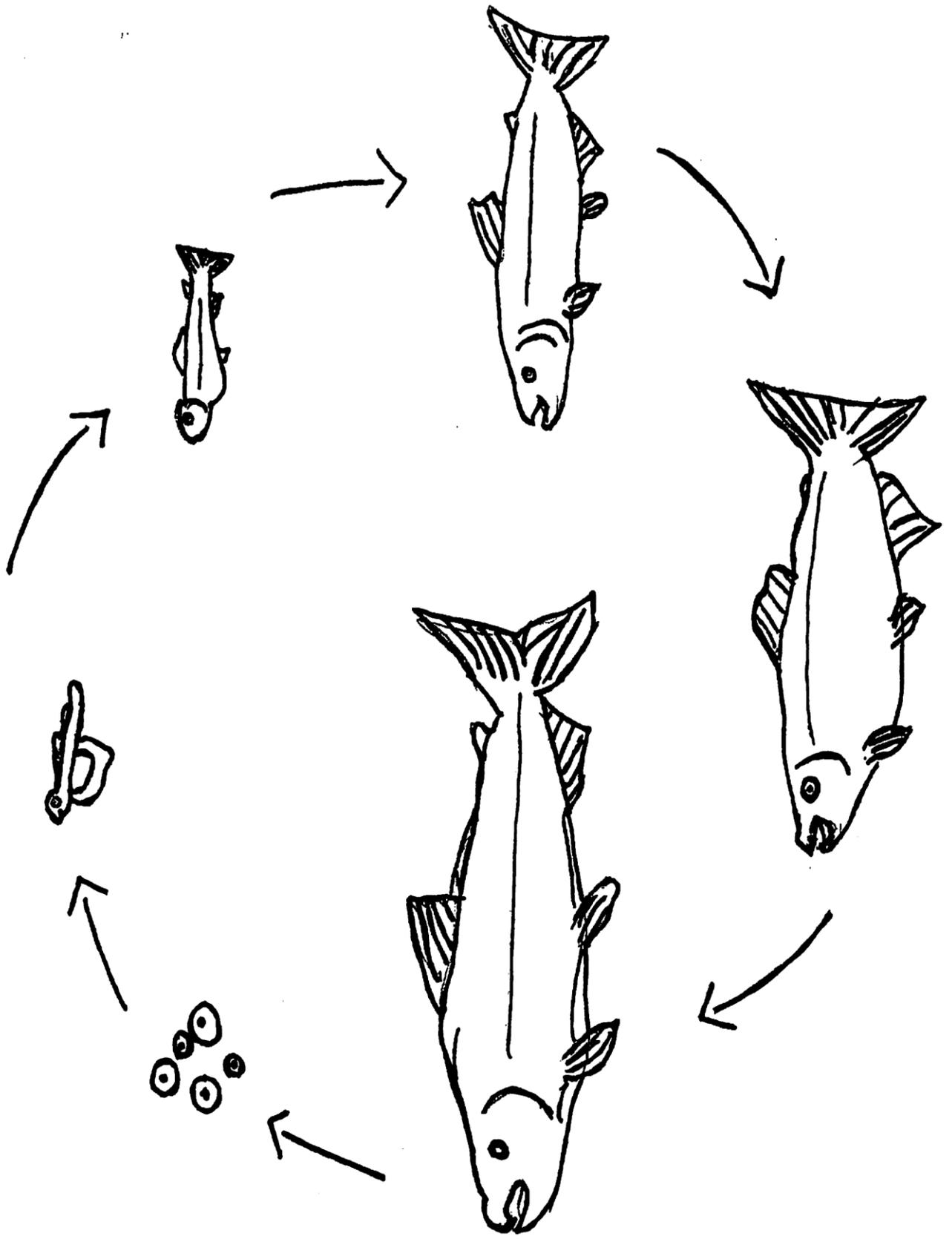
- a. Where do fish come from? Are they always big? Have you seen a small salmon before?
 - b. Salmon comes from fertilized salmon eggs. Have you seen a salmon egg before? What was it like? Can we eat salmon eggs?
 - c. Salmon eggs are placed in a gravel nest by female salmon, and they can turn into small fish, if a male salmon comes along and fertilizes the eggs.
 - d. The small salmon is called Alevin (sound it out). Point it out on the picture.
 - e. Not all Alevin can become the big fish we catch and eat. Only a few of them make it adulthood. Why do you think it is?
 - f. Some Alevin do not have the right habitat. Explain what the word habitat means. Discuss the importance of vegetation and water quality. What would happen if there was no food for the small fish to eat? What would happen if the water was dirty? Etc.
 - g. Move on to the next stage.
5. Follow the poster to discuss all stage of salmon life cycle until you return back to the spawning ground.

B: Complete the Life Cycle puzzle, based on the information learned in reviewing the poster.

1. Explain students the procedures of completing the puzzle. Ask them to look at the teacher sample copy, while pointing out the various stage of the life cycle
2. Place all the puzzle pieces on a central location, where it is accessible to all students.
3. If desired, students can form pairs to complete the puzzle.
4. Ask students to find a puzzle piece for each stages of the life cycle.
5. Instruct them to bring the pieces back to their work station, and arrange them in a circular order from eggs to adult fish to eggs.
6. Review children’s work. After checking for accuracy, instruct them to use their glue sticks to glue the pieces together alongside the edges (so that each piece overlaps about 1”)
7. Instruct students to color their life cycle page.
8. Display students’ work in the classroom or hallways.

Cuumi Iqallugsuucillrat
"Iqalluk"

Old Fishing
"Salmon"



SALMON HABITAT

IQALLUM ELWIA

Grade: PK-2

Estimated time: 90 minutes

Standards: English A1, B3; Science A3, C3; Geography E3, E4; Art B4; AK Cultural B3, E2

Objectives: In this activity children will have an opportunity to learn about the habitat of salmon, and recognize the importance of a healthy natural environment in a salmon’s life.

Vocabulary words:

Sugt’stun: **Iqallum Elwia**, **Kuik** - River, **Imaq** – Sea, **Nanwaq** - Lake

English: Salmon habitat, Stream, Gravel, (Life) Stages

Materials/Resources:

- Salmon Life Cycle poster (included in the Kit)
- White drawing paper
- Water colors
- Paint brushes
- Salmon Stream by Carol Reed-Jones, 2001: Dawn Publication (included in the Kit)
- Swimmer by Shelley Gill, 1995: Sasquatch Books (included in the Kit)

Teacher Preparation:

- Gather and review book(s) from the Kit
- Collect Salmon Life Cycle Poster from the Kit
- Check classroom supplies (water colors, paint brush, white paper)

Activity Procedure:

A: Introducing salmon habitat

1. Begin activity by reading *Salmon Stream*, and/or *Swimmer* to students. Make sure to pause after each page and review information.
2. After reading the book(s) walk students through the story(ies) one more time, by asking questions.
3. Brainstorm with students on the idea of a healthy salmon habitat. E.g. What kinds of things do salmon need to live? (sand, gravel, trees, rocks, bugs, no trash etc.). Why are these things important? Use the Salmon poster to remind students of the various needs of the salmon as it goes through different stage of its life.

B: Paint a healthy salmon habitat picture

1. Brainstorm with students on the kind of elements/scenes they can paint to portray a salmon habitat.

Cuumi Iqalluggsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

2. Distribute paper, paintbrushes and watercolor paints. Make sure to show students how to use watercolor and brushes to paint a landscape (water, trees, rocks, etc.)
3. Check each student’s work to see if it is complete.
4. When all students are done, ask them to describe their picture. What did they paint? Why? Why is it important for salmon? Discuss pictures as a class.
5. Display students’ work in classroom or hallway.

HAND-THROWN LINE FISHING

CANIQSUQ

Grade: PK-2

Estimated time: 90 minutes

Standards: History A5, B1b, C3; AK Cultural A3, A6, E8,

Focus: Students will learn about a traditional fishing technique used by Sugpiaq fisherman and women before the widespread introduction of fishing poles. Students will also learn about the importance of correct aiming techniques in a cultural context and further their hand-eye coordination abilities.

Vocabulary words:

Sugt²stun: **Caniqsuq**, **Iqsak** – Fish hook, **Iqsagluni** – to fish with hook, **Iqsaguarluni** – to fish with fishing pole, Sharing

English: Hook, Reel, Spear, Cannery, Sharing

Materials/Resources:

- Old Fishing story by Juanita Melsheimer in Alexandrovsk No.2. pp 9-7. (included in the Kit, see below)
- 3 sets of wooden fish attached to twine
- Extra twine (for repairs, if necessary)
- Large bucket or small trash can or small tub or small tote
- Fishing twine with hook form the Heritage Kit (NOT to be used by children, ONLY for demonstration!)

Teacher Preparation:

- Gather the above listed materials form the Kit display/storage
- Locate a bucket (or above listed container)
- Review the procedures for the Fishing Practice game
- *Optional:* Ask an Elder or an expert in traditional Sugpiaq fishing to visit the class and demonstrate the correct fishing hand-thrown line technique

Activity Procedure:

A: Read the Old Fishing story by Juanita Melsheimer and discuss the differences between fishing with rods and fishing with twine/rope

1. Read the fishing story to students. Stop after each paragraph to review the information.
2. Upon completion, ask students what do they remember from the story? Ask them who Juanita Melsheimer is? Is she related to them? If so, how?
3. Review the different fishing methods presented in the story.
4. Re-read the paragraph on land line fishing one more time. Ask students to demonstrate with motions how to fish with land lines based on the story.

5. Re-read the paragraph on sharing fish amongst families. Ask students why do they think people share their catch? Why did people help each other? With whom would they share their catch? Why?
6. Use the fishing twine with the hook to explain the procedure of catching a fish. Make sure to point out that it is an “Adult Tool”, and it is pointy and sharp. Let students come close and look at the hook on the twine, while encouraging them to ask questions.
7. Store hook at a place where students cannot reach it, until it can be safely returned to the exhibition.

B: Fishing Practice

1. Set up the bucket and explain the procedures of the game to students. Each student takes turns to aim at the bucket with the wooden fish attached to the twine.
2. Ask the Elder/expert, or demonstrate it yourself, how to use the rope to aim the fish in the bucket. Make sure to explain the correct technique of pulling in the fish, whether they succeeded or not. There are 3 sets of twine and fish, so 3 students can throw simultaneously.
3. Ask students to line up 5 feet away from the bucket, and take turns throwing.
4. Once all students had a turn, ask them to line up further away from the bucket and try again.
5. Ask students to compare their experience of fishing with rope/twine to that of fishing with a rod. How is it different? Which one is easier? Which one do they enjoy and why?

OLD FISHING by Juanita Melsheimer

CUUMI IQALLUG- SUUCILLRAT

For information on old-time ways of fishing, we are using Juanita Melsheimer as our local authority. The following are quotations from Juanita.

I never saw rods and reels before, but my dad used to have some kind of spear-like thing. He used to make it out of (with) hand saws, not these Homelight chain saws, but these saws with a handle on both ends. They cut a sharp part of a saw with an ax and they'd tie it down on a pole and make a spear. Then he'd use it for fishing in the lagoon or up on the river there at the waterfall.

Whenever he saw a fish, he would throw the spear right at the fish. That's how they would catch fish. If he catches (hits) one, he could see the pole go up and down on the top of the water. That meant he's got one. He'd row real fast to get it.

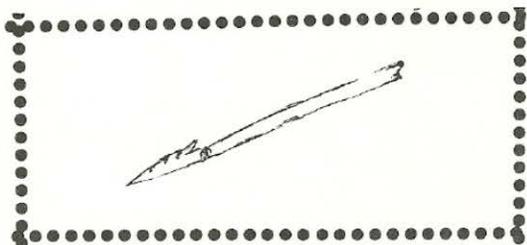
Another thing, they used to have these hand lines. They would cast the line out where lots of fish were, sink it and snag them one by one.

To kill a fish some would use oars. They'd hit the fish with oars like you kids do now. They'd throw rocks at them and hit them (while they were) in a shallow place.

(Back then) I never went fishing like I do now. My dad was the only one, and my mom. They used to go fishing together and it was very seldom that they would take us. But then they used to have a little seine to catch lots of fish.

Ggwii tangerllan'engua iqsa-guaneq cuumi, taataqa aturlalraa tuqsiinek. Piliaqllaqait pilallret aturluki, pilat tamaakut atunem pungqerlluteng. Keplluki ipegqait tupuulumek, taumi iqallugsurluteng nanwami gwall'u pamani kuigmi, ggwall'u qurllur-tehmi.

Nani tangrraqami iqallugnek tuqsiini egllaqii taatama kaki-piarluki pisuqengani. Taugna-llu tuqsiiya tangerlluku cekar-taruarluni.



Taumi-llu aqwaluku pakiurluni petgeruaqiinarluni.

Ukut cali aturlaqait qelut. Eglluku una'ut taumi-llu canigiluku nani tangertat amlerqaneq iqallugnek taumi-llu tawa'ut kic'eslluki taumi caniqiluki.

Pakiu'utet cali aturlaqait asugturluki qaillun ellpei aturla'aci nutaan. Cakuneng aglaur-luki ek'ilngurmi.

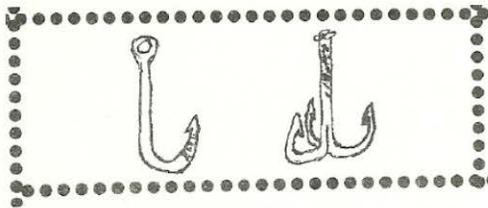
Cuumi iqallugsurlan'engua qaillun nutaan pisurlarcia taataqa taumi maamaaqa pisurlalriik. Qakukcakun tagullaqiikut pam'aut ggqangkuta miklemtehni. Kugyanguasa'arnek aturlalriit amlerqaneq iqallugnek piicaa-qameng.

7 Kuigmi pisurlaqait naluwar-luteng asuugturluki ggwall'u tuq-

Cuumi Iqallugsuucillrat "Iqalluk"

In the rivers up there they would wade around and catch them (salmon). They would hit them with spears or poles they had. If it was shallow I don't know how they would catch them. I never used to go when my dad went way up there to fish this time of year (late summer and fall). He used to bring lots of fish down.

I don't know how they used to catch them, maybe they snagged them. They used to make big hooks-these halibut hooks. They never used these small hooks like we have.



If they liked to put up fish for the winter, you know, put fish away, there would be some guys who would go out fishing on a skiff out here on the beach or in the lagoon. They'd catch fish and divide them for families. Each family would get so much fish, you know. They would divide all the fish and clean them in the lagoon, and pack (carry) them to the smoke houses or outside to the fish racks.

They'd hang them first for a few days. Then they'd take them into the smoke houses, to smoke them and dry them.

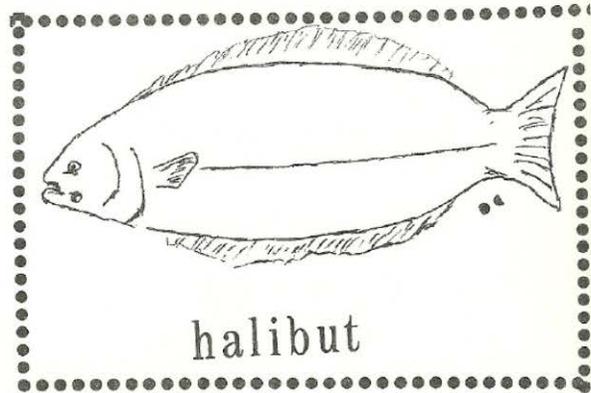
My dad used to have fun, I think. Even when he used to fish for the cannery in the summer time. He was a fisherman and would come home and go up to the waterfall or river and catch fish for us. When he was not home, we'd fish for some flounders and halibuts along the beach, but we never used to go to the waterfall, first lake or the rivers till later. When he quit fishing for the cannery, we would go fishing for Humpies and these reds, that's when their skin turns red.

Old Fishing "Salmon"

siirluku. Nalluwaqa ek'itaqan pisurlaqait qaillun. Iqallugsur-lan'engua cuumi maatermi (kiall-qurtaqau'u gqwallu uksuarmi).

Taillalraa naatekcak iqallugnek taataqa. Qaillun ima pit-aqllaqai gqwall'u caniqiluki. Pililalriit cali iqsakcagnek sagit iqsaitnek. Mikelngurnek iqsagnek aturlan'engut.

Llii'lalriit iqallugnek uksurkamen. Ilait iqallug-surlalriit nanwami gqwall'u qut-mi. Piskuneng nangpia sug'et minarluki qupepiarluki. Taumi nanwami segluki taumi tagulluki iniluki ciqluanun gqwall'u lla-men initanun qaugcinek qawartarceslluki taumi itrulluki ciqlua-men puyuqetarluki kinercarluki.



halibut

Taatata nunaniqsaaglalraa allrak. Iqallugsuutengraarmiu faapriikaq taiyaqami pama'ut taglalra iqallugsuulluta qurllur-tehmen gqwall'u kuigmen. Pama'ut taglan'engukut tainginaaqan kug-yallrunermek. Taiyaqan pisurlalraakut amartunek taumi narilngaatanek kawiiyaqata narilngatat.

Caaqameng saaguayangusa-a'arneq pit'aqameng makut aturlaqait kakngaleguat per'lluki iqsaguacestun. Taumi qillerluki qelumek tan'erqamek gqwall'u qaterqamek gqwall'u cakuciqinarmek pingqertat. Piillalriit makunek nutaan qaillun pingellartut ecui-ngurnek qaterqarllinarnek pingqerllalriit llegalngurnek. Pingqerllalriit cali takqanek qur-

Cuumi Iqallugsuucillrat
 "Iqalluk"

Old Fishing
 "Salmon"

Sometimes if they caught little trouts like we do, they'd use these common pins. They'd bend them down like a hook. Then they would just tie them in with a string, black or white-any color of line they had. They never used to see this nylon lines before, just the white lines, real small ones, thin ones, they used to see.

They used to have a long nail, I think they called them "spikes". I don't know how they

bent those things. They'd tie them real good at the end of the pole. The pole would be about 3 or 4 feet. That's how they would catch them-(fish) with a nail. Bend it like a hook and sharpen it, file it real sharp, then they'd use it for fishing up there.

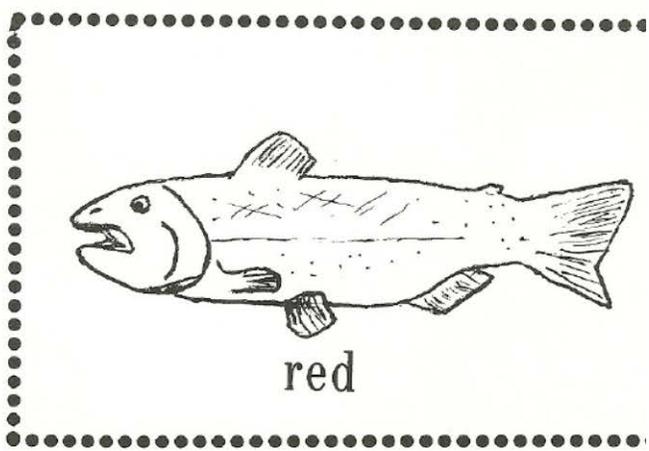
We used these smaller hooks, smaller than these halibut hooks. There never used to be triple hooks (just spikes or nails). They cut a little piece of wood and they'd put hooks on, 2 or 3 hooks. They would put them on the round wood, and bend it and tie it real good. Then they would snag the fish. But when we go fishing for some flounders we'd use smaller hooks.

There used to be lots of fish before. Now it seems like there's barely any fish around.

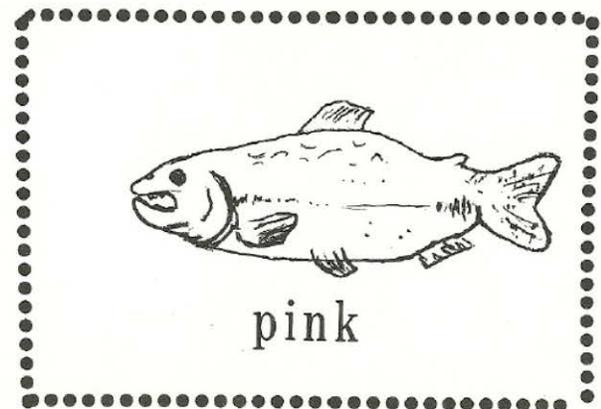
qanek, aperlaqait, "spaa'ikaanek" Aturlaqait perlluki qillrulluki asircangia'a, kenerkamen nall-qigqamen naaten kenerkaq tak-tagkwarluku. Kenerkaq naaten taktaluni (3 or 4 feet). Taw-aten qurqakun pisurlaqait. Qur-qaq per'lluku taumi ipegcarluku, napiilkaarluku ipgikcageslluku taumi aturluku iqallugsursuutek-lluku.

Aturlaqepet mikelnguut iqsiiit mikellqelluki sagit iqsaita. Mak-unek tangerllan'engukut pinga'uru-ruanek. Makut cali aturlaqait qelut, iqsak qillerlluku kenerkamen akagngaqamen taumi pisurluki tamaakutgun. Am ggwangkuta mik-elnguut iqsiiit aturlaqepet pat-uqullugsuwaqamta.

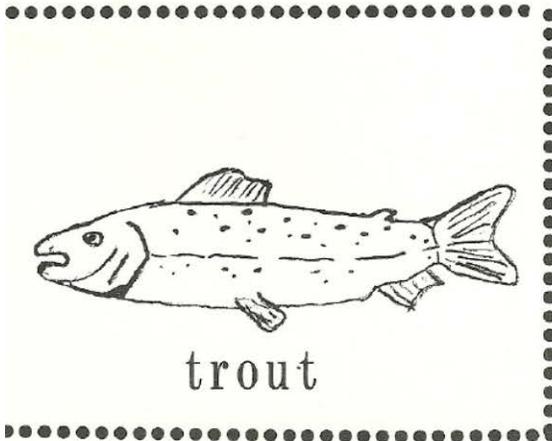
Cuumi iqalluut amlerllalriit, nutaan awapiiyutut.



red



pink



trout

Story by James Kvasnikoff
 As told by Juanita Melsheimer
 Art work by James Kvasnikoff
 Layout by Anita Evans

FISH NETS

Grade: PK-2

Estimated time: 120 minutes

Standards: History A9, B1b, B3; AK Cultural A3, A4, D1, D2,

Focus: Students will learn the concept of making fishing net through the hands-on experience of making their own small scale replica of a net. Children will also learn about the use of fishing net, and practice the motions of fish net mending. Through this activity students will have the opportunity to experience a fishing technique of Sugpiaq ancestors, bringing the past to them through a tangible experience.

Vocabulary words:

Sugt’stun: **Siitkaa**q – Gill net, **Kugya**q – Seine net, **Asircarluku** – to fix it,

English: Gill net, Seine net, Float

Materials/Resources:

- Fishing Net Replica (included in the Kit)
- Cotton rope (included in the Kit)
- CD (included in the Kit)
- Foam balls to be tied around the edges of the replica nets as weights (included in the Kit)
- Scissors
- Alaska’s Wild Salmon by Nancy K. Long, 2002, Alaska Department of Fish and Game – 1 copy
- Salmon Summer by Bruce McMillan, 1998, Boston: Houghton Mifflin Co. – 1 copy

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Check classroom supplies (scissors)
- Review net making instructions and CD
- Review reading resources
- *Optional:* Ask and make arrangements for an Elder or Sugpiaq fishing expert to visit the class to demonstrate the correct technique of making a net

Activity Procedure:

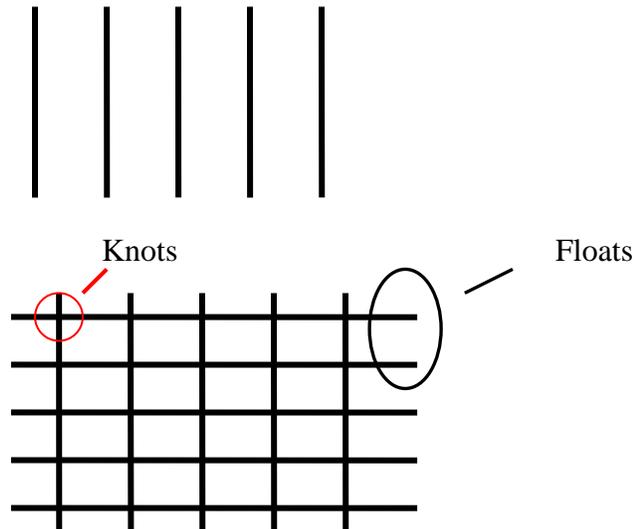
A: Learn about fishing with nets

1. Ask students to brainstorm on the question: How can you catch a salmon? Make sure to listen to all theories and respond to all students. If nobody brings up the idea of fishing nets, direct their attention by asking questions. Use the small net replica to demonstrate how nets are used in catching fish.
2. Use the pictures on pp 39-46 in Alaska’s Wild Salmon, to show students the different ways in which nets are used in salmon fishing. Discuss pictures with students.

3. Continue by reading pages 3-9 in Salmon Summer. Discuss pictures and material with students.

B: Make a small scale fish net replica

1. Explain students that they will make their own small fishing net replica.
2. Use the Fish Net Model for the exhibition to show students what fishing nets look like.
3. Instruct students to pay attention while explaining and demonstrating the procedures.
 - a. Instruct students to measure and cut 10 string of rope as long as their arms.
 - b. Show students how to lay the first five stings out parallel to one another in front of them, about 2” apart (see diagram).
 - c. Lay the remaining 5 strings across the first layer; 2” apart so that the basic shape of the net becomes visible (see diagram).
 - d. Instruct students so start tying knots where the two layers of string cross each other.
 - e. Once they are done, students can use the remaining strings on the sides to tie foam balls as “floats” around the edges of their nets. Each float needs to be completely secured to the net on both ends.
4. Show students how fishing nets are thrown and used and encourage them to try to replicate the motion. Give students ample time to experiment with their fishing nets.
5. Review nets and save them for display in the last unit of the Heritage Kit curriculum.



THE TRADITION OF THE FIRST CATCH

Grade: PK-2

Estimated time: 60 minutes

Standards: English B1; History A6, B1a, B1b; Skills for Healthy Life C6; AK Cultural A3, A5, E3, E5

Focus: In this unit students will learn about the concept of sharing in Sugpiaq social context. They will understand that there is a reason for people Sugpiaq people to celebrate the first catch of young people while learning about the significance of respect for the natural environment. Finally, students will further their knowledge on traditional Sugpiaq worldview and reflect on their own position within it.

Vocabulary words:

Sugt'stun:

English:

Materials/Resources:

- Paper
- Color Pencils
- Scissors
- Glue Stick
- But He Would Be Proud by Juanita Melsheimer In Alexandrovsk No.2. p. 38.
- Picture frame template

Teacher Preparation:

- Review activity procedures. Plan questions ahead
- Check classroom supplies
- Print out and review But He Would Be Proud story

Activity Procedure:

A: Learn about fishing as a social activity

1. Ask students if they have ever gone fishing. Who did they go with? How many people were there in their company?
2. Ask students if they have ever been fishing at a spot where there were a lot of people fishing alongside them. Did they talk to each other? Did they help one another out? What did they talk about?
3. Explain that catching fish is something people often do in a group. In Sugpiaq communities, people often have fishing spots they prefer, because people know their environment well, and they know where to find fish. Ask them if they can name such spots in their own community?

4. Explain that before ATVs, Hondas, and Trucks, people used to have to walk to places, including their fishing spots. It takes longer to walk to places than to drive. It is good to walk to places as group, so that if something happens along the way, there would be a person around to help. It is more fun, because people can talk with each other and sing together while walking. Ask children what is it that they like to do when they are walking together?
5. Remind children that for Sugpiaq people fish is an important part of their diet. Ask them how often do they eat fish? What is their favorite fish to eat? What seasons do they eat fish? How are they able to eat fish during winter?
6. Explain that people catch fish during the summer and put it away for the winter. They often catch a lot of fish at one time, and process it right away. It is easier to do this in groups and with other people’s help.
7. Explain students that because fish is so important for Sugpiaq people, they learn early on in their lives how to and when catch different varieties of salmon.

B: Reading story and reflecting on it by completing first catch artwork

1. Explain students that they are going to listen to a story by Juanita Melsheimer on the importance of the first catch.
2. Read story to students. Ask them to review what the story was about.
3. Read story one more time. Ask children: what was the first fish they caught? How old were they? What did they do with it? What was the first salmon they caught?
4. Explain students that they will be making a picture of their first catch. First, they will complete a drawing of their very first salmon, after which they will place a picture frame around it.
5. Make sure to have a sample copy complete to show students what the finished project should look like.
6. Distribute paper and instruct students to start drawing. Once they are done, distribute picture frame template and instruct students to cut out the inside showing them how to safely start a whole in the middle.
7. Tell children to glue the frame around their drawings and color their picture frames.
8. Display students’ work on the walls.

"They Would Say Please Raven"

By Juanita Melsheimer

I remember my mom used to tell me stories, sometimes I would listen but not very often. One time she told me this story about how they used to have funerals when she was a little girl. (She hardly remembers it.)

Their funerals were strange. Whenever there was a sick person that they knew was dying, they'd all get sadder and sadder. When he dies, they all would start crying for a while and all of a sudden, they were happy, laughing. Just like little kids playing. Then they'd start crying again and then burst out laughing. They all would dance around the dead body. This kept going on. After that, they all would build a banya. All day long they'd be taking a bath. They thought if they didn't take a bath, they'd end up the same way, dead.

They would all have a feast or whatever they had. They'd dance happily, then they would take all of his belongings to his grave.

Every morning, the people would take food to the grave. I don't know whether the people or animals ate the food.

When my grandpa, John Moonin (reader), came, he stopped the burial feedings, and taking the dead person's things to his grave. But my grandpa, even though he told them, he couldn't stop them from taking a bath after the funeral. He shouldn't boss them on that. They said they didn't know what they were doing when a person dies. I still know some people that live

here and in Port Graham that still take baths after the funerals.

They would be excited. They'd bow down to the ground and then say, "Please Raven, wherever you are, help us!"

But He Would Be Proud

When a boy was about 9-11 years old, his dad would take him up to the lakes. He would fish with his dad. If he found or caught an old, dead fish and it would be his first catch, then he would take it home. Everyone would be happy.

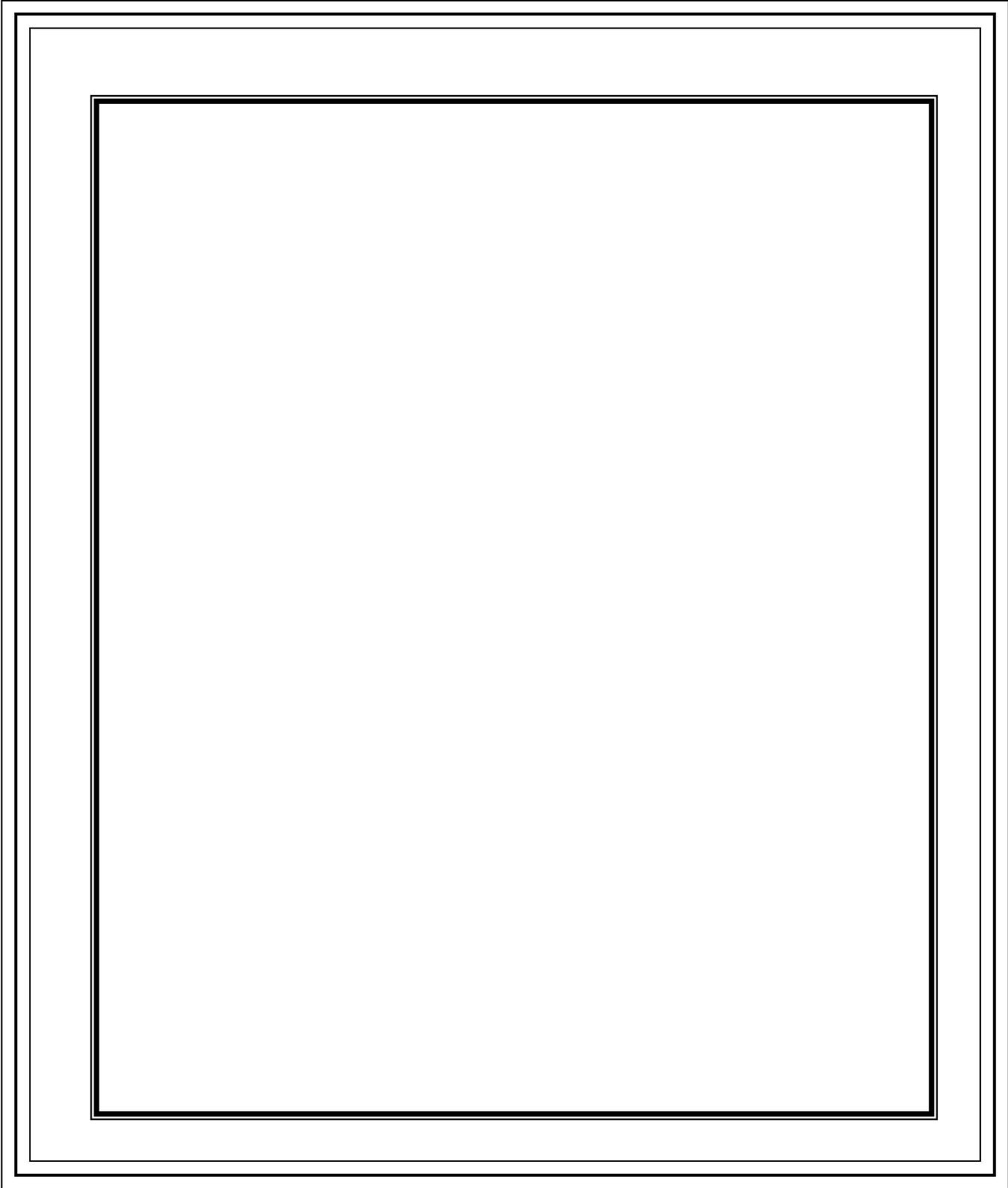
They'd cook it up and eat it. Then they'd give the boy who caught the fish a piece to eat. He wouldn't like it but he would be proud.

When he grows to be a teenager, he would go out trapping in the woods. He'd catch something like a weasel, mink, or a land otter. Then he would take it home.

They would set it up on the table as if it were the master of the house. Then they would all build a banya and give the animal a bath n there first. Then they'd all take baths afterwards.

After that, they'd get some material and cut it up to give out and tell everyone that it was their son's first catch.

Story by Anita Evans
As told by Juanita Melsheimer
Layout by Anita Evans



FISH RECIPE COLORING BOOK

Grade: PK-2

Estimated time: 60 (75) minutes

Standards: World Languages A1, A2, B2; History A6; Skills for a Healthy Life C3; Art A1, B1, B8; AK Cultural A1, A3, A6, C3, E8

Focus: In this activity students learn about the culinary aspect of Sugpiaq culture. They also have the opportunity to build on their own knowledge of fish preparation and cooking by connecting their previous experiences to Sugpiaq traditions. Through this activity students will learn to associate specific fish meals as an integral part of Sugpiaq ethnic identity, in addition to learning about fish as a nutritious and healthy food choice.

Vocabulary words:

Sugt'stun: **Tamuuq** – Dried fish, **Palik** – Smoked fish, **Qaryat** – Fish eggs, **Iqallum Nasqua** – Fish head, **Sekiak** – Smoked and baked fish, **Piluk** – Fish pie, **Uumatak** – Boiled half-dry fish

English: Cookbook, Dish, Meal, Recipe, Omega-3 fatty acids

Materials/Resources:

- One copy of fish recipe booklet (one per students, 7 pages per booklet)
- Fish processing/fish meal pictures form Kit exhibition
- Crayons and Color Pencils
- *Optional:* Fish spread ingredients (1 jar of fish per 5 students, mayonnaise, mustard, relish if desired), mixing bowl, spoon, a package of crackers

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Make copies of the fish recipe coloring book, 7 pages per booklet. Staple booklet pages along the side
- Review activity procedures
- *Optional:* Teachers have the option of making salmon spread with the students in this activity. In this case, check ahead if there is any student who is allergic to fish (or any of the ingredients). Be very specific about the type of salmon used when informing parents, as some people allergic only to certain types of salmon. If there is any doubt, do NOT make salmon spread. The optional extension will add approximately 15 minutes to the activity.

Activity Procedure:

A: Learn about fish dishes prepared in Sugpiaq culture

1. Ask students what if their favorite fish? Ask them how do they like it prepared? What does it taste like? Why is it so delicious? Have they ever seen it being prepared? What time of the year can they eat it?

2. Explain students that fish is a good source of omega-3 fatty acids, which makes them healthy. We need to exist, but our body cannot produce omega-3 fatty acids, so we have to get it from somewhere else, such as from eating salmon. When they eat fish on a daily basis, they take good care of their bodies. Explain that the fish they or their family catches are very fresh, and can be prepared in a variety of ways.
3. Brainstorm with students on the different fish meals they know about. Record their answers on the board.
4. Show students the pictures of the various fish dishes. Ask them to identify each, then place them in a spot where they can see them throughout the class.
5. Ask students how did they learn about these dishes? Who taught them? Who made them try the various dishes? What do they know about the dish?
6. Ask students whether they can order all or any of these dishes in a restaurant (in a city or in Anchorage). If yes, which ones? If no, which ones? Why not?
7. Point out to students that certain fish dishes are specific to Sugpiaq people. Each family have a recipe they often pass down from grandparents to parents to children. At the same time, most Sugpiaq people make most of these recipes on a yearly basis.

B: Complete the coloring recipe book and learn to recognize and identify the various fish dishes in English and/or in Sugt’stun

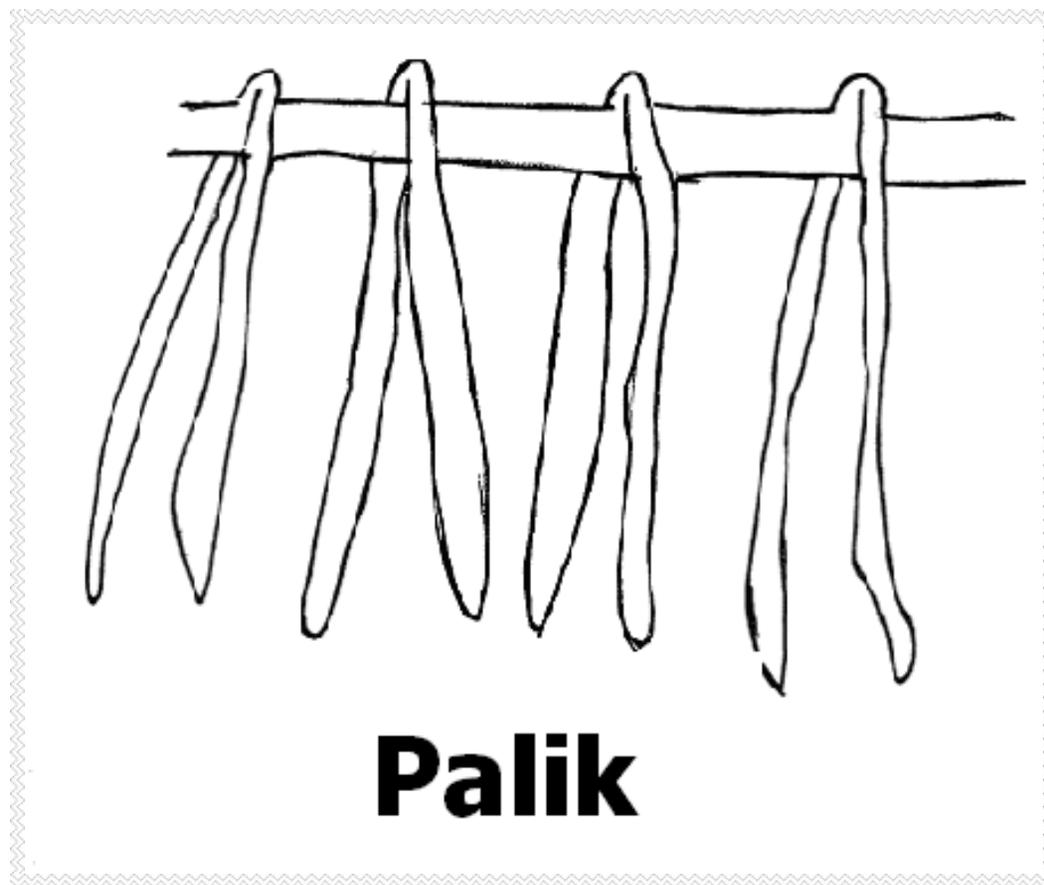
1. Explain students that they will be working with a cookbook today. Check to see if they know what a cookbook is, explain.
2. Explain that it is a special cookbook with Sugpiaq fish dishes in it. They will color each page, and learn the name of the dish in Sugt’stun and/or English.
3. Distribute booklets and instruct students to color the pictures.
4. Optional: Students can listen to the Fish Lice Song learned in the previous activity, while they are coloring.
5. Once all students are finished, use the CD to pronounce the name of each dish. Ask students to repeat.

C: Optional Extension: Make salmon spread

1. Explain students the procedure of making the fish spread.
2. Open jars (cans) and empty them into the bowl.
3. Ask students to take turns breaking up the fish meat into small pieces
4. Add mayonnaise, relish, and mustard and ask students to take turns mixing all the ingredients together.
5. Spread mixture on crackers and distribute them to the students
6. After the first sample, ask students to describe the taste of the food and encourage them to share their thoughts on the preparation process

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

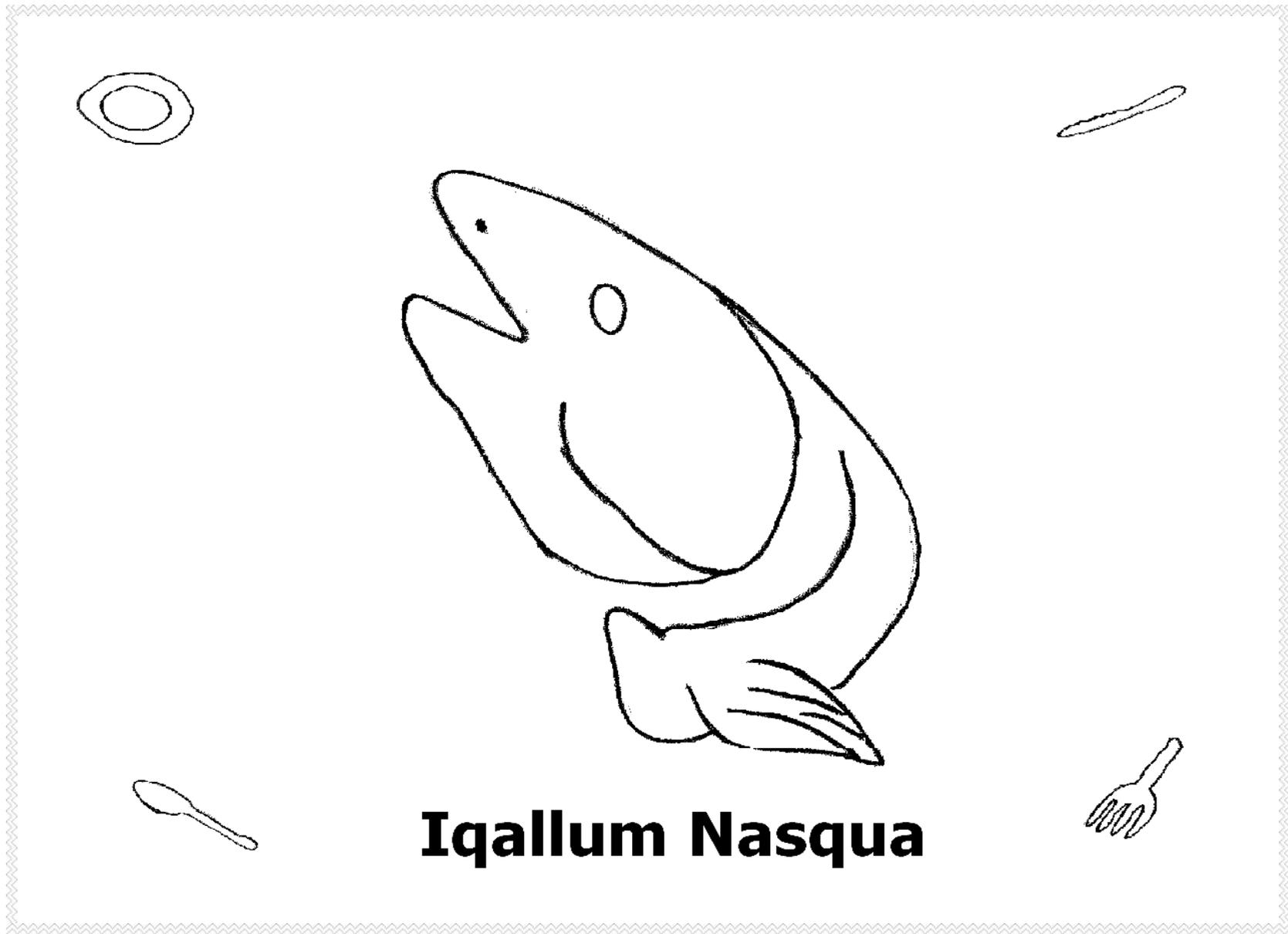


Sugpiaq Salmon Dishes

Illustration by Jolene Kvasnikoff

Cuumi Iqallugsuucillrat
“Iqalluk”

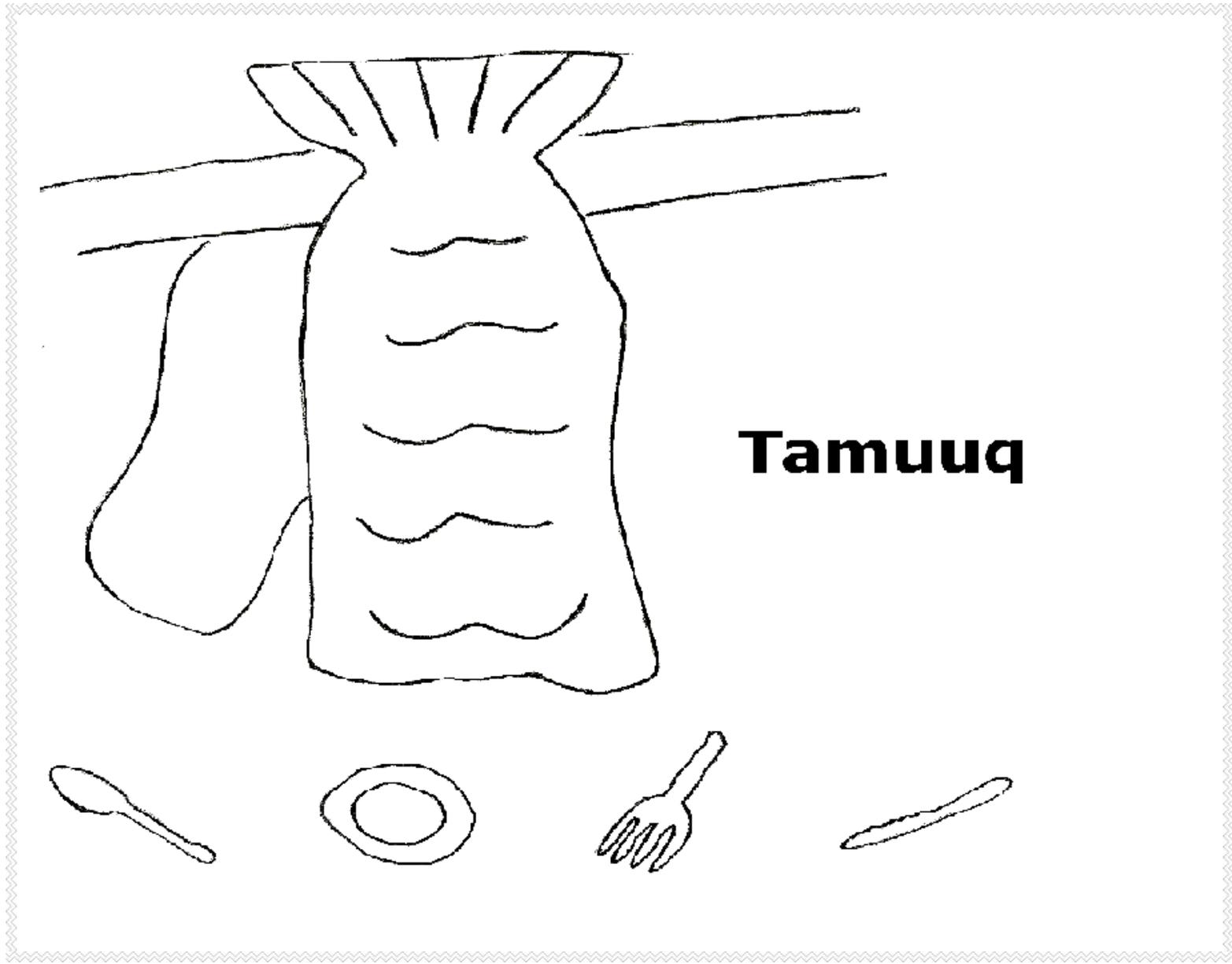
Old Fishing
“Salmon”



Iqallum Nasqua

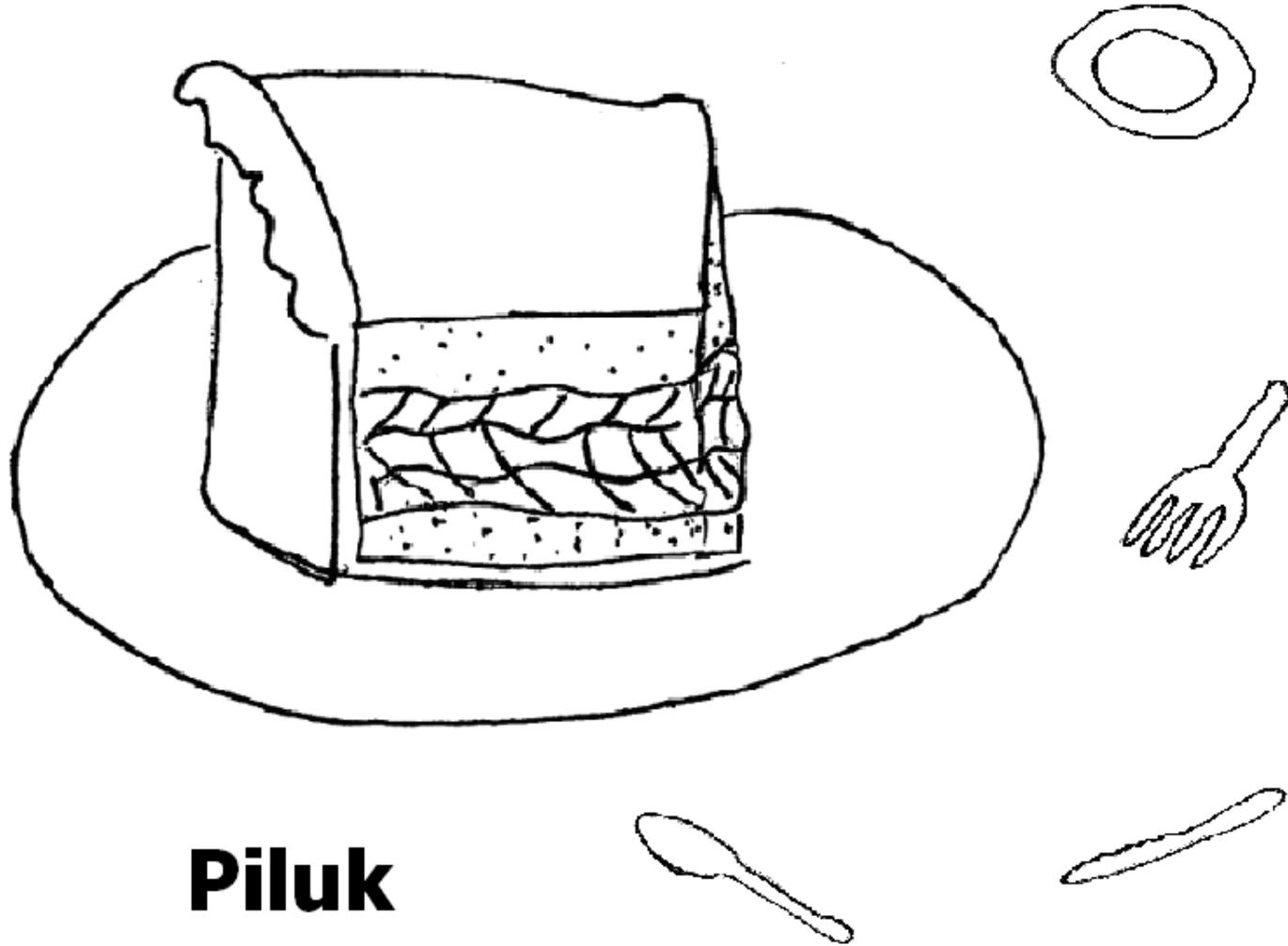
Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”



Cuumi Iqallugsuucillrat
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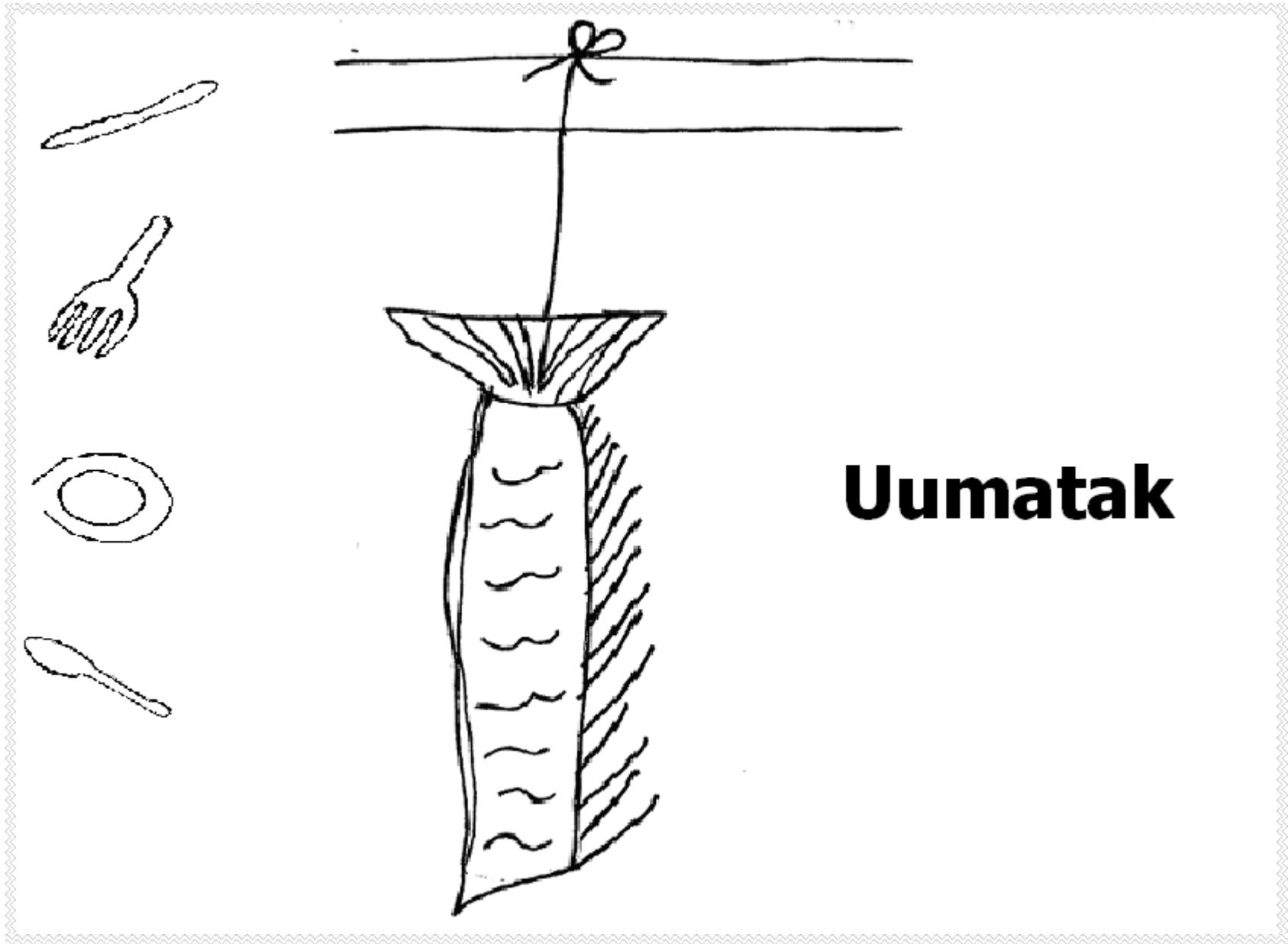
Old Fishing
“Salmon”



Piluk

Cuumi Iqallugsuucillrat
“Iqalluk”

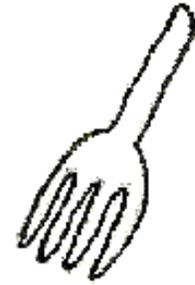
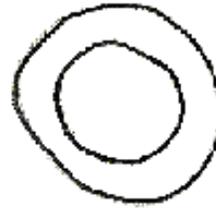
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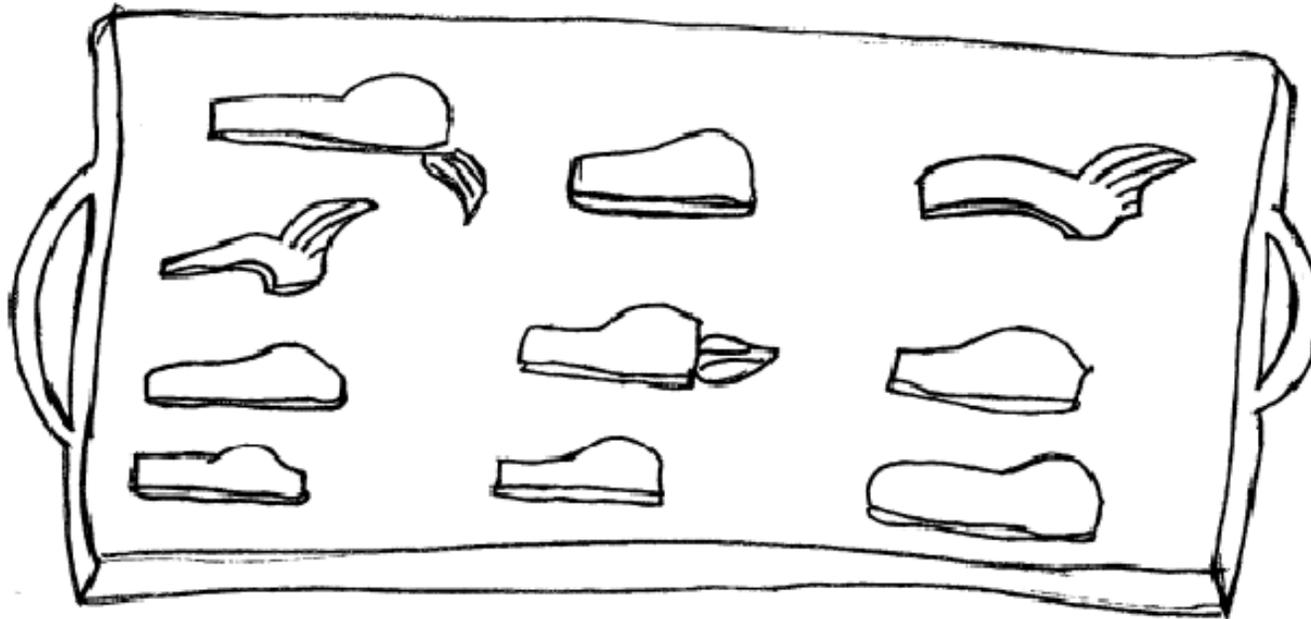
Uumatak

Cuumi Iqallugsuucillrat
“Iqalluk”

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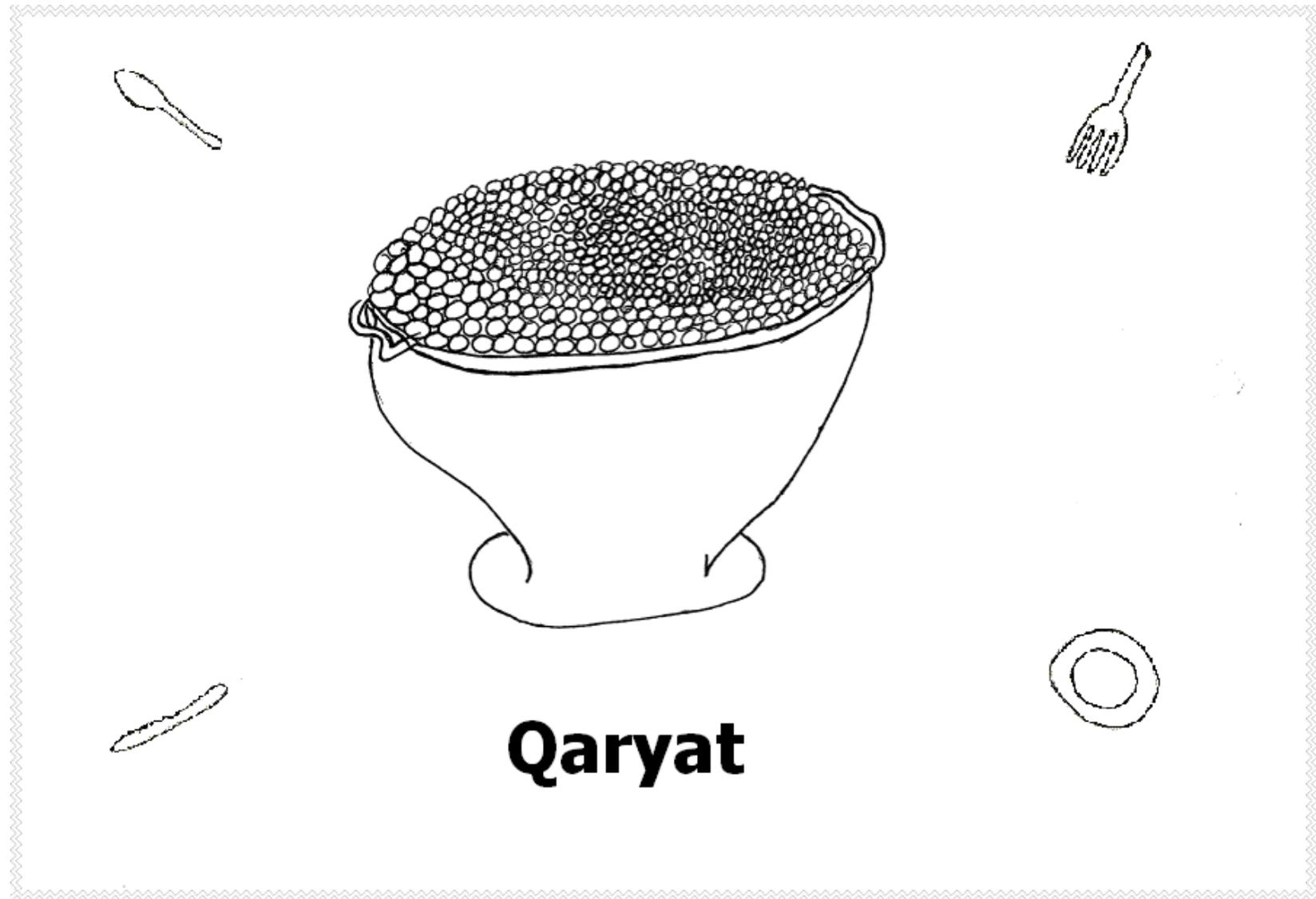


Sekiaq



Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”



Qaryat

PRESENTATION AND POTLUCK

Grade: PK-2

Estimated time: 1 day

Standards: English A3, A4, A6, C4, C5a,b,c,d,e; World Languages A2, A3, C1; Art A1, A2, A3, A5, A6; B8, D6; AK Cultural A1, A3, A5, D1, D3, D6, E8

Focus: This activity is designed as the closing “ceremony” of the Heritage Kit experience. It can be organized by only PK-2 grade group on a smaller scale, or in cooperation with the other grade groups involving the entire community. It is also designed as a full day-long activity, providing ample time for preparation for both the presentations and the potluck. Students will have the opportunity to show their families and community members what they learned about salmon and salmon fishing. Students will also further their cultural awareness and take pleasure in their accomplishments in learning about fishing in the Sugpiaq cultural context by the positive reaction of, and reinforcement from, the community.

Vocabulary words:

Sugt’stun: Review previous units

English: Presentation, Performing, Ceremony, Practicing, Respectful,

Materials/Resources:

- All artwork produced by students during the Kit experience
- If photographs were taken during the activities, a selection of photos in print version
- Double sided tape, scotch tape, thumbtacks etc. for securing student’s work on walls
- A copies of invitation to Presentation and Potluck (one per student)
- Parent sign up sheet for potluck dishes
- CD from Kit

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Make copies of the invitations, one per child
- Check with other teachers, if they are willing to cooperate in the presentations and potluck
- Check with principal regarding room assignments, using the cafeteria, or other large room where presentations can be held
- Contact parents regarding sign up for potluck dishes. Prepare and circulate sign-up sheet. If the entire school participates, some food will be provided by students in higher grades
- Check with principal whether the school can contribute any dishes to the potluck
- Collect all the art work children produced during the Kit experiences
- Print out photographs, if there was any taken during the kit experience

Activity Procedure:

A: Decoration of room

1. Explain students what is expected of them during the presentation. Congratulate them on their accomplishments, and explain that their relatives and community members are interested to see what is it they learned.
2. Ask students to help securing their artwork on the walls of the room where the presentation will take place and to help with arranging the photo display area.

B: Preparation and presentation

1. This section of the activity can be tailored to specific talents, student bodies and situations. Teachers, based on their knowledge of their students can assign tasks to individuals, small groups, or the entire class.
2. Students can practice talking about their experience with fishing, learning new Sugt’s tun words, their favorite activity, their favorite fish dish etc. Students can also perform the Fishing Song as a group, demonstrate how to use rope and hook to fish, or put a skit together on demonstrating the life cycle of a salmon.
3. Provide at least 4 hours for students to practice their performance.
4. If other grades are participating as well, make sure to have at least one practice run in the presentation room with the all the grades present.

C: Potluck

1. Remind students that they need to be respectful to Elders, and instruct them to go around the room and ask Elders if they need anything before students get their own food. Additionally, PK-2 students will be responsible for placing utensils and napkins on tables, as well as helping older students in arranging potluck dishes. Finally, make sure to explain that PK-2 students will be responsible for helping with the clean up after the potluck. If viable, PK-2 students can participate making dishes for the potluck as a part of group including older students.

Dear Parents and Guardians,

Our _____ grade class participated in the **Cuumi Iqallugsuucillrat “Iqalluk”, Old Fishing “Salmon” Heritage Kit** experience in the past two weeks. Through this curriculum, created by Chugachmiut, students learned about salmon and salmon fishing in a traditional Sugpiaq context.

We would like to invite you to please join us on the _____ of _____, 20____, as our students share their newly acquired knowledge through a presentation, which will be followed by a potluck.

If you wish to contribute a dish, please contact _____

We are looking forward to seeing you at the presentation!

Sincerely,

Overview of 3-5 activities

	What is a salmon?	How to catch a salmon?	What do we think about a salmon?
	Anatomy and Life Cycle	Tools and Techniques	Fishing in Social Context
3-5	<ul style="list-style-type: none"> - Salmon Species Spread Sheet - Salmon Body Parts Model - Life Cycle Workbook 	<ul style="list-style-type: none"> - Rock Fish Trap - Habitat Clean-up - Fishing Boats 	<ul style="list-style-type: none"> - Oral History Worksheet - Writing a Fish Cookbook - Presentation and Participation in Potluck

SALMON SPECIES SPREADSHEET

CAKUCIQ IQALLUK

Grade: 3-5

Estimated time: 90 minutes

Standards: Science A1, A3, C3, E3, F2, F3; World Languages A4, Library B2, B3, B4, B5; AK Cultural B1, B2, E2

Focus: In this activity students will learn about the five different species of salmon they can encounter in the waters of their communities. They will learn to recognize the different species, as well as to distinguish them from one another. Finally, they will learn the names (English and/or Sugt’stun), coloring, shape, size, and physical appearance of the five salmon species, as well as their cultural significance for Sugpiaq people.

Vocabulary words:

Sugt’stun: **Cakuciq Iqalluk, Lluq’akaaq, Amartuq, Niklliq, Aliimaq, Qakiaq**

English: Species, Red-Sockeye, Pink-Humpy, Silver-Coho, King-Chinook, Dog-Chum, Salmonidae, Subsistence

Materials/Resources:

- Salmon Prints (included in the Kit)
- CD
- The Pacific Salmon and Steelhead Coloring Book (U.S. Fish and Wildlife Service <http://www.fws.gov/pacific/publications/salmnbk.pdf>)
- Salmon Species Spreadsheets (one per group, five total)
- Alaska’s Wild Salmon (one per group, five total)
- Salmon Species. In: Tabios, Derenty, Looking Back on Subsistence, (P. 6-7) 2000, Chugachmiut.
- Alaska region – cyber salmon: <http://cybersalmon.fws.gov/identification.htm> (for teacher’s review)
- Large cardboard (one per group, total five)
- Flipchart pens in color
- *Optional:* Invite an Elder or expert Sugt’stun speaker

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Make one copy of the Salmon Species Spreadsheet
- Review reading and activity procedure
- Review Group Activity procedure

- Download and make copies of the Salmon Coloring Workbook <http://www.fws.gov/pacific/publications/salmbk.pdf> (one per students, 15 pages per packet)

Activity Procedure:

A: Salmon Species Review

1. Explore students’ knowledge on salmon species by a series of questions. E.g. Are all salmon the same? Is there just one kind of salmon? Do they all look the same? If different how are they different? Do all kinds of salmon come through our waters the same time? Etc.
2. Introduce the salmon prints to students. Explain the five different types of Pacific salmon. Go through each print and ask students to describe the fish. Afterwards instruct students to look at all five fish and compare their similarities, differences.
3. Distribute the Salmon Coloring Workbook. Instruct students to write their name on the front cover, as they will be working with this book in the following two units as well. Read pages 1-3. Discuss the material with students. Instruct students to color each salmon on page 2, based on the coloring guide and the salmon prints.
4. Instruct students to write additional names down on their worksheet, including Sugt’stun names. For this activity use CD to learn correct pronunciation.
 - a. Chinook = King = **Lluq’akaaq**
 - b. Pink = **Amartuq**
 - c. Sockeye = Red = **Niklliq**
 - d. Chum = Dog = **Aliimaq**
 - e. Coho = Silver = **Qakiaq**
 - f. (Steelhead =) – not a salmon technically
5. Read “Salmon Species. In: Tabios, Derenty, Looking Back on Subsistence” for each salmon species and discuss material with students. Ask them to share their experiences with processing different varieties of salmon.

B: Salmon Species Spreadsheet

1. Divide students into five groups. Assign a salmon species to each group (or let them draw a name out of a bag).
2. Distribute spreadsheet activity page.
3. Read the “salmon species” section from Alaska’s Wild Salmon, and distribute a copy to each group.
4. Instruct students to brainstorm and use all the available resources to fill out the page together, including Sugt’stun names. Check students’ work.
5. When they are finished, instruct students to transfer the information onto a cardboard. Encourage them to draw, write and color while working on their exhibition piece.
6. Review all five boards as a group. Discuss differences and similarities once again. Ask students to reflect on the differences they discover between the fish they were working on, and the other species of salmon.
7. Collect workbooks so that students can work with them in unit 3 – Life Cycle.

SALMON SPECIES SPREADSHEET

Name of students in the group:

1. Our group will collect information on _____ salmon.
2. The Sugt’stun name of our salmon is: _____
3. We have found the following information on our salmon:

Fish
Other name(s)
Fact 1.
Fact 2.
Fact 3.
Fact 4.

SALMON BODY PARTS MODEL

Grade: 3-5

Estimated time: 90 minutes

Standards: Science A3, C2, C3, F3; World Languages A4, C4; AK Cultural B1, B2, E2

Focus: Through the Salmon Body Parts activity students will learn the various external body parts and internal organs of a fish, their role in the fish’s overall function, and their locations on/inside of the fish. Students will also create a fish model, which will help them recognize and memorize the anatomy of a salmon, while expanding their scientific vocabulary as well as their Sugt’stun knowledge.

Vocabulary words:

Sugt’stun:

English: Anatomy, External, Internal

Materials/Resources:

- CD
- Scissors
- Color pencils or crayons
- Glue stick
- Internal – external body parts template (one per student, four per packet) (adapted from cartt.4j.lane.edu/salmon/anatomy.pdf)
- Rulers
- Salmon Prints (included in the Kit)
- String (10” long per student)

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Check classroom supplies listed above
- Review CD material
- Review Salmon Model Activity
- Print out Internal – External body parts templates (blank and labeled, one packet per student, 4 pages per packet)
- *Optional:* invite fish expert, such as Elder, Fish and Game representative, US Wildlife representative, Enhancement project representative or fish biologist

Activity Procedure:

A: Salmon body parts overview

1. Explain students that they are going to learn about the anatomy of a salmon; the body parts inside of the fish and on the outside. Make sure they learn the word anatomy (comes from the Greek word *anatoma*, meaning separate and to cut).
2. Use the CD (or printouts) to point out the various external body parts of the fish. Guide students in their quest to discover the various body parts and their functions. This is also a good opportunity to ask students to name the Sugt'stun name for the various body parts. Alternatively, the external / internal body parts can also be printed out if a smartboard is not available.
 - a. **Nasquq** – Head
 - b. **Ik** – Eye
 - c. **Qaneq** – Mouth
 - d. **Culugsutia** - Fins
 - e. **Rririt** – Scales
 - f. **Pumyaq** – Tail Fin
3. Move on to the internal body parts. Follow the same procedure of guiding students by a series of questions.
 - a. **Napateq** – Heart – It circulates blood through the fish's body.
Example: Do we eat the heart? Have you ever eaten salmon heart? How was it prepared? Who made it?
 - b. **Tenguk** – Liver – It is very nutritional, oftentimes people fry and eat it.
Example: Have you ever tried it?
 - c. **Qaryat** – Eggs – They are pink or orange depending on the species of salmon. Eggs are located in two sacs, and there are many of them. When female adult salmon are swimming upstream and ready to spawn, the eggs become loose in the salmon's body.
Example: How many of you had ever had salmon eggs? How was it prepared? What did it taste like?
 - d. **Cungaq** – Gall bladder –When people are cleaning a fish, they are always very careful not to puncture or cut into the gall bladder, otherwise, sour green liquid spills out and ruins the meat of the salmon.
Example: Can we eat the gall bladder? (No). Have you ever seen an adult clean fish before? Did they tell you about being very careful when cutting up the stomach? Can you eat the fish if you see a green liquid spreading on the meat while it is being cleaned?
 - e. **Anerrteqsutai** – Air sac – It is a balloon like organ located along the spine of the salmon. It helps fish in swimming upright.
Example: Explain the importance of the air sac in cleaning salmon. When a finger is inserted between the air sack and the backbone, it is very easy to remove all the internal organs of a salmon in one motion. What would happen to a salmon if it did not have an air sack?

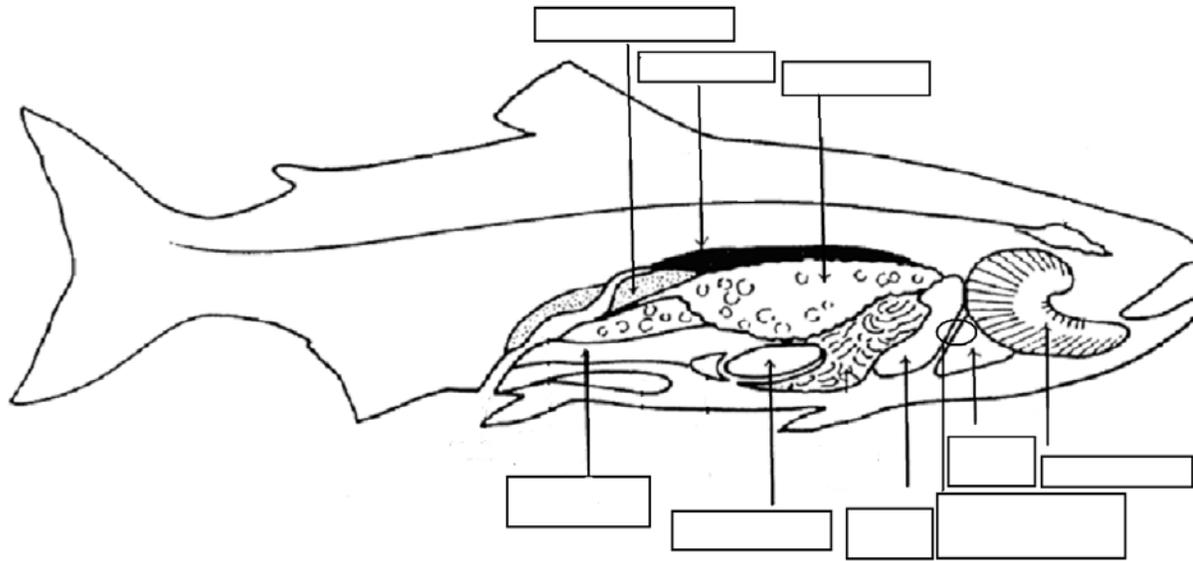
- f. **Aqsaquq** – Stomach – It is sack, where the food salmon eats is digested and broken down. The stomach is the part of the fish’s digestive system, and it is connected to the intestine.
Example: When we clean the fish, we have to remove all parts of the stomach. But if we want to learn about the life of a salmon, we can look inside and find out what is in the stomach (sometimes smaller fish).
- g. **Pacik** – Gills – Gills are located on the two sides of the fish’s head and they are red in color. Salmon breathe through their gills, by filtering oxygen out of water.
Example: Can we eat the gills? Do we have to remove them? How do the gills work?
- h. **Tartuq** – Kidney – Helps fish to live in both fresh and salt water by regulating salt levels in the body.
- i. **Qilut** – Intestines – Nutrients, from the food digested in the stomach is absorbed in the intestines to keep the fish alive.

B: Making a salmon model

- 8. Explain students the procedures of the activity. They are going to label the various body parts of salmon (in English and/or in Sugt’s tun).
- 9. Distribute salmon body part packets, and tell students to write their name on each page. Instruct students to look at the Salmon Prints before they start labeling.
- 10. When they are finished instruct students to color their salmon(s), inside and outside. Point out the available resources and prompt students to follow the internal body parts image. Check students’ work.
- 11. Instruct students to carefully glue the two salmon pages together, while inserting a piece of looped string in between the pages. The external body parts sheet facing outwards on one side, and the internal organs facing outwards on the other side. The salmon outlines will NOT completely match up, but the direction of the fish will.
- 12. Tell students to draw an approximately 10 ½” x 5” rectangle around their fish on the External body parts side. When complete, prompt students to cut out the rectangle.
- 13. Review students’ work.
- 14. Save the models by hanging them from the ceiling or walls of the classroom. Fish models can also be used in the last unit (presentation and potluck).

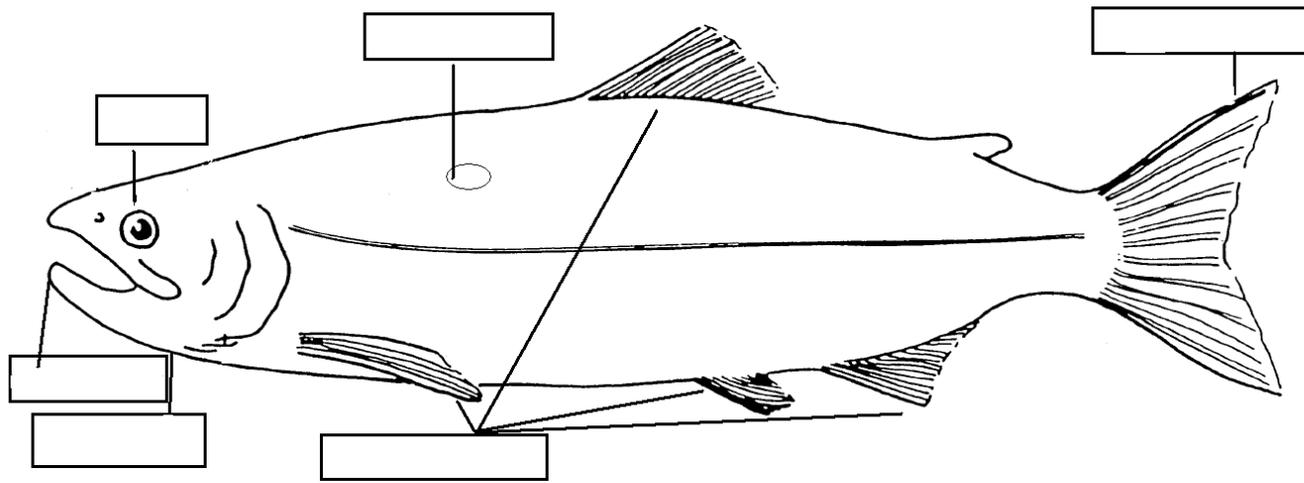
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“Iqalluk”

Old Fishing
“Salmon”



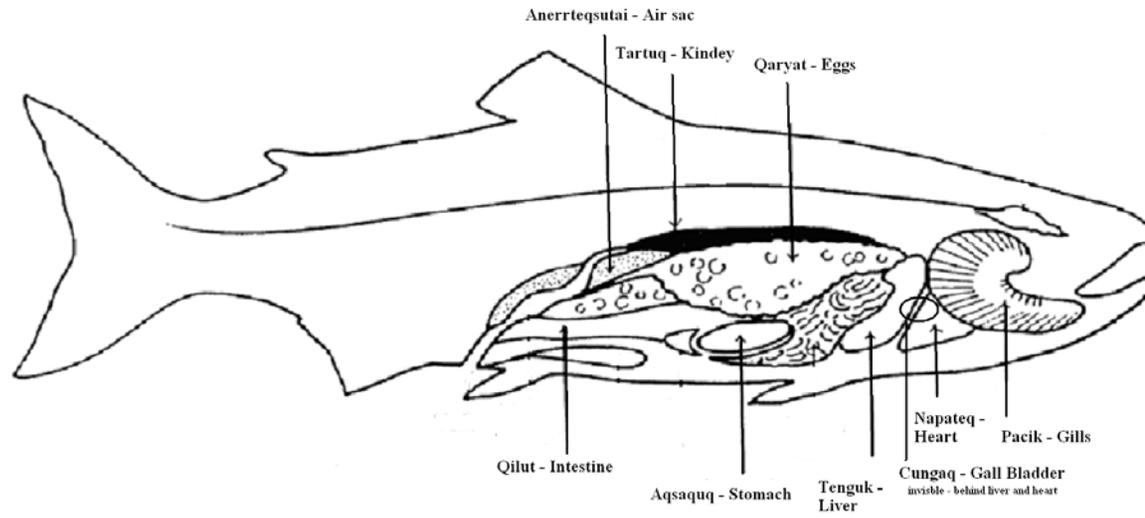
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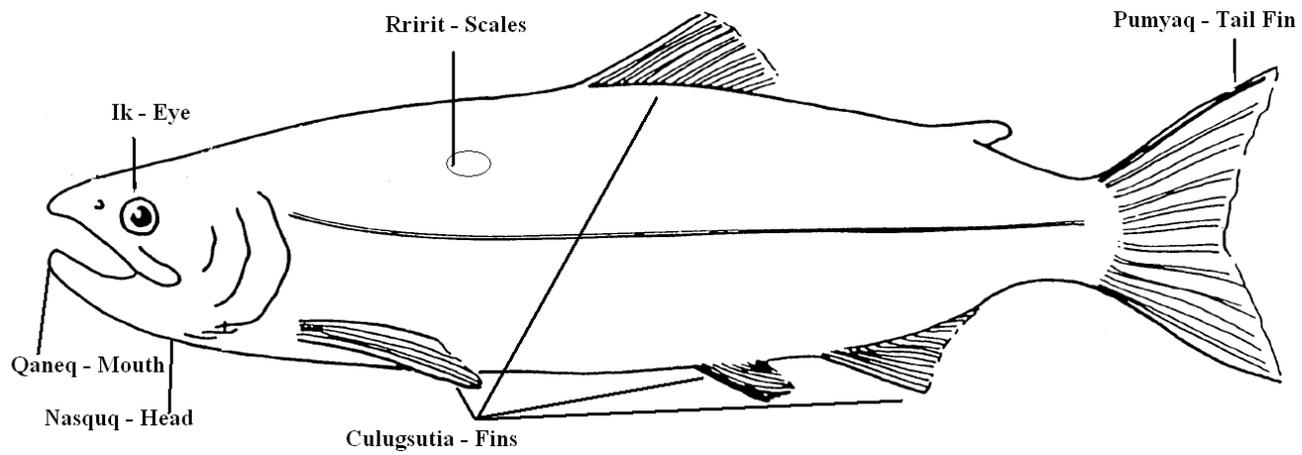
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LIFE CYCLE WORKBOOK

Grade: 3-5

Estimated time: 90 minutes

Standards: Science A3, C2, C3; AK Cultural B2, E2

Focus: Through the Life Cycle Workbook activity students will expand their knowledge on the development of salmon. In this unit, students will also learn about the changing needs of salmon in terms of habitat, as well as develop an understanding of the cyclical nature of the fish’s life.

Vocabulary words:

Sugt’stun: **Kuik** - River, **Imaq** – Sea, **Nanwaq** - Lake

English: Cyclical, Anadromous fish

Materials/Resources:

- Salmon Coloring book (print out from U.S. Wildlife, used in previous unit)
- Salmon Life Cycle Poster
- Color pencils or crayons

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Locate and check Workbooks
- Check classroom supplies
- *Optional:* Invite marine/fish biologist, or other fish expert

Activity Procedure:

A: Salmon Life Cycle Overview

1. Introduce the topic by showing children the Salmon Life Cycle poster. Explain that salmon is an anadromous fish, which means it is born in freshwater, lives in salt water, and goes back to spawn and to die to the place where it came from as an egg. Write this word on board with a short explanation.
2. Invite students to share their knowledge and experience with salmon, while encouraging them to think in terms of seasons and months. Ask them to remember what they learned about salmon from adults in their community. Point out the life cycle stage on the poster corresponding to students’ answers.
3. Review each stage of the life cycle based on the poster. Before moving on to the next stage ask students to guess based on the pictures.
4. When complete (from egg to fish to egg), record major life cycle stages on the board.

B: Complete Workbook

1. Distribute workbook once again. Remind students that they worked with this material before, and that they will complete the workbook today.
2. Read booklet material to students, stopping after each page and discussing the information presented.
3. Once finished, give students ample time to complete all activities at the back of the workbook.
4. If some students are done early, encourage them to start coloring their fish according to the color codes on the back of the booklet (one color copy included in the Kit), making sure that each species are correctly identified.
5. Review Activity answers and completion with students.
6. Ask students to take their booklets home and complete coloring by the end of the week, and return their completed work to the classroom, so that it can be part of the exhibition accompanying the final presentation.

ROCK FISH TRAP

YAMAQ KAPKAANAQ

Grade: 3-5

Estimated time: This is a multi day project; however it requires only a few hours on each day. Day 1: 2 hours (3 hours with field trip); Day 2: 2 hours; Day 3: 2 hours, Day 4: 2 hours (Total: 8+1 hours)

Standards: English C4, C5a, b, c , d , e; Science E1, E3, F1, F2; Geography E1, E2, E4; History A6, B5; Art A5; AK Cultural A5, C1, D1, D2, D3, E2

Focus: Building a rock fish trap model will help students internalize the Sugpiaq traditional knowledge of Elders on salmon and salmon fishing. Students will actively use the information they studied in the previous units on salmon species and behavior, as well as learn a new method of fishing for salmon. By completing this activity, students will develop a new perspective on one aspect of the everyday life of Sugpiaq ancestors, as also an appreciation for a traditional fishing technique by placing it into a contemporary context.

Vocabulary words:

Sugt' stun: **Yamaq, Kapkaanaq**

English: Fish trap,

Materials/Resources:

- Indian Fishing – Early Methods on the Northwest Coast – Written by Hilary Stewart pp. 119-123. (for teacher’s use)
- Card board box ½ ft wide x 2 ft long x 4 inches deep (approximately)
- Newspaper, 20 full pages per project
- Flour
- Water
- Acrylic Paint
- Zip Lock Bag (2 per student, included in the kit)
- Sand
- Pebbles
- Paint Brush
- Clear Caulking, 3 tubes per project (included in the kit)
- Moss (included in the kit)
- Containers to mix glue in
- Rock Fish Trap model from Kit
- Disposable gloves to use with paint and caulking
- *Optional:* Make arrangements with an Elder or Sugpiaq Fishing expert to visit the class on the day of this activity and to talk to students about the use, importance, and relevance of rock fish traps.

Teacher Preparation:

- Plan well ahead the time for a field trip to gather the necessary items. Pre-determine the kinds of rocks that you will need for your project.
- Make arrangements with principal for field trip in the morning of the class. Alternately, combine following unit with the field trip portion of the current one by collecting pebbles and rocks after the habitat clean-up is complete.
- Collect all materials from the Kit
- Locate and collect extra materials (flour, newspaper, containers)
- Read and review Indian Fishing – Early methods on the Northwest Coast, by Hilary Stewart.
- Review Rock Fish Trap making procedures.
- *Optional:* Contact and invite an Elder to talk about traditional Sugpiaq fishing

Activity Procedure:

A: Introduce the idea of a fish trap to students

1. Ask students if they have ever heard of a fish trap. Ask them to theorize what a fish trap could be based on the word and their imaginations.
2. Ask the invited Elder to talk to students about fish traps.
3. Explain the idea of a Rock Fish Trap to students based on the information in Indian Fishing – Early Methods on the Northwest Coast by Hilary Stewart.
4. Show students the Rock Fish model from the Kit, and use it to demonstrate the mechanics of catching fish with a rock fish trap. Explain that in the following days, they will work in small groups to create their own models.

B: Making the Rock Fish Trap

1. Day:
 - a. Have the students split up into groups.
 - b. Have them pick a box to use.
 - c. Get a stack of newspaper
 - d. Prepare their glue: 1 part flour to 2 parts water. (Students can add Acrylic paint to their glue mixture to create a more realistic look)
 - e. Build their landscape (River setting), once complete allow 24 hours to dry.
 - f. Have each student write their name on two (2) one gallon size zip lock bags.
 - g. Take the students to the beach with each holding their own two (2) one gallon size zip lock bags. With one bag holding sand like rocks and other bag holding pebble size rocks ½ inch to 1 inch size in diameter.
 - h. Upon returning to the classroom talk with the students about their trip.
2. Day:
 - a. Have the students split back up into their groups
 - b. Prepare the glue mixture again: 1 part flour to 2 parts water.
 - c. Place the small sand like rocks in their model where the river is going to go.
 - d. Place the pebble size rocks in the model in a uniform pattern to build the rock trap
 - e. Pour glue mixture over the rocks and slowly and carefully tilt box back and forth to spread the glue over all the rocks. Allow 24 hours to dry.
3. Day: Paint landscape model. Allow 24 hours to dry.

4. Day:
 - a. Apply glue to the land area of your model and begin tearing the moss apart and placing on your glued area of your model.
 - b. Begin filling the area of your model where your water is supposed to go with 2 –3 tubes of clear caulking to represent the water. Allow 24 hours to dry.

HABITAT CLEAN-UP

Grade: 3-5

Estimated time: 3 (1+2) hours

Standards: Science C2, C3; Geography A5, B1, C1, C3, E3, E4, E5, F3, F6; Government G2; Employability A6; AK Cultural A1, A4, A6, B3, B4, C2, E2

Focus: In this half day long activity students will learn about the habitat of salmon species. They also learn to differentiate between healthy and unhealthy living conditions, as well as learn to recognize and identify potential hazards for salmon habitats. Finally, students will actively apply their knowledge and clean up one particular salmon habitat area in their local communities.

Vocabulary words:

Sugt’stun:

English: Habitat, Hazard

Materials/Resources:

- Salmon Habitat Information sheet (for teacher’s review and use)
- Trash bags
- Gloves
- Take-along emergency kit (for minor injuries)
- Digital camera (with extra batteries)

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Locate and assign suitable salmon habitat area for clean-up
- Contact local authorities regarding permissions
- Arrange with school for field-trip
- Make sure camera is in working order
- Check weather forecast for the day of the activity
- Inform parents on field-trip and advise students and parents on suitable clothing, including waterproof boots
- Review salmon habitat information sheet

Activity Procedure:

A: Review information already learned on salmon habitat

1. Ask students to recall what they have learned about the things that can be dangerous to salmon in the previous unit.
2. Guide students through a review of healthy salmon habitat by drawing on the board while following the salmon habitat information sheet.

- a. Draw a fish on the middle of the board. Ask students what the fish needs to survive (water, food etc.) Continue drawing based on students’ response.
 - b. Cover water, food, people, steams and banks (vegetation).
 - c. Ask students to reflect on the completed drawing.
3. Explain students that they will be focusing on the dangers people pose for salmon. For this reason they will clean up a salmon habitat area by collecting trash. They will also document their work by taking pictures.

B: Review Activity procedures

1. Cover safety guidelines. Instruct students not to touch chemicals, sharp objects, and object that are too heavy for them. Should they come across such hazards while cleaning up, call the teacher to the site immediately. Should they get injured, tell the teacher immediately. Remind students to stay with the group, do not run, and do not disturb animals. Always use protective gloves and trash bags.
2. Explain students what is expected of them during this trip. Explain documentation procedures.

C: Clean-up specific salmon habitat

1. Take students to habitat site. Point out specific hazards for salmon. Invite students to join in, by using the material they learned in the classroom.
2. Take pictures before the clean-up.
3. Distribute gloves and trash bags. Remind students of safety procedures.
4. Supervise students, help in cleaning up and take photos.
5. Return to classroom and download pictures to a computer. Review photos with students.
6. Save and print out photographs (or a selection of them) for the last unit of the Heritage Kit experience – presentation and potluck.
7. *Optional:* If the previous unit on Rock Fish Traps precedes the current unit, teachers have the option of collecting the necessary rocks and pebbles with the students during this field trip. For more details and instructions please see previous unit. This option will add an extra 20 minutes to the activity.

Salmon Habitat – Teacher’s Copy

Adapted from “A Healthy Salmon Habitat Handout” of the Fisheries and Oceans Canada
(www.dfo-mpo.gc.ca)

Water: Salmon prefer cool, clean water (between 41F and 49F is best). A healthy salmon stream runs over a gravel bottom containing a mix of rock sizes. Water flowing over riffles picks up oxygen and washes away silt. Salmon need at least seven parts per million (7ppm) of oxygen in the water.

Young salmon also needs still pools that form at the edge of a stream and behind rocks, logs or other debris. The still water allows the salmon to rest and to hide from predators. Eggs need 1-11 inches of water, fry need 4-16 inches.

Young salmon are very sensitive to pollutants. Household chemicals, such as bleach, oil or paint, can be fatal. Unless diverted, runoff from roads can carry hazardous pollutants into a stream. Ideally, the water in a salmon stream should be clear, with a pH between 6.5 and 8.

Stream banks and lakeshores: The banks of a stream soak up water during heavy rain, then release it slowly into the stream. This prevents flooding and reduces the chance of streams and lakes drying up in hot weather. Thick vegetation along the banks of a stream shades the water, keeping it cool and allowing salmon to hide in the shadows. Insects that fall from overhanging bushes and trees provide food for the salmon. To protect the stream banks, laws prohibit construction or logging within 150 or 300 feet of streams.

Food: Salmon fry catch tiny insects that float past them. As they grow, the fry can also catch larger insects, as well as mayflies and stoneflies that land on the water to lay their eggs. When they are large enough, the fry can also eat smaller fish in the stream or lake.

People: People disturb streams and lakeshores when they remove the vegetation, divert the waterflow, pollute the water or build docks. People sometimes erode the banks by playing or driving along the edges of a stream or lake. This can crush salmon eggs in the gravel. People and pets sometimes harass spawning salmon in shallow streams, and people sometimes leave garbage along the banks and in the water.

FISHING BOATS

Grade: 3-5

Estimated time: 3 (1+2) hours

Standards: English A3, B1, B3; Science A3, Geography A3, E1, E2, E3, E4, F3; History A5, B1b, D1

Focus: Nowadays, people often fish from boats and skiffs, and in the past, Sugpiaq people also made use of their watercrafts for fishing purposes. In this unit, children will learn about the construction of traditional boats, as well as their contemporary counterparts. Finally, students will recognize the significance of boats and boating in their local communities, as an activity closely connected to salmon fishing both past and present.

Vocabulary words:

Sugt’stun: **Qayaq**

English: Heritage, Watercraft, Fiberglass, Aluminum, Water Conditions

Materials/Resources:

- The Hunter and the Hunted, 2004, Elizabeth Webb and Deland Anderson (eds.), Pratt Museum (teacher background information, one copy included in the Kit)
- The Heritage of Skin Boats, 2001. In Looking Both Ways, A. Crowell, A. Steffian and G. Pullar (eds.), pp. 145-158, Fairbanks: University of Alaska Press (teacher background information, one book included in the Kit)
- The Chugach Eskimo, 1953, Birket-Smith, Kaj, København: Nationalmuseets Publikationsfond. pp. 45-50 (for teacher’s review)
- Building a Setnetting Skiff, 1980, Marlon Ash. In Alexandrovsk No 1., pp. 63-71. (teacher background information)
- Skin Boats, 1980, Sergius Moonin. In Alexandrovsk No. 2. pp. 47-48.
- Alaska’s Salmon Fisheries, Jim Rearden (ed.). Alaska Geographic 1983: 10(3). (teacher background information)
- Small piece of wood (size) (one per students)
- Small Nails (one per students, included in the Kit)
- Thin rope (included in the Kit)
- Small hammer (ONLY for teacher’s use)
- Wooden sticks (one per students)

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit

- Gather small scrap wood pieces in your community so that you have at least 3 more pieces than the number of students in your class.
- Gather sticks
- Read and review all background information provided in the Kit
- Review boat making procedures
- Make arrangements for fieldtrip

Activity Procedure:

A: Introduce topic and brainstorm on fishing and fishing vessels

1. Ask students if they have ever been on a boat. Why were they there? What did they do? What are boats good for? How did the boat move around? Have they ever fished from a boat? What was it like? How did they fish?
2. Ask students to list the various kinds of fishing that can be done from a boat. Record their answers on the board. (picking nets, trolling, hook and line etc)
3. Ask students if they know what kinds of materials can be used to build a boat. Discuss their answers.

B: Compare and contrast boats of the past and watercrafts of the present

15. Explain students that boats have been in use by Sugpiaq people for hundreds of years. However, they were made differently, and they looked very different as well. Some aspects of boats and fishing with boats, however has not changed (e.g. both used to navigate waters, fishing, it is almost always a group activity, cultural significance – boats are blessed by a priest at the beginning of the fishing season, caring for a boat cannot be done by one person etc.)
16. Read Skin Boats by Sergius Moonin to students to introduce the concept of a qayaq. Continue discussion with the different variations of a qayaq, parts, building material and structure used as well as uses in fishing (based on teacher’s reading information listed in Resources). Discuss with class.
17. Use Alaska’s Salmon Fisheries to show pictures of modern boats. Discuss their structure, building, and uses.
4. Brainstorm with students to create a list on the board traditional watercrafts and their modern counterparts. Us the list to point out the differences and similarities

Example:

	Qayaq	Skiff
Material used	wood, skins, seal oil	aluminum, fiberglass, wood
Method of Construction	group activity on location	not on location, bought with money
Movement	human power, paddles	motors, gas, rarely by human power
Uses	picking nets, weirs etc	picking nets, trolling, etc

C: Go boating! Making, and playing with, a traditional Sugpiaq toy

18. Explain students that Sugpiaq children, including their parents and grandparents, used to play with miniature boats. Sometimes, if they did not have a boat carved out for them, they would use small pieces of scrap wood to make their toy. Today, students will learn how to make this toy (and use it on the water), thus connecting with Sugpiaq traditions.

19. Distribute material. Explain the procedures, and point out that the teacher will circulate in the classroom to hammer in the nails into the “boats”. Instruct students to tie one end of their ropes to their sticks and the other to their nails.
20. When all boats are ready, take students to beach or near an accessible water shore.
21. Show students how to safely launch their boats, and how to move them around on the water. Allow students 15-20 minutes to experiment with their boats.
22. When back in the classroom, ask students to reflect on their experience. Direct their thoughts by asking questions about wind conditions, waves, small pools, the water’s flow etc.
23. Ask students to theorize on why this was a favorite toy for many of their ancestors.

Cuumi Iqallugsuucillrat
"Iqalluk"

Old Fishing
"Salmon"

NATIONALMUSEETS SKRIFTER

Etnografisk Række, VI

" THE
CHUGACH ESKIMO "

BY

KAJ BIRKET-SMITH

NATIONALMUSEETS PUBLIKATIONSFOND
KØBENHAVN 1953

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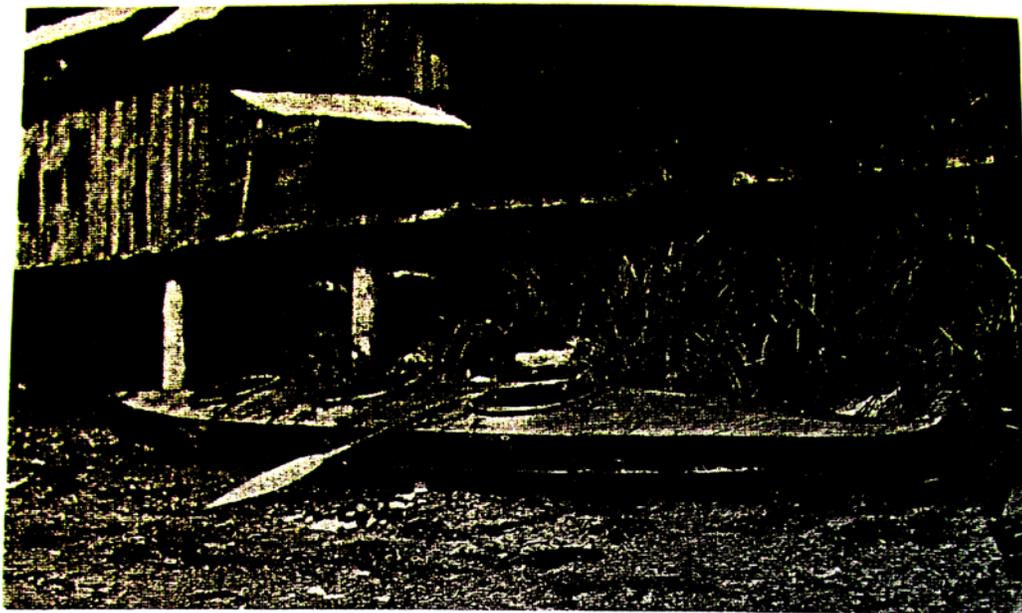


Fig. 18. Baidarka on the beach in Chenega. (Photo F. de Laguna).

COMMUNICATION

Baidarkas.

The kayak or, as it is here generally called, the baidarka (байдарка) is not only an important means of communication but also an indispensable part of the hunter's equipment. Beside the ordinary Eskimo type with a single man-hole there was also a two-hole type. The latter was the common hunting craft, whereas the one-hole baidarka served in porpoise hunting, fishing and travelling only. Makari was of opinion that also the baidarka with three holes, which is the only one in present use, antedated the coming of the Russians, but in this he was evidently mistaken (Fig. 18). Whereas both one- and two-hole craft were observed by all early explorers in Prince William Sound¹, no mention is ever made of the three-hole type. In fact, Lisiansky expressly states that they are a Russian invention made to the benefit of the Russian officials². Makari believed that the Russians had made the Chugach build their baidarkas wider. Whether this be true or not it is difficult to decide at present. However, the early Kodiak baidarkas, which were closely related to those of the Chugach, were said to be twice as wide as the Aleut type and much shorter than this³, so perhaps we should not pay too much attention to Makari's statement.

¹ Cook & King 1785, II 357, 371. Ellis 1782, I 241.
Dixon 1789, 147. Portlock 1789, 207. Merck 1937, 133.
Schelechof 1793 a, 208. Sauer 1802, 191. Sarytschew

² Lisiansky 1814, 211.

³ Sarytschew 1805-06, II 36. Cf. also Langsdorff
1812, II 57.

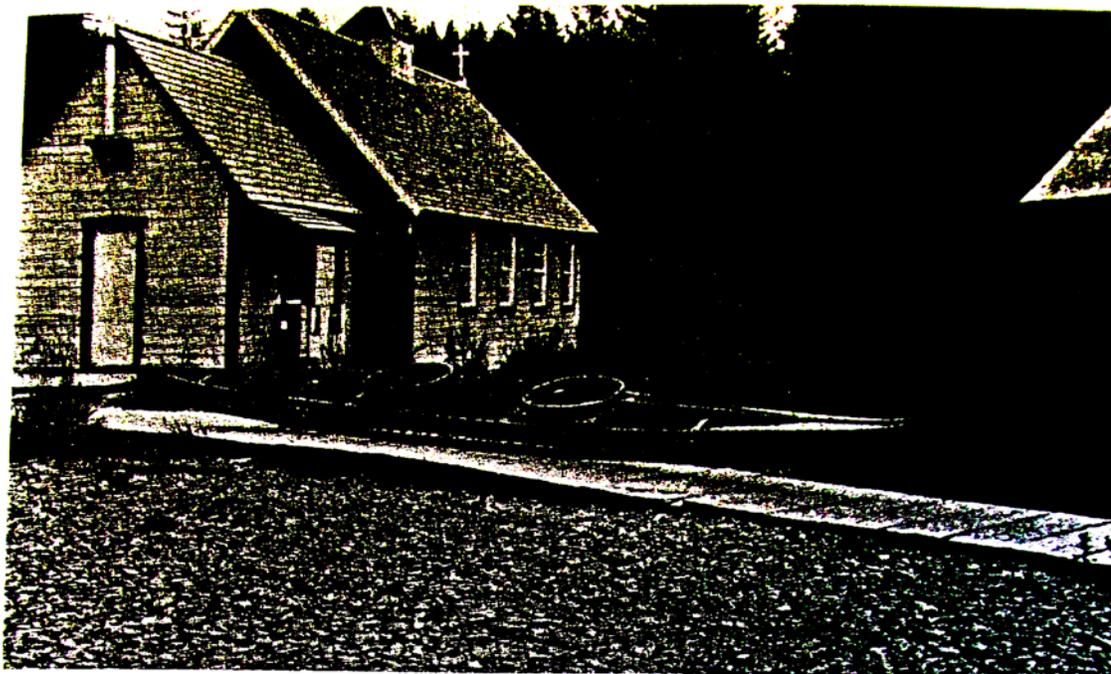


Fig. 19. Baidarka frame in front of the chapel in Chenega. (Photo F. de Laguna).

Moreover he said that the Chugach baidarka was “better” than that of Kodiak, but that may be just an expression of tribal pride.

At the present day only comparatively few baidarkas are left in the Sound. Still they had a renaissance in Chenega during the economic crisis about 1930, and I noticed here one specimen under construction. The price of a complete baidarka was \$ 75, and even in former times but a few persons knew how to build them.

The frame of the baidarka (Fig. 19) was made of hemlock, whereas the stem and stern as well as the cross pieces were of spruce. The reason for the difference in material is this that hemlock does not crack or break so easily as spruce, which is more dry. The trees were felled with a stone adze—fire was not used—and the wood was split with stone adzes and wedges of tough, young spruce wood. The fashioning of the different parts was carried out with the crooked knife, and the lashings were of spruce root. The first parts to be made were the stem and stern pieces (Fig. 20). The former was bifurcated, forming an upper and a lower prow. After this the gunwales were fashioned, each about 10 cm wide, and then eight side streaks, four for each side, were made. The keelson was a similar, but somewhat heavier piece. No less than 45 ribs were morticed into the gunwales for a depth of 5 cm, after which two prow pieces were lashed to the upper prow with spruce roots. They were thin, flat pieces of wood bent up in front in continuation of the gunwales. For a two-hole baidarka the ridge pole for the deck was made in three sections. The coaming of the man-hole was a thin board. In front, on each side of the man-hole, there was a piece made of alder wood, on which the hands were placed when getting in or out of the baidarka. Outside the coaming there was another ring to which the sheathing of the boat was made fast with a string of whale sinews. Inside the baidarka two short vertical props were placed,

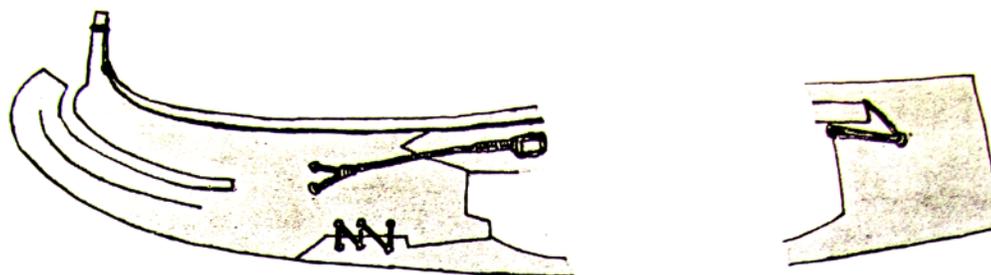


Fig. 20. Stem and stern pieces of baidarka.

one in front and the other one behind the man-hole. In the same places there were also cross pieces between the gunwales. Close to the stem and stern similar cross pieces were placed.

For the sheathing of a one-hole baidarka six large skins of spotted seal were necessary, for a two-hole baidarka nine, and for a three-hole twelve skins. Skins of young sea lions might also be used. The women sewed the skins together, then the men put them on the frame, and afterwards the women sewed the longitudinal seam along the deck. The seams were all double running stitches of which the innermost one was "blind", except the deck seam which was sewn with ordinary, single running stitches. Every year the skin had to be smeared with lukewarm oil, the best for this purpose being shark-liver oil. The seams were not especially smeared.

In front of each man-hole, but rather far apart, were two cross straps under which the hunting implements were placed. On the right side, in front of the foremost hole, was the harpoon with the head pointing aft and the butt of the shaft resting in the cleft between the prow pieces. The bow was also on the right side, but inside the harpoon. On the left were the throwing board and the seal club. On the right side in front of the second hole the lance was placed with the head pointing forward, and inside that another bow and a wooden quiver filled with arrows; the opening of the quiver was forward. On the left side was the whaling lance, also with the head pointing forward.

The following means of measuring when constructing a baidarka were obtained from Stepan, the only man in Chenega who was yet able to build one without assistance:

- Length from stem piece to the first man-hole: one arm span.
- Diameter of the first man-hole: one lower arm plus the hand.
- Distance between the rims of the first and third man-hole: one arm span plus three finger widths plus one hand with outstretched thumb.
- Distance from the edge of the rim of the third man-hole to stern: one arm span with the right fist closed.
- Length of gunwale: three arm spans plus one lower arm and hand plus one hand with outstretched fingers.
- Width of baidarka at the middle: one arm including the hand.
- Length of stem piece: one lower arm including the hand.
- Width of lower prow: three to four fingers.
- Width of upper prow: four finger widths.

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

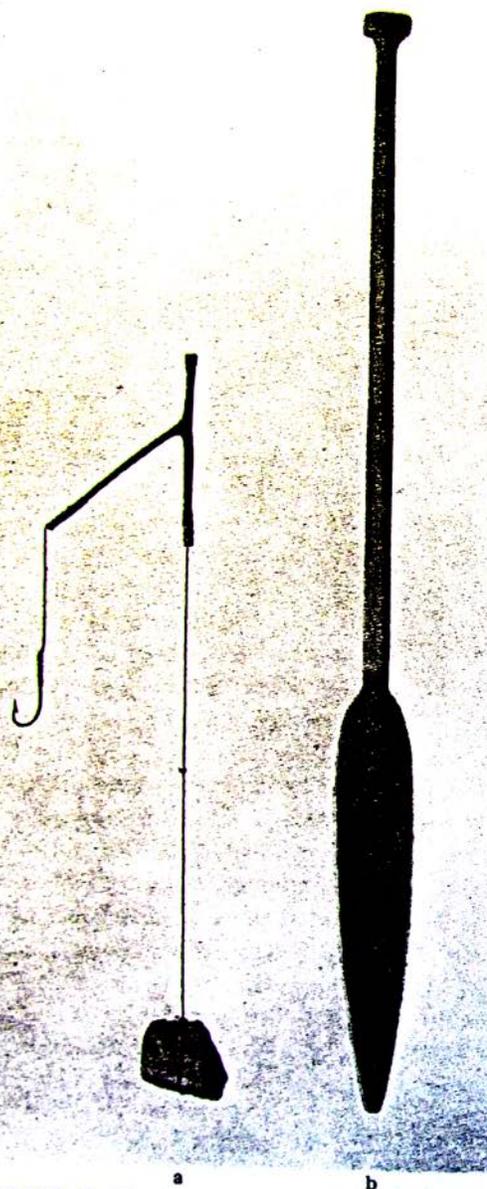


Fig. 21. Cod hook (a) and baidarka paddle (b).
(Museum Copenhagen).

Length of cleft between prows: two thumbs plus two hand widths with outstretched thumbs.

Radius of curve of lower prow: one hand span (between thumb and middle finger).

Height of stern below the gunwale: one hand span.

In order to illustrate the size, the measurements of two baidarkas from Chenega, both three-hole specimens, are given below:

Length	630 cm	645 cm
Width	71 -	71 -
Diameter of man-hole	47 -	47 -
Height at stem	60 -	53 -
Height at stern	26 -	26 -
Distance stem-first hole	208 -	212 -
Distance stern-third hole	128 -	125 -

A one-bladed paddle was generally used. It had a spear-shaped blade and a crutch handle at the end of the shaft. The paddles of the two baidarkas mentioned above measured as follows:

Total length	155 cm	160 cm
Length of blade	80 -	81 -
Width of blade	13 -	12 -

A third paddle, now in the Copenhagen museum (P 537) has a blade painted green and now much worn at the edges; length of shaft 51 cm; blade 51 by 10 cm (Fig. 21 b).

The paddler was kneeling and took two or three strokes on one side, then two or three on the other. Although the baidarka, as compared with the Greenland kayak, was a rather clumsy craft and the man-holes of considerable width, a skilled paddler wearing the sleeveless gutskin jacket tied around the coaming of the hole and below his armpits (cf. p. 66) was nevertheless able to turn over in it. If a single man turned over in a two- or

three-hole baidarka, the empty holes were covered up with gutskin. The water that by and by penetrates into the interior of the boat is sucked up in a sort of siphon; then the lower hole is closed with a finger and the water drained out. The siphon is spindle-shaped and made of one piece of wood split lengthwise, hollowed out and again lashed together. A specimen from Chenega, now in the National Museum of Denmark (P 538), is 46 cm long and has a maximum diameter of 17.8 cm (Fig. 16c).

On journeys and hunting excursions sleeping blankets were carried inside the middle of the baidarka, while food and bags with spare spear-heads were stored away aft. Fred Allen said that inflated seal and bear bladders were carried in the baidarkas as life-preservers, but the correctness of this statement seems doubtful. When crossing the ice the baidarka was carried on the shoulders, and in the village it was placed on a wooden scaffold with the bottom upwards, or inside the house. In the winter, ice is scraped from the deck with the paddle; no special kayak scraper is known. In very cold weather the skin cover is liable to freeze and crack at the seams and then may break. Not a few men have drowned that way. If they can afford it, the modern Chugach therefore prefer to use gas boats in the winter.

Skin Boats and Dug-outs.

The typical open skin boat or umiaq of the Eskimo, the baidar (байдара) of the Russians, has now entirely disappeared from Prince William Sound. It was of considerable size, holding sometimes more than twenty people. One man steered, and three or four—according to Ma Tiedemann even six—men were paddling on each side. Fred Allen said that the large war baidars were able to carry as many as twenty or thirty men. The paddle had a single blade and differed from the Nootka type in not having a long point¹. In later times they had square sails of blankets, with one boom at the top and another one across the bottom. Makari did not know what the sail was made of originally, but denied that it was of gutskin as in the eastern Arctic and at Bering Strait. The probability is, therefore, that the material was some sort of matting. Sails of this kind occurred both on Kodiak and in the Bering Sea region².

When building a baidar the Chugach would make the stem first and then proceed to the gunwales, thwarts, ribs, keelson, side laths, etc. There were six side laths and ten ribs. The latter were made in three pieces, probably one bottom piece and two upstanders. It seems that the gunwales projected somewhat both before and aft. The stem piece was made of a naturally curved piece of wood, whereas the stern was straight. This detail is confirmed by Cook, who tells us that the Chugach baidar resembled the Greenland umiaq "with no other difference than in the form of the head and stern; particularly of the first, which bears resemblance to the head of a whale"³. Merck noticed "*grosse Lederboote*" in Prince William Sound, but gives no description of them⁴. While the length of the baidar varied somewhat according to the wish of the builder, the width was fairly fixed, *i. e.* about 150 cm at the bottom and 215 cm at the top. For the sheathing twenty large seal skins were needed.

Makari mentioned another kind of boat that was called aniaq and was used by the Russians. It had two masts, and the bottom was made of a large sea-lion skin. The word aniaq is the ordinary name of the baidar on Kodiak⁵, so it may be surmised that at Prince Williams Sound it refers to the—perhaps slightly modified—Kodiak type of skin boat introduced by the Russians.

Beside the skin boats the Chugach also had wooden dug-outs. They were observed by Merck⁶ and are likewise mentioned in the traditions (cf. p. 110). Moreover, several

¹ Ellis 1782, II 257.

² Holmberg 1856, 380. Nelson 1899, 217.

³ Cook & King 1785, II 371. Cf. Ellis 1782, II 237.

⁴ Merck 1937, 133.

⁵ Merck 1937, 129. Holmberg 1856, 380.

⁶ Merck 1937, 133.

specimens were found in the Palutat cave and will be described in the archeological report by Dr. de Laguna. The shape is similar to that of the Eyak canoe¹, and there can be no doubt that the latter was the prototype of the Eskimo craft. A model of a wooden canoe from Chenega in the Berlin museum, IV A 6255, is shaped more like the Tlingit type with strongly projecting stem and stern². On the side is the figure of a whale with a high dorsal fin painted in red and black, together with some incomprehensible scrolls reminiscent of a misunderstood Tlingit design. Ma Tiedemann mentioned a "sealskin" canoe called *ARAKVIQ*; apparently this word is identical with the Eyak term for a small dug-out, *âxâki* or *âkâki*³, and may be the Eskimo appellation for the dug-out. Sealskin canoes are otherwise unknown.

Land Transportation.

Needless to say, a geographical environment like that of the Chugach territory is very badly adapted to the use of the dog sledge. There is no firm winter ice, and the heavily forested mountains make driving extremely difficult. The early explorers never mention dog sledges from Prince William Sound. Nevertheless we were informed that the Chugach had a sort of toboggan for instance for hauling home trees. It was made of a single wooden plank bent up in front and completely shod with baleen. Along the sides were short wooden uprights connected along the top with the lines that kept the front part from becoming unbent. This railing prevented the load from slipping off. The sledge was drawn by three or four dogs hitched tandem, with a trace on both sides. The harness was made of sealion skin and had one loop for the neck and one for each foreleg. No whip was used. The dog signals were "ki'ta, ki'ta", meaning "go ahead", and "t'la", properly "enough", but here used as a signal to halt. For going to the right or to the left the driver only pointed in the direction with his arm.

Dogs were also employed as pack animals, and in that case they carried a skin bag on each side. Their principal use was, however, for hunting. In the tale of the Woman who Married a Dog (p. 152) it is told that the brothers were unable to hunt because they had no dog. We have no specific information of the aboriginal type of dogs. Those seen in the Sound at the present day look small and rather underfed and are probably no longer of true native breed, although Dr. George G. Goodwin, who has examined the dog bones from our excavations, found a close resemblance between a dog skull from the Palugvik shell heap and a dog photographed at Chenega. It may be surmised that the aboriginal dogs looked something like those of the Eyak that were described as being about the same size as the Eskimo "husky", with pointed prick ears and a bushy tail⁴.

The dogs had names and might be named for a dead dog, but there was no fixed rule. Examples of dog names are: *qutik'a*, "the one that walks alone"; *RAQARCIKIT*, "the blister"; *muxniaun*, "the one that wants to suckle"; *citanukjilujog*, "the one that has never been towed", referring to the fact that the owner had killed a bear which he towed home in his *baidarka*; *nipske*, "the one that is welded together", because the owner was a smith. If a dog bit a person it was never punished, for otherwise the wound would not heal, but

¹ Birket-Smith & de Laguna 1938, 45 ff.

² Cf. Niblack 1890, pl. XXXIII, fig. 170, but without stem figures.

³ Birket-Smith & de Laguna 1938, 550. The phonetic

system there differs somewhat from that employed in the Eskimo words; the *x* corresponds to our *n*.

⁴ Birket-Smith & de Laguna 1938, 57.

SKIN BOATS

By Sergius Moonin



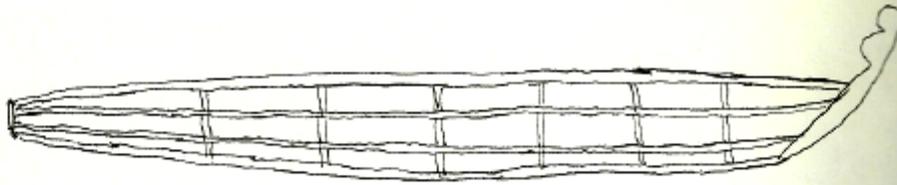
People used to build their own kayaks. Kayak builders were very skilled carpenters. When they get the wood, they know what kind of tree and how long and straight(it should be) for the kayak. They know how many long strips they need. Then they bend them and lash them together.

There were no nails (back then) so they used a small tree root. They dug it up, split it, soaked it and they tied it up. It was (so) tight you couldn't move it. All kinds of tools (were used). Some tools were hard to handle. Different sizes of knives (were used).

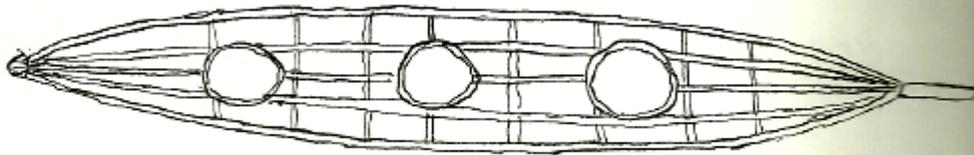
After you have your frame finished, let it set in the sun all day. It has a sharp bow. It is nice and straight.

Then comes the skin. You use exactly nine seal skins to make a fair-sized kayak. I know, 'cause my mom's uncle was a kayak builder. An angyag (a big, open, skin boat) takes 36 seal skins. They cover the skin with moss and soak it in a banya (bath house) and pour on the hot water. Next day, scrape off the hair and stretch it outside. Let it dry. Now, you cover the frame and the ladies have to sew it with a whale sinew cut really fine.

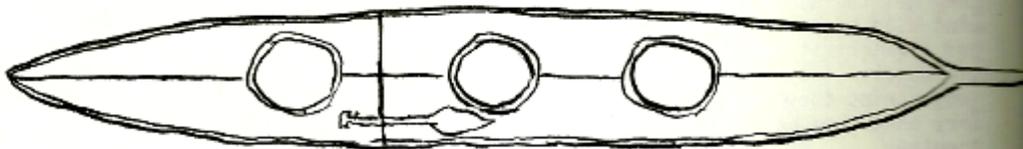
When the kayak is finished, let it dry and tighten. Then oil it with seal oil. Then it will last a long time. Next year or two, change the skin.



Side View Frame



Top View Frame



Top View Completed

Story by
As told by
Art work by
Layout by

Vincent Evans
Sergius Moonin
Vincent Evans
Jeff Evans

ORAL HISTORY WORKSHEET

Grade: 3-5

Estimated time: 90 minutes

Standards: History A4, A5, A6, A8, A9, B1a, B1b, B3, B5, C2, C3, C4, D1; Government C4, G2; AK Cultural A3, A4, D1, D3, D5, E3, E8

Focus: In this activity students will learn about their Sugpiaq traditions by listening to interviews with Elders and experts. Additionally, students will also gain experience in historical research methods, and will develop an understanding of culture as a constantly changing attribute of life.

Vocabulary words:

Sugt'stun: **Sugpiaq, Sugt'stun, Napakcak** – Big tree, **Tilirluki** – to split it even

English: History, Oral History, Written History, Research Method, Collection, Agreement, Knowledge

Materials/Resources:

- Project Jukebox on the Internet (www.jukebox.uaf.edu)
- Smartboard with good speakers or computer with good speakers
- Copy of worksheet (one per students, see below)
- Fishing Spear
- Fishing Line/Rope
- Fishing Hook

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Review Jukebox procedures and material prior to class
- Make copies of worksheet (one per students, 2 pages per packet)
- Check audio equipment in advance
- *Optional:* Contact and invite a historian, oral history expert, ethnohistorian or archivist to help student understand the concept of historical research.

Activity Procedure:

A: Introduction to oral history

1. Brainstorm with students: What is history? How do we know what happened in the past? What is oral history? What does the word “oral” mean? How is oral history different from other kinds of history? What can we learn from oral history? How can we use oral history?

B: Introduction to Jukebox

2. Explain students that they will be listening to an interview by an Elder from Nanwalek who has passed on. He will be talking about various kinds of fishing techniques used by Sugpiaq people.
3. Explain the significance of jukebox.
4. Make sure to walk through the pages together with the students, explaining each page.
 - a. Page 1: Project Jukebox. Explain students that this is an internet website and that they can visit it by using their computers at home. Show them the various collections at the bottom of the page, highlighting one-or two that might interest them. Show them how to find Nanwalek / Port Graham
 - b. Page 2: Site Use Agreement: Explain why is it important to follow the rules outlined in the agreement, and why is it allowed for you to accept it.
 - c. Page 3: General introduction
 - d. Page 4: Background History: Scroll through the page pausing on the pictures, while explaining to students that they can find background historical information on this page.
 - e. Page 5: “The Unegkurmiut”: Explain that this is information on Lower Kenai Peninsula Sugpiaq history.
5. Upon reaching the Nanwalek / Port Graham page, explain the type of information and interview topics available here. First click Port Graham, than go back to Nanwalek. (In Port Graham and Nanwalek: stop to discuss each person identified on these pages. Ask students to identify these people by name, relationship to them, etc)

C: Listening to stories, comprehending material through discussion, completing worksheet

1. Select the Vincent Kvasnikoff collection. Explain that this interview was recorded in 1997. How many years ago was that? (In Nanwalek and Port Graham ask students to identify Vincent Kvasnikoff, such as how is he related to them, short stories etc.)
2. Listen to the 12th interview by Vincent Kvasnikoff on Yum Yum Tree. Discuss students what they have heard.
3. Replay segment, ask students to follow the interview closely while looking at their worksheets.
4. Discuss worksheet questions.
5. Replay segment while students complete their worksheets.
6. Listen to the 13th interview by Vincent Kvasnikoff on Fishing. Repeat the procedure described above (steps 2-5).
7. Discuss what students have heard and learned in this activity. Ask students to reflect on what they learned about the relationship between people and salmon from Vincent’s stories. Emphasize the importance of local knowledge regarding fish habitat, fish behavior, fish life cycle, fishing, fish preservation, etc.
8. Collect completed worksheets to use in the last unit of the Heritage Kit Experience. (After the presentation, students will be allowed to take all their work home).

ORAL HISTORY WORKSHEET

Interview with Vincent Kvasnikoff

Name: _____

Grade: _____

A. Questions on Yum-Yum tree (interview 12)

1. Who is the interviewer? _____

2. Who is the person being interviewed? _____

3. What languages do Vincent and Nick speak in this interview?

4. Where was Vincent born and raised? _____

5. What does the area around Yum-Yum Tree look like according to Vincent? Is it similar to the salmon habitat in your area?

6. Is Yum-Yum Tree similar to the salmon habitat in your area? How so? If not, how is it different?

7. Why did the place with the Sugt’stun name **Napakcak** (big tree) get the English name Yum-Yum Tree?

B. Questions on Fishing (interview 13)

1. Vincent talks about round-hauling with a seine at the beach, first hole and lagoon for salmon. Explain why did they used to do this?

2. What does the word “**Tilirluki**” mean? _____

3. What time of the year did they use to make dried fish out of red salmon?

4. What time of the year did they use to get silver salmon?

5. How did they use to put away fish for the winter? Why? Explain.

FISH RECIPE COOKBOOK

Grade: 3-5

Estimated time: 1 school-day (long version) or 3 hours (short version)

Standards: World Languages A3, B2; Library B2, B3, B4, B5; History A6, D6; Skills for Healthy Life C6; AK Cultural A3, A6, D1, D3, E8

Focus: In this activity 3-5 grader students learn about the culinary aspect of Sugpiaq culture. They also have the opportunity to build on their own knowledge on fish preparation and cooking by connecting their previous experiences to Sugpiaq traditions. Through this activity students will learn to associate specific fish meals as an integral part of Sugpiaq ethnic identity, in addition to learning about fish as a nutritious and healthy food choice. In the longer version of this activity, students will also have an opportunity to practice making the various dishes with the help of Elders and experts. The meals prepared in this activity can be served during the potluck included in the following activity.

Vocabulary words:

Sugt'stun: **Tamuuq** – Dried fish, **Palik** – Smoked fish, **Qaryat** – Fish eggs, **Iqallum Nasqua** – Fish head, **Sekiak** – Smoked and baked fish, **Piluk** – Fish pie, **Uumatak** – Boiled half-dry fish

English: Culinary, Preservation, Nutritious, Omega-3 fatty acids, Citation, Illustration

Materials/Resources:

- Pictures of various fish dishes (included in Kit)
- Ingredients of fish dishes (varies on availability of Elders/Experts)
- Paper
- Scissors
- Color pencils or Crayons
- Drawing paper
- 3 hole punch
- Colorful ribbon
- Glue stick
- Digital Camera
- Photo paper (or normal printing paper)
- Color printer
- Alexandrovsk books (for recipes, one copy included in the Kit)
- Preserving Salmon Roe In: Derenty Tabios, *Looking Back on Subsistence*(one copy included in the Kit)

- Notebooks
- pens

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Check classroom supplies
- For longer version: Locate and make arrangements with Elders and experts on making a fish dish. If more than one person is available for cooking a dish, divide students into groups and request a substitute teacher for the day to help chaperon children to different locations
- Ask permission for field trip
- Check with parents on fish allergy information
- Check that camera and color printer are in working order
- For shorter version: check classroom supplies
- An Elder/expert can be invited to share his or her knowledge on preparing Sugpiaq fish dishes. Explain Elder/expert the procedures of the class, and the work students expected to accomplish so that the Elder/expert can plan ahead.

Activity Procedure:

A: Brainstorming on cooking and eating fish

1. Ask students what is their favorite salmon to eat? What is their favorite salmon dish? What parts of salmon do they eat? How is it prepared?
2. Ask students to list as many dishes made of salmon as they can think of. Record their answers on the board. Use pictures of fish dishes from the Kit.
3. Ask students to reflect on the question: why is salmon so important for Sugpiaq people? Direct students to think about the nutritional value of salmon, as well as its role in a healthy diet, introducing the concept of Omega 3 fatty acids.
4. Explain students the procedures of the cookbook activity. Be specific on the expectations regarding participation and completed work.

Longer version:

B: Field trip to Elder’s house to learn how to cook specific fish dishes

1. Review fieldtrip procedures with students. Remind them the reason for the visit, and the work they need to accomplish. Remind them to stay with the group in transit, and to be respectful with their Elder, as well as with each other.
2. Once at the Elder’s house, explain students that they will need to take notes on what is being said. Explain them that they should not rely on each other in note taking; rather, write as much information down as they can. This way, as a group, they will be able to record more details than by themselves.
3. During the Elder’s presentation take pictures, record recipe and monitor students’ behavior.
4. Make sure students thank the Elder/expert for hosting the class and teaching them about Sugpiaq traditions.

C: Return to classroom to assemble cookbook

1. Once in the classroom, ask students to share their experience and reflect on what they have learned.
2. Review cookbook assembly procedures with students.
3. Assign tasks based on students’ interest and talents. This can be done individually, or in small groups. The book needs the following pages:
 - Front Cover (title, authors, illustration)
 - Foreword by teacher
 - Acknowledgment page (Elders / experts)
 - Recipe pages (each recipe page contains the recipe and a photograph OR illustration)
 - Back Cover (List of students, year, school district)
4. Once all the pages are assigned, give students time to plan out their page. Make sure that each recipe taught by an Elder is transcribed and assigned to student(s). If there was only one Elder visited, create recipe for that particular page with students, and then assign them a new page to create on their own and with the use of books and additional resources listed above.
5. Prompt children to find a recipe they like in one of the books provided. Have them copy the recipe onto a piece of paper (including citation). Instruct children to decide the position of the material on their recipe page, as well as any photographs or illustrations the might have.
6. Give children at least 2 hours to complete their task.
7. Scan the completed pages into a computer and print out at least 3 color copies. Optional: laminate color copies if you have access to a laminator. Also print out black and white copies for students.
8. Punch holes in the Cookbook pages and tie them together with a colorful ribbon.
9. Keep color copies for Presentation and Potluck.

Shorter Version:

A: Assemble cookbook (each page is prepared by a different students)

1. Review cookbook assembly procedures with students.
2. Assign tasks based on students’ interest and talents. This can be done individually, or in small groups. The book needs the following pages:
 - Front Cover (title, authors, illustration)
 - Foreword by teacher
 - Recipe pages (each recipe page contains the recipe and a photograph OR illustration)
 - Back Cover (List of students, year, school district)
3. Once all the pages are assigned, give students time to plan out their page.
4. Prompt children to find a recipe they like in one of the books provided. Have them copy the recipe onto a piece of paper (including citation). Instruct children to decide the position of the material on their recipe page, as well as any photographs or illustrations the might have.
5. Give children at least 2 hours to complete their task.

6. Scan the completed pages into a computer and print out at least 3 color copies.
Optional: laminate color copies if you have access to a laminator. Also print out black and white copies for students.
7. Punch holes in the Cookbook pages and tie them together with a colorful ribbon.
8. Keep color copies for Presentation and Potluck.

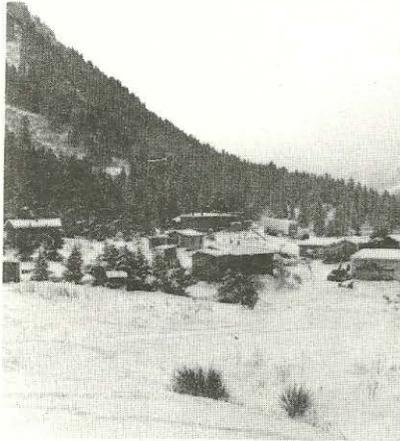
INFLUENCES

WESTERN-AMERICAN

Rock-N-Roll- Is very popular in English Bay. English Bay has its own band that entertains them.

Transportation- Today people here use planes to get in and out of the village, along with the boats. In English Bay, we use three-wheeled Hondas, snow machines and bikes to get around.

Soccer- Is a game that is often played by the kids in English Bay.



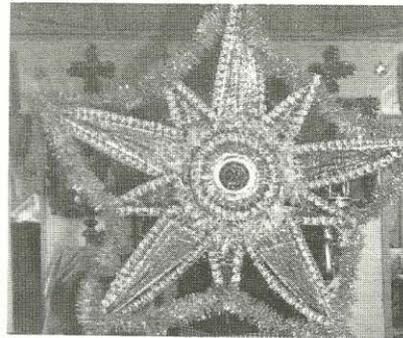
Education- In English Bay, we have a school with 39 students enrolled in grades K-12. The school was built in 1958, but has some modern facilities. The Kenai Borough maintenance staff does repair jobs whenever they are needed.

Thanksgiving- We all get together in our village, about the same as anywhere else. The people get together and celebrate with their relatives and friends.

RUSSIAN

Great Lent- If you are a Russian Orthodox Christian, you take part in the Great Lent fasting and pray for seven weeks before Easter. During the seven weeks of Lent you are fasting, not using certain foods such as meat and dairy products, and not taking part in entertainment such as dice, dancing, cards, and playing ball games.

Christmas- Is celebrated on January 7th. The Russian Orthodox Church still uses the Julian calendar which is 13 days behind the Gregorian Calendar. The calendar year was 11 minutes and 14 seconds longer than the solar year.



By A.D. 1580, this difference had accumulated to 10 days. Pope Gregory dropped 10 days from October to make the calendar year correspond more closely to the solar year. He also ordered that each fourth year would be a leap year, when February would have an extra day.

Starring- Is another word for caroling, except the words to the songs are sung in Russian. Groups of people walk around the village carrying a star. The star has an Icon of Virgin Mary in the middle. While the outside part of the star is being twirled, the carolers are singing. There are treats on the table for when the carolers are finished caroling.

Masking- From January 8-17, people put on masks to disguise themselves and dance in front of the people.

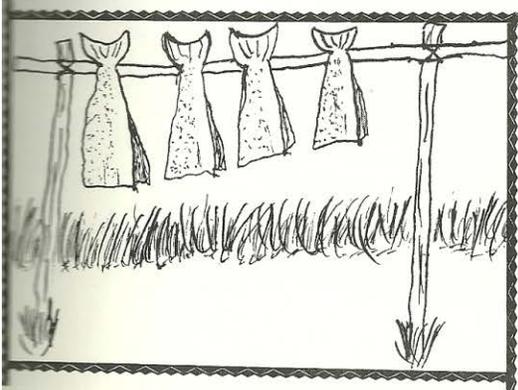
Piraskies- A popular food and the same as "Fish Pie", it is made into smaller pies and fried till brown.

Salt Fish- Is made of salt and fish. You put the fish in a bucket or barrel and sprinkle some salt on the fish.

ALEUT

Clothing- Long ago the clothes were made from animal fur and gunny sacks. Sinew from whale was used for thread. Needles were made from birds' legs.

Akuutaq- Is made with fermented fish eggs, Wesson oil, and mashed potatoes. Before, it was made with seal-oil, fish eggs, and water.



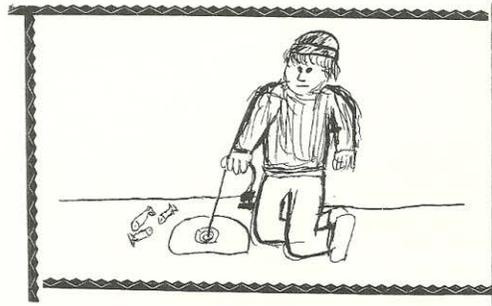
Dried Fish- Is made by cleaning the fish and then hanging them out to dry.

Seal-Gut-Raincoat- Was made of seal-gut, after it was dried. Sinew from whales were used as thread. Then the gut was cut into shapes and sewn together.

Hunting & Trapping- You either use a trap or a gun. You put the trap where you think you'll catch something. Put the bait on and check on it, or just go hunting with a gun. That's how the men do it now.

Smoked Fish- Clean your fish, cut and dry it in open air for a few days. Then smoke it in your smokehouse.

Boiled fish- Just clean the fish and put them in boiling water. Add spices or whatever you want.



Fishing- Before they used poles and a hook to catch the fish, they had spears. When they go ice fishing they use a stick, line, and a hook to catch the fish.

Story by

Emily Kvasnikoff
and Anita Evans

Artwork by

Jeff Evans

Layout by

Anita Evans



Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

RECIPES

For information on local recipes, I interviewed several ladies.

Here are some hints from Natalie Kvasnikoff on how to get bidarkis.

First you take a knife and a bag or pot and go down to the reef. You pry the bidarkis off the reef or behind English Bay point--it's a quarter of a mile from the village to the other side of the point.

There is only one kind of bidarkis that can be cooked. Here's how you do it: Put them in them in the water and boil them 5 to 10 minutes, till the skins peel off. The bidarkis get soft.

There is another bidarki called the "lady slipper." It is much bigger than the regular bidarkis. It has some reddish color on it and you have to scrape it off with a knife. You can't cook them. You can eat them raw with Lea & Perrins sauce, Vinegar and onions--if you want.

Apqaqenka qaugcin Nanwalemi
arnai qaillun egaalartat.

Ggwaten Nataaliam quliruus-
kiinga urriitaliunermeq:

Tuulluten nerusimerk taumi
qalltamek gqwall'u cukunamek
taumi atrarluten teggallqumen,
akmani. (Qantuq-ggwani cingim
tunuani).

All'ingurpiat tamaakucit
urriitat taugkut egaalarait.
Ggwaten asircarlaaten: Mermen
eklluki taumi qallagkwarluki
talliman gqwall'u qula minutat,
qalltait yuukata taumi uttiitat
unaiyuskata agwarluki pelit'aamek.

Alla uritaq aperlaraat
urriitarpagmek. Angekcaglartut
kewirluteng amiit, nerusimek
taumi amiit keligluki. Ukut egaa
lanetait qasaqiiarluki pitur'
larait Lea & Perrin sauce-mek uk-
susaamek taumi lugmek pilirluki
piugcikuneng piturlarait.



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AGUDAQ

from Juanita Melsheimer

- 3 T. fermented fish eggs
- 6-8 good sized potatoes
- ½ c. Wesson oil

Fermented fish eggs (are fish eggs that were kept in a jar for a month.) First, when we open the jar of eggs you'll hear the air come out of it. Then you'll know it's okay.

This (the amounts) depends on how much you want to make. If you're making say about 8 cups of this recipe (use these amounts):

1. Boil potatoes, about 6-8 potatoes, (good sized potatoes).
2. 3 Tablespoons of fish eggs. Stir to sort of loosen up eggs, add ½ cup of Wesson oil, stir until thick. (It will look like mayonnaise.) If not thick you might need to add more Wesson oil.
3. Drain water out of pot and mash the potatoes and mix in with the fish eggs and Wesson oil. Mix and eat, m-m-good!

BIDARKI CHOWDER

from Juanita Melsheimer

- ½ c. rice
- 2 whole potatoes
- some onions, chopped
- some salt and pepper
- ½ cube butter
- ½ c. milk (canned)
- some bidarkis

First boil ½ cup of rice and 2 potatoes and chopped onions and salt and pepper and ½ cube of butter. Then when they are all cooked, chop up bidarkis to little pieces and take your pot from the stove, add bidarkis and add 1 or 2 cups of milk (canned).

AKUTAQ

Arina'askengai iqallut qaryait (iqallut qaryait ang'aqu-rraa jar-mi all'inguq iraluo). Nalluniniitan asiumuut ik'terr-aaquu ellciquq piureskuneng eskuneng qaryat. Egaaiuten arwinlegnek gqwall'u inglulegnek kaltuuggaanek angtaqiqegqanek kaltuuggaanek taryirluki, pinga'unek luuskaakcagnek qaryanek. Pekaglluki uregkwarluki qaryat, ilaluku caskam qupiinek uqumek pekaglluku tumaq'arnat-inun, ayuqegkwarluku mayonnaise, uqumek ilaluku ellmaa'aq tumaq'an-ellkan. Meq anlluku cukunamek taumi urqelluki kaltuuggaat taumi aku'ulluki qaryanun taumi piturluku. Mmm asirlartuq.

URRIITAQ SUUPAQ

Caskam qupiinek kilup'aamek mal'ugnek kaltuuggagnek qupurllu-llukek gqwal'u naaten piugciyuu. Caskam qupiinek lugmek (qupurlluku) Tar'irluku taumi piiliciirluku naaten piugciyuu. Qupiinek maaslam, piugcikuut ilaluku cacane allanek. Naul- raat asirlartut cali. Qallagkwarluki mermi (8-12) caskat, uskaki taumi cukunaq agwarluku pelit'aamek urriitaten.

SALT FISH

from Juanita Melsheimer

You clean the fish. Cut split fish and scrape it well with a knife. Wash out all the slime and then sprinkle salt in bottom of barrel. Then put (in) another fish, and the same way until you fill the barrel full. Then make brine: put 10 or more cups salt in water and bucket of water. First dissolve salt well, stir it with a big spoon and pour it over fish. Cover all the fish. Then put weight on like big rocks and cover them well with an old rain coat or anything, but don't use plastic or trash bags as fish get old fast and don't stay fresh. Tie a string all around it.

RHUBARB JAM

from Juanita Melsheimer

2 handfuls Rhubarb stalks
1 pkg. Sure-jell pectin
4 c. sugar
1 pkg. Strawberry Jello (opt.)

If you have 2 handfuls of rhubarbs, wash them real good and then cut them up about $\frac{1}{2}$ inch (lengths) and cook them. Add warm water almost to cover rhubarb, but don't put too much water. When they start to boil, add sure-jell. Boil 1 to 2 minutes, then add all 4 cups of sugar. Boil for 4 minutes, just hard boiling--I mean boil them real hard. Take your jam off the stove. If you like, add 1 pkg. of strawberry jell-o for more flavor.

Written by Becky Kvasnikoff
Sources Natalie Kvasnikoff, Tessie Moonin
Pauline Moonin, Juanita Melsheimer
Art work by Wasaka Matthews
Layout by Kathy Kvasnikoff

QASAT

Segluki iqallut nasqirluki taumi pamyuirluki atan'it yuuluki keligluki taumi urtungia'arluki, pilirluku taryumek aciakun puckam, patuspia acia. Taumi mal'uk iqalluuk lliilukek natranun puckam taryirluku tawaten lliilarluki tatarhnatiinun puckam, naaten piugciyuu.

Taumi allakun cukunakun ggwall'u puckakun mel'iluten taryuq urugceslluku pekaglluku luuskaakcagmek. Taumi kataglluku meq iqalluut patuluki, tawaken ngigcirluku yaamarmek. Taumi cacamek patuluki, plastic-mek aallu. Atuquut plastic-mek ari-nariiciqaten.

Quunarlingqerreskuut mal'ugnek aiggan imirluku itnek urturluki asircarluki. Maqaruarqamek mel'irluki patuwayarluki quunarlit, am mel'irpakarkunaki. Qallakata surejell-lirluki. Taumi qallagkwarluki anglikcak all'inguq ggqall'u mal'uk minutak. Petgeruaqina qallagkwarluku pelit'aamek agwarluku taumi egia'aq. Piugcikuut ilayumaan all'ingumek al'anguamek atsaarmek. Piturnircesllarai.



PRESENTATION AND POTLUCK

Grade: 3-5

Estimated time: 1 day

Standards: English A3, A4, A6, C4, C5a,b,c,d,e; World Languages A2, A3, C1; Art A1, A2, A3, A5, A6; B8, D6; AK Cultural A1, A3, A5, D1, D3, D6, E8

Focus: This activity is designed as the closing “ceremony” of the Heritage Kit experience. It can be organized by only by the 3-5 grade group on a smaller scale, or in cooperation with the other grade groups involving the entire community. It is also designed as a full day-long activity, providing ample time for preparation for both the presentations and the potluck. Students will have the opportunity to show their families and community members what they learned about salmon and salmon fishing. Students will also further their cultural awareness and take pleasure in their accomplishments in learning about fishing in the Sugpiaq cultural context by the positive reaction of, and reinforcement from, the community.

Vocabulary words:

Sugt’stun:

English:

Materials/Resources:

- All artwork produced by students during the Kit experience
- If photographs were taken during the activities, a selection of photos in print version
- Double sided tape, scotch tape, thumbtacks etc. for securing student’s work on walls
- Copies of invitation to Presentation and Potluck (one per student)
- Parent sign-up sheet for potluck dishes

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Make copies of the invitations, one per child
- Check with other teachers, if they are willing to cooperate in the presentations and potluck
- Check with principal regarding room assignments, using the cafeteria, or other large room where presentations can be held
- Contact parents regarding sign up for potluck dishes. If the entire school participates, some food will be provided by students in higher grades
- Check with principal whether the school can contribute any dishes to the potluck
- Collect all the art work children produced during the kit experiences
- Print out photographs, if there was any taken during the kit experience

Activity Procedure:

A: Decoration of room

6. Explain students what is expected of them during the presentation. Congratulate them on their accomplishments, and explain that their relatives and community members are interested to see what is it they learned.
7. Ask students to help securing their artwork on the walls of the room where the presentation will take place and to help with arranging the photo display area.

B: Preparation and presentation

1. This section of the activity can be tailored to specific talents, student bodies and situations. Teachers, based on their knowledge of their students can assign tasks to individuals, small groups, or the entire class
2. Students can practice talking about their experience with fishing, learning new Sugt’stun words, their favorite activity, their favorite fish dish etc.
3. Provide at least 3 hours for students to practice their performance.
4. If other grades are participating as well, make sure to have at least one practice run in the presentation room with the all the grades present.
5. Arrange for students to help prepare a simple dish for the potluck.

C: Potluck

1. Remind students that they need to be respectful to Elders, and instruct them to go around the room and ask Elders if they needed anything before they get their own food.
2. 3-5 students will be responsible for setting up potluck area and arranging all foods and dishes. Also, 3-5 students will greet parents and guests as they arrive to the school.

Cuumi Iqalluggsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

Dear Parents and Guardians,

Our _____ grade class participated in the **Cuumi Iqalluggsuucillrat “Iqalluk”, Old Fishing “Salmon” Heritage Kit** experience in the past two weeks. Through this curriculum, created by Chugachmiut, students learned about salmon and salmon fishing in a traditional Sugpiaq context.

We would like to invite you to please join us on the _____ of _____, 20____, as our students share their newly acquired knowledge through a presentation, which will be followed by a potluck.

If you wish to contribute a dish, please contact _____

We are looking forward to seeing you at the presentation!

Sincerely,

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

Overview of 6-8 activities

	What is a salmon?	How to catch a salmon?	What do we think about a salmon?
	Anatomy and Life Cycle	Tools and Techniques	Fishing in Social Context
6-8	<ul style="list-style-type: none"> - Salmon Species Poster - Internal External Parts Dissection Game - Life Cycle Migration Board Game 	<ul style="list-style-type: none"> - Habitat Local Map - Fishing Techniques Worksheet - Fish Net Repair 	<ul style="list-style-type: none"> - Making Smoked Salmon - Compare-Contrast Essay - Presentation and Participation in Potluck

SALMON SPECIES POSTER

Grade: 6-8

Estimated time: 150 minutes

Standards: English C5; Science A3, B2, F1, F2, F3; World Languages A4; Library B2, B3, B4, B5, B6; AK Cultural A4, C1, E2

Focus: In the first unit of the Heritage Kit Experience students will learn to identify the five Pacific salmon species based on physical appearance as well as habitat characteristics. Students will also learn to combine Sugpiaq traditional knowledge with marine biology through hands-on activities. Finally, by creating a poster based on the information presented, students will internalize the unit material, and think about its relevance in relation to their own lives.

Vocabulary words:

Sugt'stun: **Qakiaq, Amartuq, Nikliq, Lluq'akaaq, Alimaq**

English: Pacific Salmon Species, Salmonids, Cooperation, Exhibition

Materials/Resources:

- Salmon Prints (included in the Kit)
- Large Cardboard paper for Posters (one per group)
- Color pencils, markers and crayons
- Scissors
- Glue sticks
- Nanwalegmiut Paluwigmiut-Illu Nupugnerit (on copy)
- Salmon Species In *Looking Back on Subsistence* (one copy per group)
- Salmon Species work page (one per group)
- Planning Guide (one per group)

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Check classroom supplies (cardboard, color pencils etc, scissors, glue stick)
- Review readings and activity procedures
- Makes copies of planning guide and salmon species work page

Activity Procedure:

A: Introduce topic, explain activity

1. Explain students that this is the first unit in a series of activities they will be completing on Sugpiaq salmon and salmon fishing.
2. Brainstorm with students on the variety of salmon they know, have seen, and have eaten. Use salmon prints to illustrate students' answers, help recall their memories, or to

introduce salmon species if they have no knowledge of most of them. Record students' answers on the board.

3. Explain to students the activity procedures. Point out the different stages in the activity and be specific on the requirements for the final product.
4. Separate students into small groups (approximately 3-5 students in a group)

B: Gathering data and making Posters based on information presented

1. Explain that each poster will need to have a drawing or representation of all five salmon species
2. Distribute Salmon Species work page. Explain that students need to locate four facts of their choice on each salmon species (4x5= 20 facts total) and incorporate them into their Poster.
3. Distribute Salmon Species In *Looking Back on Subsistence* to groups. Explain that students need to locate one fact on each salmon species to incorporate them into their posters (1x5= 5 total)
4. Point out the Sugt'stun – English dictionary and tell students that each group needs to look up the Sugt'stun names for all five species of salmon and incorporate them into their poster.
5. Distribute Planning Guide. Explain students that the Planning Guide will help them collect and organize the information needed to make their posters. Make sure to emphasize that once they collect all the required information, they are completely in charge of the design of their posters. They can use a variety of illustrations as long as all the information is presented on their final work.
6. Remind students the importance of cooperation in working as a group, as well as the significance of assigning tasks and sharing responsibility.
7. Give ample time for students to complete their data gathering and drawing.
8. Circulate amongst the groups and help students with their work.
9. Once all posters are complete, display them in the classroom or in the hallways. Walk through the “poster exhibition” with the students as a group and discuss each work.
10. Save posters for the last unit of the Kit (presentation and potluck).

SALMON SPECIES POSTER

Planning Guide

Name of students in the group:

1. Read Salmon Species Work page and decide, as a group, what information you want to use.

Fish	Pink	Chinook	Sockeye	Chum	Coho
Other name(s)					
Fact 1.					
Fact 2.					
Fact 3.					
Fact 4.					

2. Look up Sugt'stun names for each salmon species

Pink - _____

Coho - _____

Chum - _____

Sockeye - _____

Chinook - _____

3. Read Salmon Species In Looking back on Subsistence. Decide, as a group, what information you want to use.

Fish	Pink	Chinook	Sockeye	Chum	Coho
Facts					

4. Decide on the layout of your poster. Use the other side of this paper to plan.

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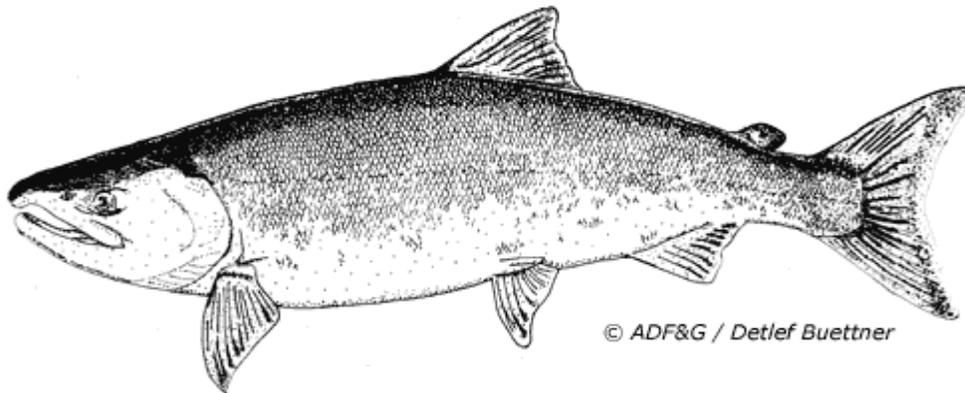
5. Start drawing!

SALMON SPECIES POSTER

Work page

Information adapted from the Alaska Department of Fish and Game Wildlife Notebook Series
<http://www.adfg.state.ak.us/pubs/notebook/noteshome.php>

1. Chum Salmon

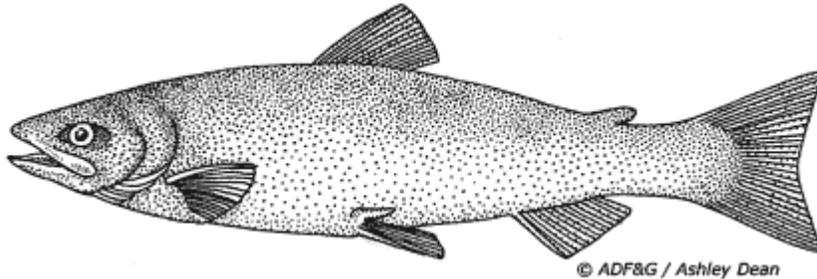


Chum salmon (*Oncorhynchus keta*) In the north chum salmon range east in the Arctic Ocean to the Mackenzie River in Canada and west to the Lena River in Siberia. Chum salmon are the most abundant commercially harvested salmon species in arctic, northwestern, and Interior Alaska, but are of relatively less importance in other areas of the state. There they are known locally as "dog salmon" and are a traditional source of dried fish for winter use.

General description: Ocean fresh chum salmon are metallic greenish-blue on the dorsal surface (top) with fine black speckles. They are difficult to distinguish from sockeye and coho salmon without examining their gills or caudal fin scale patterns. Chum have fewer but larger gillrakers than other salmon. After nearing fresh water, however, the chum salmon changes color—particularly noticeable are vertical bars of green and purple, which give them the common name, calico salmon. The males develop the typical hooked snout of Pacific salmon and very large teeth which partially account for their other name of dog salmon. The females have a dark horizontal band along the lateral line; their green and purple vertical bars are not so obvious.

Chum salmon spawning is typical of Pacific salmon with the eggs deposited in redds located primarily in upwelling spring areas of streams. Female chum may lay as many as 4,000 eggs. Chum vary in size from 4 to over 30 pounds, but usually range from 7 to 18 pounds, with females generally smaller than males.

2. Sockeye Salmon



The **sockeye salmon** (*Oncorhynchus nerka*), often referred to as "red" or "blueback" salmon, occurs in the North Pacific and Arctic oceans and associated freshwater systems. This species ranges south as far as the Klamath River in California and northern Hokkaido in Japan, to as far north as Bathurst Inlet in the Canadian Arctic and the Anadyr River in Siberia. Aboriginal people considered sockeye salmon to be an important food source and either ate them fresh or dried them for winter use.

General description: Sockeye salmon can be distinguished from Chinook, coho, and pink salmon by the lack of large, black spots and from chum salmon by the number and shape of gill rakers on the first gill arch. Sockeye salmon have 28 to 40 long, slender, rough or serrated closely set rakers on the first arch. Chum salmon have 19 to 26 short, stout, smooth rakers.

Immature and prespawning sockeye salmon are elongate, fusiform, and somewhat laterally compressed. They are metallic green blue on the back and top of the head, iridescent silver on the sides, and white or silvery on the belly. Some fine black speckling may occur on the back, but large spots are absent. Juveniles, while in fresh water, have the same general coloration as immature sockeye salmon in the ocean, but are less iridescent. Juveniles also have dark, oval parr marks on their sides. These parr marks are short-less than the diameter of the eye-and rarely extend below the lateral line. Breeding males develop a humped back and elongated, hooked jaws filled with sharp caniniform teeth. Both sexes turn brilliant to dark red on the back and sides, pale to olive-green on the head and upper jaw, and white on the lower jaw.

Sockeye salmon are anadromous: they live in the sea and enter freshwater systems to spawn. Like all Pacific salmon, sockeye salmon die within a few weeks after spawning.

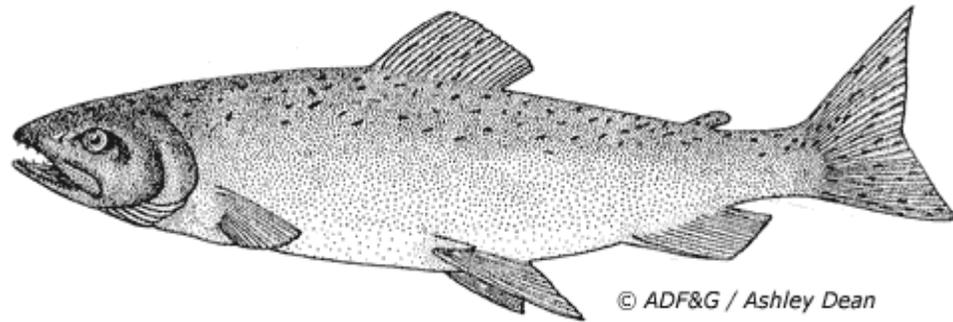
Maturing sockeye salmon return to freshwater systems from the ocean during the summer months, and most populations show little variation in their arrival time on the spawning grounds from year to year. A female usually deposits about five batches of eggs in a redd. Depending upon her size, a female produces from 2,000 to 4,500 eggs.

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“Salmon”

Eggs hatch during the winter. Sockeye salmon return to their natal stream to spawn after spending one to four years in the ocean. While returning adults usually weigh between 4 and 8 pounds, weights in excess of 15 pounds have been reported.

3. Chinook Salmon



The **Chinook salmon** (*Oncorhynchus tshawytscha*) is Alaska's state fish and is one of the most important sport and commercial fish native to the Pacific coast of North America. It is the largest of all Pacific salmon, with weights of individual fish commonly exceeding 30 pounds. A 126-pound Chinook salmon taken in a fish trap near Petersburg, Alaska in 1949 is the largest on record. The largest sport-caught Chinook salmon was a 97-pound fish taken in the Kenai River in 1986. The Chinook salmon are also called king.

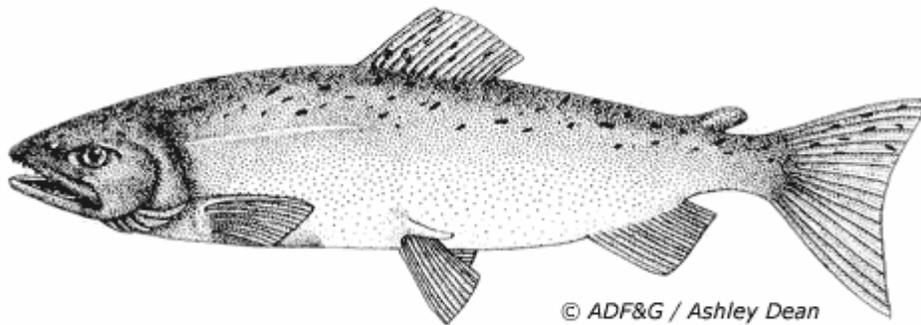
Range: In Alaska, they are abundant from the southeastern panhandle to the Yukon River. Major populations return to the Yukon, Kuskokwim, Nushagak, Susitna, Kenai, Copper, Alsek, Taku, and Stikine rivers. Important runs also occur in many smaller streams.

General description: Adults are distinguished by the black irregular spotting on the back and dorsal fins and on both lobes of the caudal or tail fin. Chinook salmon also have a black pigment along the gum line, thus the name "blackmouth" in some areas.

In the ocean, the chinook salmon is a robust, deep-bodied fish with bluish-green coloration on the back which fades to a silvery color on the sides and white on the belly. Colors of spawning chinook salmon in fresh water range from red to copper to deep gray, depending on location and degree of maturation. Males typically have more red coloration than females, which are typically gray. Older adult males (4-7 years) are distinguished by their "ridgeback" condition and by their hooked nose or upper jaw. Females are distinguished by a torpedo-shaped body, robust mid-section, and blunt noses. Juveniles in fresh water (fry) are recognized by well-developed parr marks which are bisected by the lateral line. Chinook salmon heading to the ocean (smolt) have bright, silver sides, and parr marks recede to mostly above the lateral line.

Alaska streams normally receive a single run of chinook salmon in the period from May through July. Each female deposits between 3,000 and 14,000 eggs in several gravel nests, or redds, which she excavates in relatively deep, fast moving water. In Alaska, the eggs usually hatch in late winter or early spring, depending on time of spawning and water temperature. In Alaska, most juvenile chinook salmon remain in fresh water until the following spring when they migrate to the ocean as smolt in their second year of life.

4. Coho Salmon



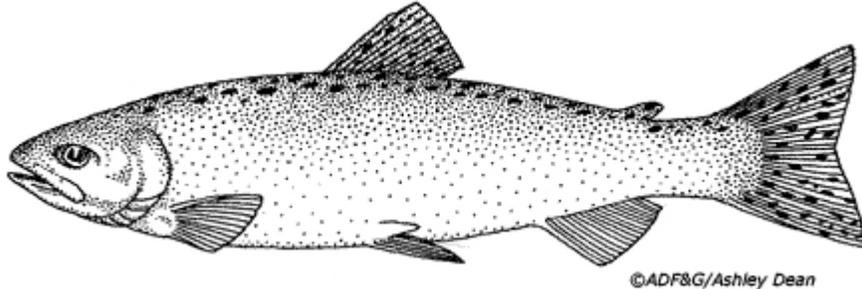
Coho Salmon (*Oncorhynchus kisutch* (Walbaum)) also called silver salmon, are found in coastal waters of Alaska from Southeast to Point Hope on the Chukchi Sea and in the Yukon River to the Alaska-Yukon border. Coho are extremely adaptable and occur in nearly all accessible bodies of fresh water, from large trans-boundary watersheds to small tributaries.

General description: Adults usually weigh 8 to 12 pounds and are 24 to 30 inches long, but individuals weighing over 30 pounds have been landed. Adults in salt water or newly returning to fresh water are bright silver with small black spots on the back and on the upper lobe of the caudal fin (tail). They can be distinguished from Chinook salmon by the lack of black spots on the lower lobe of the tail and by their white gums; Chinook have small black spots on both caudal lobes and they have black gums. Spawning adults of both sexes have dark backs and heads with maroon to reddish sides. The males develop a prominent hooked snout with large teeth called a kype. Juvenile coho salmon have 8 to 12 parr marks evenly distributed above and below the lateral line with the parr marks narrower than the interspaces. The adipose fin is uniformly pigmented and the anal fin has a long leading edge, usually tipped with white. The fins of juvenile coho are frequently tinted with orange.

Coho salmon enter spawning streams from July to November, usually during periods of high runoff. The female digs a nest, called a redd, and deposits 2,400 to 4,500 eggs. The eggs develop during the winter, hatch in early spring, and the embryos remain in the gravel utilizing their egg yolk until they emerge in May or June.

High seas tagging shows that maturing Southeast Alaska coho move northward throughout the spring and appear to concentrate in the central Gulf of Alaska in June.

5. Pink Salmon



The **pink salmon** (*Oncorhynchus gorbuscha*) is also known as the “humpy” because of its very pronounced, laterally flattened hump which develops on the backs of adult males before spawning. It is called the “bread and butter” fish in many Alaskan coastal fishing communities because of its importance to commercial fisheries and local economies. It is native to Pacific and Arctic coastal waters from northern California to the Mackenzie River, Canada, and to the west from the Lena River in Siberia to Korea.

General description: The pink salmon is the smallest of the Pacific salmon found in North America with an average weight of about 3.5 to 4 pounds and average length of 20-25 inches. An adult sea run fish in coastal waters is bright greenish-blue on top and silvery on its sides. Close to fresh water it develops many large black spots on its back and over its entire tail fin. Its scales are very small and the flesh is pink. As fish approach spawning streams the bright appearance of males is replaced by brown to black above with a white belly; females become olive green with dusky bars or patches above and a light-colored belly. By the time males enter the spawning stream it has developed the characteristic hump and hooked jaws. Juvenile pink salmon are entirely silvery, without the dark vertical bars, or parr marks, displayed on the young of other salmon species.

Adult pink salmon enter Alaska spawning streams between late June and mid-October. Various runs (or races) of pink salmon, having a range of spawning times, may share the same river or spawn in adjacent rivers. The female pink salmon carries 1,500 to 2,000 eggs depending on her size. After spawning, both males and females soon die, usually within two weeks.

Sometime during early to mid-winter, eggs hatch. In late winter or spring, the fry swim up out of the gravel and migrate downstream into salt water. The emergence and outmigration of fry is heaviest during hours of darkness and usually lasts for several weeks before all the fry have emerged.

Pink salmon mature in two years which means that odd-year and even-year populations are essentially unrelated.

INTERNAL EXTERNAL PARTS – DISSECTION GAME AND COMPARISON

Grade: 6-8

Estimated time: 120 minutes

Standards: Science A1, A3, C2, E2, F1, F2, F3; World Languages A3, A4, B1; Technology A1, A2, C1, C2; AK Cultural B1, B2, C4, E2, E4

Focus: Learning about the anatomy of salmon helps students not only in expanding their knowledge in marine biology, but also recognizing the similarities and differences between a scientific and traditional approach to salmon species. Students will gain experience in combining the knowledge of Sugpiaq people with the knowledge they acquire in school, while learning to recognize them as complementary and not as competing approaches. By participating in the activities of this unit, students will learn the internal and external body parts of a salmon, their biological function, their Sugpiaq significance, as well as their scientific and Sugt’sun names.

Vocabulary words:

Sugt’sun: **Nasquq** – Head, **Ik** – Eye, **Qaneq** – Mouth, **Culugsutia** - Fins, **Rririt** – Scales, **Pumyaq** – Tail Fin, **Napateq** – Heart, **Tenguk** – Liver, **Qaryat** – Eggs, **Cungaq** – Gall bladder, **Anerrteqsutai** – Air sac, **Aqsaquq** – Stomach, **Pacik** – Gills

English: Anatomy, Complementary, Biological Function, Dissection

Materials/Resources:

- Access to a computer lab with active internet connection
- CD – Pauline Demas Cutting fish
- Fish Anatomy Handouts (one per students, 4 pages per packet)
- Optional: Inviting a Sugpiaq Elder to participate in the class

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Locate and review the following Thinkquest website:
<http://library.thinkquest.org/05aug/00548/DissectionGame.html>
- Copy and review Fish Anatomy Handouts
- Review material presented on the CD
- *Optional:* make arrangements for a Sugpiaq Elder to visit the class and participate in teaching the students about cleaning and cutting a fish

Activity Procedure:

A: Complete Anatomy worksheet and review material

1. Ask a series of question to ascertain the knowledge of students on the topic, as well as their experience in cutting up salmon. Example: Have you ever cleaned a fish before?

Who taught you how to clean a fish? How old were you when you first helped cleaning fish? Etc.

2. Move on to questions pertaining students' knowledge on fish anatomy. Example: What parts of a fish body can you think of? When you are cutting a fish which body parts do you pay attention to? Why? Do you know what body parts to remove from a fish? Do we throw away all the internal parts, or can we save some of them? Etc.
3. Hand out Fish Anatomy material (worksheet included). Use the CD to review fish cutting movie with students.
4. Instruct them to complete the worksheet and practice the Sugt'stun pronunciation.
5. Explain students that they will be completing a game online, in which they will dissect a salmon.

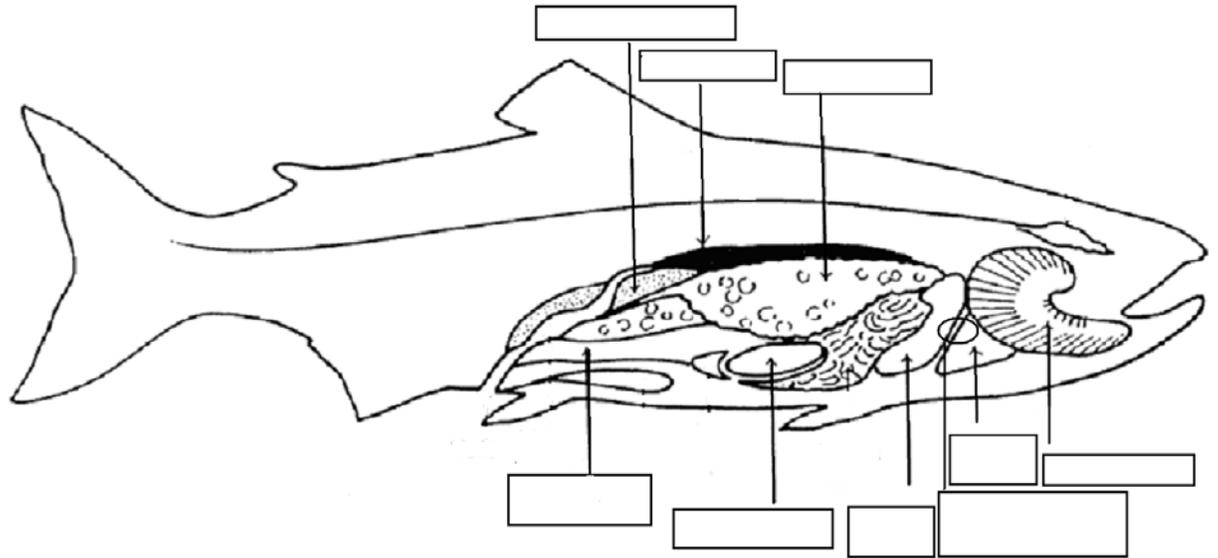
B: Dissection Game

1. Instruct students to go to the following webpage:
<http://library.thinkquest.org/05aug/00548/DissectionGame.html>
2. Instruct students to complete the dissection activity. Give ample time for students to complete the activity a couple of times.
3. Ask students to reflect on how the dissection game was different to, or similar from, cleaning and cutting a fish. Guide them with questions in recognizing the differences and similarities.

Example: What is a purpose of cleaning and cutting fish? What is the purpose of dissecting a fish? What do we do with the fish afterward? Are the body parts the same in both activities? Are they handled the same way? Did you think about the fish the same way in both activities? Were you able to use the knowledge you learned from your parents during the dissection game? Next time you clean and cut a fish will you be able to use the material you learned about salmon anatomy? How so? Will it help you in any ways? In what way? Etc.

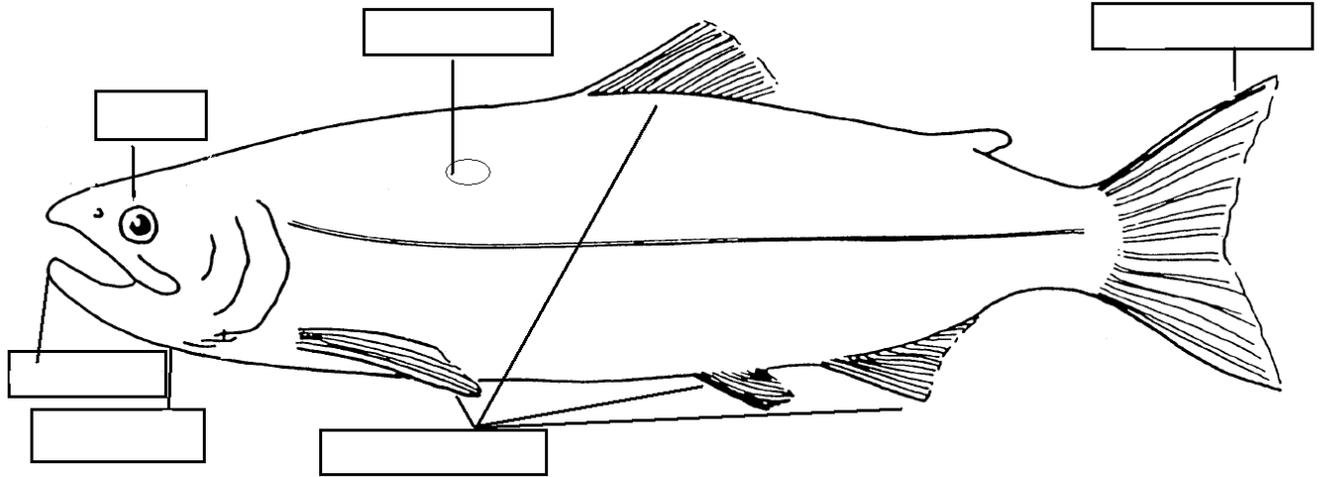
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“Iqalluk”

Old Fishing
“Salmon”



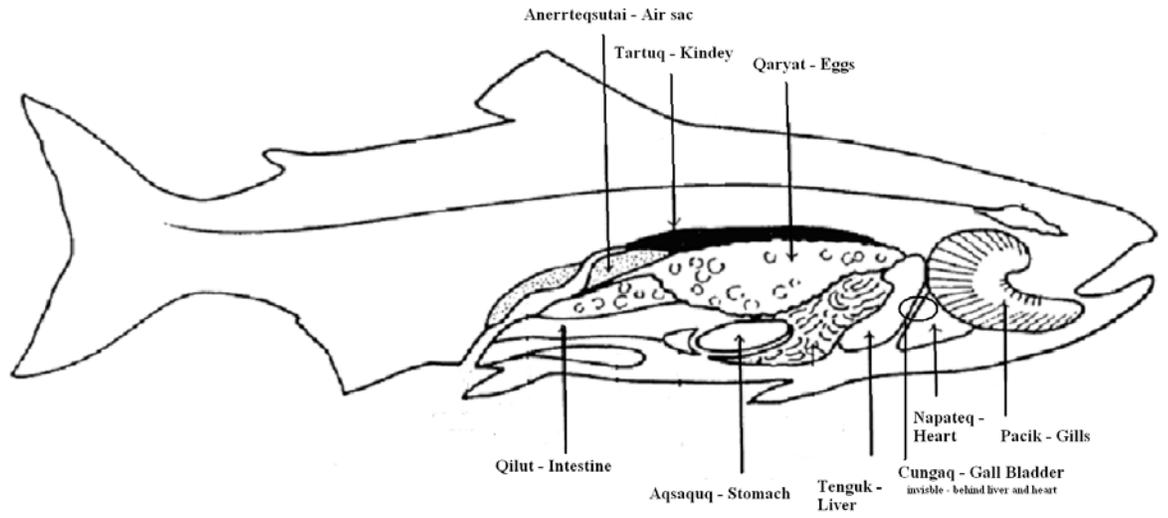
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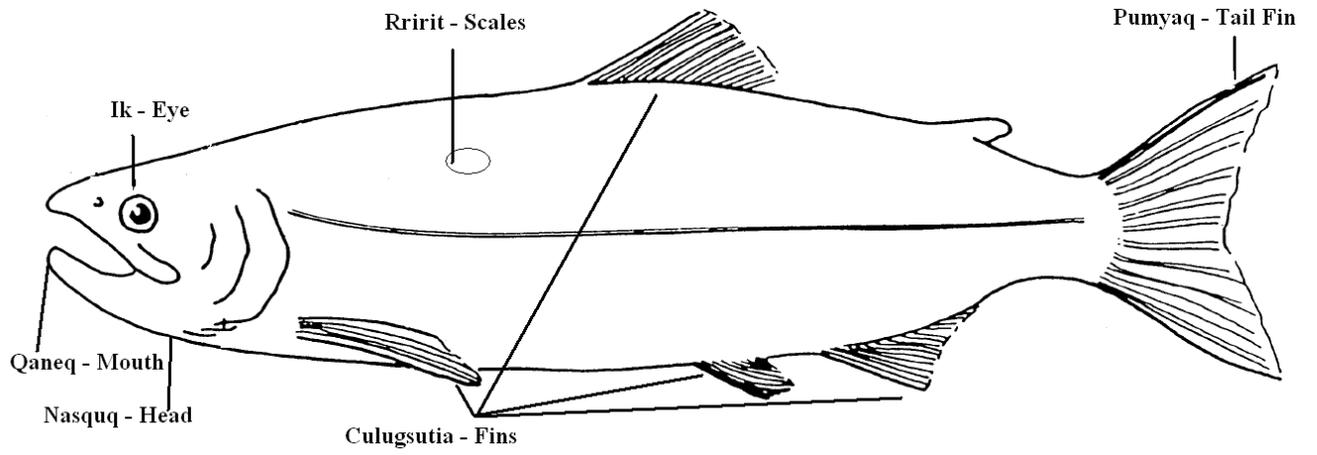
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LIFE CYCLE MIGRATION BOARD GAME

Grade: 6-8

Estimated time: 120 minutes

Standards: English C2, C3, C4, C5; Science A3, C2, C3; Geography C1; Art A4, A5; AK Cultural B2

Focus: In this activity students will learn about the life cycle of Pacific salmon by identifying the various stages of the fish’s life, analyzing their habitat, and recognizing the changing physical characteristics. By creating a life cycle board game as a part of a small group, students will internalize the unit material, and think about its relevance to their own lives.

Vocabulary words:

Sugt’stun:

English: Alevin, Fry, Smolt, Migration, Spawning, Carcass, Circular, Fertilized, Vertebrae

Materials/Resources:

- Fish Life Cycle Poster
- Cardboard (one per group)
- Dice (one per group)
- Color pencils, crayons, pens
- Large fish vertebrae
- Food Colors
- Additional information for teachers:
<http://library.thinkquest.org/05aug/00548/species--life%20cycle.html>
- Alaska’s Wild Salmon

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Review additional information on salmon Life Cycle
- Check classroom supplies
- Review Alaska’s Wild Salmon

Activity Procedure:

A: Presenting salmon life cycle information

1. Explain students activity procedures.
2. Use the life cycle poster and Alaska’s Wild Salmon book to present information.

3. Cover the following stages: eggs, alevins, fry, smolts, adults in ocean, adults migrating to spawning area, adults in freshwater – spawning, carcasses in fresh water.

B: Planning Life Cycle Board game

1. Divide students into small groups and explain them your expectations for the finished product. Tell students to cover all life cycle stages in their design, and make sure to point out that they need to work on a circular game sequence as salmon have a Life Cycle.
2. Demonstrate the design of the game:
 - a. The starting point is an egg; therefore each player starts out as an egg.
 - b. The egg stage can have 6 fields (or any other number)
 - c. The first field can be a hazard such as not getting fertilized. The second a safe field such as being fertilized, the third a safe field such as being tucked under a rock, the fourth a danger one such as having rocks falling on the river bank etc...
 - d. Safe fields can instruct players to move ahead additional fields to the next safe field within a turn, or instruct players to throw their dice an extra time.
 - e. Danger fields can move back players to the last safe fields, send them back to the starting point, or make them skip their turn. Etc.
3. Give students ample time for designing their playing fields.

C: Making Life Cycle Board game

1. Once all groups are done with their outline, instruct students to start drawing on their cardboards. They can write their instructions on the sides of their boards or into each playing field.
2. When the playing area is complete, instruct students to color their game figurines (the large fish vertebrae) with the food colors. They need to use as many different colors as the number of players they will have in their game. All groups can use the coloring kit together.
3. When all pieces are complete, ask the groups to exchange game boards and let students play one round of game.
4. If they wish so (or there is time) give students the opportunity to color and decorate their game boards.
5. Save game boards for the last unit (presentation and potluck).

HABITAT LOCAL MAP

Grade: 6-8

Estimated time: 3 hours

Standards: English C5; Library B2, B3, B4; Geography A1, A2, A3, B7, C1, C3, E2, E3, E4, E5, F6; Government G2; AK Cultural A4, E2

Focus: Students will learn the importance of healthy habitat for salmon, as well as recognize the various types of habitat salmon require through its life. Furthermore, students will create a map of their local environment marking salmon habitat. In addition to learning about cartography, students will also become aware of their communities’ fishing areas, as well as the need to keep those places clean and healthy for the various salmon species.

Vocabulary words:

Sugt’stun:

English: Cartography, Cartographer, Thematic Map, Salmon habitat, landmark, Glacier, Riparian Zone, Wetland, Estuary

Materials/Resources:

- Access to Google Map – if possible on Smartboard, if not, as a printout or paper map
- Presentation board paper (one per pair)
- Sharp pencils
- Eraser
- Alaska’s Wild Salmon (for teacher’s review)
- Trials and Tribulations, 2000, John M. Baxter. In Salmon, pp. 59-66, Stillwater, MN: Voyageur Press (for teacher’s review)
- *Optional:* Invite a local fishing expert

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Check classroom supplies
- Locate local map on Google Maps, or a paper map showing the larger area of the community
- Review mapping activity procedures
- Review the section on habitat in Alaska’s Wild Salmon
- *Optional:* Make arrangements for a local fishing expert to visit the class and help students identify local fish habitat areas

Activity Procedure:

A: Overview of a healthy salmon habitat

1. Based on the information provided in Alaska’s Wild Salmon (pp. 20 - 28), review the following salmon habitat: glaciers, upland areas, streams, rivers-lakes, riparian zone, wetlands, estuaries and oceans.
2. Also review information provided in Trials and Tribulations (Salmon). Encourage students to contribute their opinions.

B: Overview of mapping activity

1. Brainstorm with students by asking questions. Example: What is a map? Why do we make maps? Why do we use maps? What kinds of maps are there? What kinds of information can you learn from a map?
2. Cover the following topics with students:
 - a. Map
 - b. Cartography (also the person making the map – cartographer)
 - c. Date – when the maps was made
 - d. Title – what is it a map of
 - e. Author – the makers of the map
 - f. Index – list of things on the map
 - g. Orientation – the direction of the map
 - h. Scale – the ratio of the distances in real life and as they are represented on the map
3. Explain students that they will be making a thematic map in this activity, because they are focusing on one specific topic: salmon habitat in their local environment.

C: Drawing local salmon habitat maps

1. Explain students the procedures of the activity, and be clear on your expectations.
2. Divide students into pairs. Tell students to write their names on their sheet of paper.
3. Use Google maps or a paper copy of a local map to point out the various places in the students’ home community. Encourage students to point out familiar landmarks.
4. Ask students to look at the larger area surrounding their community. What do they notice? How do the water and land areas relate to one another? Is there an ocean shore? Lakes? Rivers? Etc.
5. Prompt students to identify areas on the map in terms of salmon fishing and habitat. Ask them to explain why a particular place is a good habitat for salmon. What role do these areas play in the various stages of a salmon’s life?
6. Instruct students to draw a map of their community working in pairs. Make sure to remind them to leave space for drawing the local water system as well.
7. Tell students to identify the various local salmon habitats and add details to their map by a short description of the area and its significance.
8. Review maps as a group and collect them to use in the last unit (presentation and potluck).

FISHING TECHNIQUES WORK SHEET

Grade: 6-8

Estimated time: 180 minutes

Standards: English B2, C1, C2, C3, C4, C5, D1d, D2, D3, E4; Science F3; World Language A3, A4, B2, B6; History A5, A6, B1b, C2, C3; AK Cultural A3, A4, A6, D2, E5

Focus: In this unit students learn about the various fishing techniques Sugpiaq people used in the past for catching salmon. Additionally, students will also learn to locate, access and compile information from a variety sources, which will help developing a better understanding on historical research methods and techniques. Finally, students will further their cultural knowledge on subsistence practices as they work towards improving their Sugt’stun vocabularies.

Vocabulary words:

Sugt’stun:

English: Written Sources, Oral Sources, Collaboration, Narratives

Materials/Resources:

- Old Fishing, 1981, Juanita Melsheimer. In *Alexandrovsk* No. 2. p.7-9.
- Fishing, Kaj Birket-Smith, 1953. In *The Chugach Eskimo*, København: Nationalmuseets Publikationsfond. pp. 39 - 42 (for teacher’s review)
- Traditional Resource Use Areas, 1999, Ronald Stanek. In *Ethnographic Overview and Assessment for Nanwalek and Port Graham*. Pp 58-66. Division of Subsistence Alaska Department of Fish and Game.
- “No More Fish Traps For Me!”, Sarjus Kvasnikoff In *Alexandrovsk* No. 3. Pp 20-23.
- Project Jukebox – (www.jukebox.uaf.edu) Interview with Vincent Kvasnikoff and interviews with Simeon Kvasnikoff
- Fishing Techniques worksheet
- Fishing spear
- Fishing hook on line
- Fish trap models (salt water and rock)
- Smartboard or computer with good speakers

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Review reading material
- Review interviews on Jukebox
- Review Fishing Techniques worksheet

Activity Procedure:

A: Reviewing historical research methods

1. Ask students to brainstorm on the question: What is history? Record keywords on board.
2. Continue discussion with a series of questions: How do we know what happened in the past? Where can we find information? How do we access it? How would you start researching a specific subject? Why is it important to learn about the history of things/something?
3. Continue discussion on ethnohistory: What do we know about Sugpiaq history? Where did that information come from? What is the difference between written and oral sources? Where/How would you look for information on Sugpiaq history?
4. Explain students that they will have the opportunity to be “history detectives” in today’s activities. Their job is to collect and extract as much information as possible from the various sources presented to them. Explain that students will be working alone, completing their own worksheets; however, collaboration with other “detectives” are allowed and encouraged.
5. Explain students that their research will be on Sugpiaq fishing techniques, and they will be collecting information on salmon fishing specifically.
6. Tell students to keep in mind that they will hear/read information on a variety of fishing techniques, but their focus should be on salmon fishing. Also bring students’ attention to the fact, that some of the information might seem contradictory or confusing at first. It is their job, as a “history detective” to clear up such situation either by multiple reviews of the source or by collaboration with other detectives.

B: Introduction to Sugpiaq fishing techniques – Oral Sources

1. Point out the fishing tools/models to the class, and tell students that they can use the objects to better understand their “research material”
2. Hand out ‘research packets’ to students, each containing a copy of the following:
 - a. Old Fishing by Juanita Melsheimer In *Alexandrovsk* No. 2. p.7 – 9.
 - b. Fishing by Kaj Birket-Smith In *The Chugach Eskimo* p. 39 – 42.
 - c. Traditional Resource Use Areas by Ronald Stanek In *Ethnographic Overview and Assessment for Nanwalek and Port Graham* p. 58 - 66.
 - d. “No More Fish Traps For Me!” by Sarjus Kvasnikoff In *Alexandrovsk* No. 3 p. 20-23.
 - e. Fishing techniques Worksheet
3. Explain students that they will also be working with oral sources, which they will listen to as a group. The interviews are accessed through an internet website called Project Jukebox (www.jukebox.uaf.edu), which is a collection of interviews and narratives on a variety of topics. It also has a collection on Sugpiaq cultural knowledge, containing interviews with Elders and culture bearers from Nanwalek and Port Graham.
4. Point out that these interviews are protected by copyright, but they can be used for educational purposes. Also tell students that they can listen to these interviews any time they wish to through their home computers.
5. Locate the 14th interview by Vincent Kvasnikoff on Jukebox (<http://www.jukebox.uaf.edu/NanPG/nanwalek/html/23506.html>). Listen to the interview, then review material with students

6. Instruct students to review their worksheet and ask them to point out worksheet areas that the interview contains information on. Listen to the interview second time. Instruct students to note down the information they need from this interview on their worksheets.
7. Repeat procedure with the 15th and 16th interview by Simeon Kvasnikoff (<http://www.jukebox.uaf.edu/NanPG/prtgrham/html/23507.html>)

C: Completing worksheet – written sources and group review

1. Instruct students to take time reviewing the material in their research packets.
2. Explain that in this exercise they are trying to locate information, which means that they are skimming their readings looking for clues.
3. Demonstrate how to locate information with this technique. Select a topic from the worksheet and locate it on one of the readings.
4. Remind students to use the exhibition pieces to better understand their readings.
5. Instruct students to start their “detective work”, and remind them that they can collaborate with others as long as they fill in the information on their own worksheets.
6. Give ample time for students to complete the activity. Circulate in the class to help out with questions, to encourage students and to monitor progress.
7. After 60 minutes, ask students to return to their seats and review the collected information as a group.
8. Collect worksheets for further use in Unit 8 (compare-contrast essay).

OLD FISHING by Juanita Melsheimer

CUUMI IQALLUG- SUUCILLRAT

For information on old-time ways of fishing, we are using Juanita Melsheimer as our local authority. The following are quotations from Juanita.

I never saw rods and reels before, but my dad used to have some kind of spear-like thing. He used to make it out of (with) hand saws, not these Homelight chain saws, but these saws with a handle on both ends. They cut a sharp part of a saw with an ax and they'd tie it down on a pole and make a spear. Then he'd use it for fishing in the lagoon or up on the river there at the waterfall.

Whenever he saw a fish, he would throw the spear right at the fish. That's how they would catch fish. If he catches (hits) one, he could see the pole go up and down on the top of the water. That meant he's got one. He'd row real fast to get it.

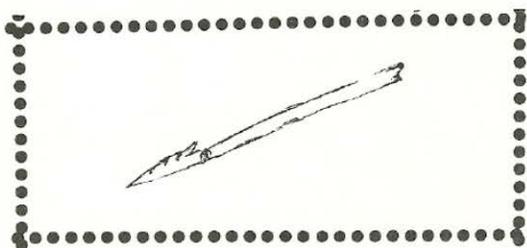
Another thing, they used to have these hand lines. They would cast the line out where lots of fish were, sink it and snag them one by one.

To kill a fish some would use oars. They'd hit the fish with oars like you kids do now. They'd throw rocks at them and hit them (while they were) in a shallow place.

(Back then) I never went fishing like I do now. My dad was the only one, and my mom. They used to go fishing together and it was very seldom that they would take us. But then they used to have a little seine to catch lots of fish.

Ggwii tangerllan'engua iqsa-guanek cuumi, taataqa aturlalraa tuqsiinek. Piliaqllaqait pil-allret aturluki, pilat tamaakut atunem pungqerlluteng. Keplluki ipegqait tupuulumek, taumi iqallugsurluteng nanwami gwall'u pamani kuigmi, ggwall'u qurllur-tehmi.

Nani tangrraqami iqallugnek tuqsiini egllaqii taatama kaki-piarluki pisuqengani. Taugna-llu tuqsiya tangerlluku cekar-taruarluni.



Taumi-llu aqwaluku pakiurluni petgeruaqiinarluni.

Ukut cali aturlaqait qelut. Eglluku una'ut taumi-llu caniqiluku nani tangertat amlerqanek iqallugnek taumi-llu tawa'ut kic'eslluki taumi caniqiluki.

Pakiu'utet cali aturlaqait asugturluki qaillun ellpei aturla'aci nutaan. Cakuneng aglaur-luki ek'ilngurmi.

Cuumi iqallugsurlan'engua qaillun nutaan pisurlarcia taataqa taumi maamaaqa pisurlalriik. Qakukcakun tagullaqiikut pam'aut ggqangkuta mikllemtehni. Kugyanguasa'arnek aturlalriit amlerqanek iqallugnek piicaa-qameng.

7 Kuigmi pisurlaqait naluwar-luteng asugturluki ggwall'u tuq-

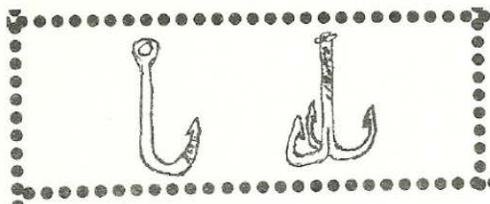
Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

Cuumi Iqallugsuucillrat "Iqalluk"

In the rivers up there they would wade around and catch them (salmon). They would hit them with spears or poles they had. If it was shallow I don't know how they would catch them. I never used to go when my dad went way up there to fish this time of year (late summer and fall). He used to bring lots of fish down.

I don't know how they used to catch them, maybe they snagged them. They used to make big hooks-these halibut hooks. They never used these small hooks like we have.



If they liked to put up fish for the winter, you know, put fish away, there would be some guys who would go out fishing on a skiff out here on the beach or in the lagoon. They'd catch fish and divide them for families. Each family would get so much fish, you know. They would divide all the fish and clean them in the lagoon, and pack (carry) them to the smoke houses or outside to the fish racks.

They'd hang them first for a few days. Then they'd take them into the smoke houses, to smoke them and dry them.

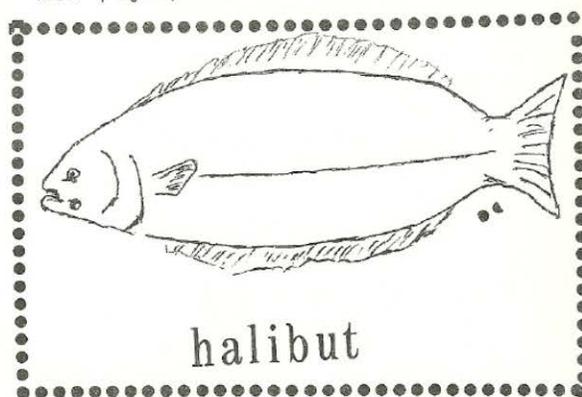
My dad used to have fun, I think. Even when he used to fish for the cannery in the summer time. He was a fisherman and would come home and go up to the waterfall or river and catch fish for us. When he was not home, we'd fish for some flounders and halibuts along the beach, but we never used to go to the waterfall, first lake or the rivers till later. When he quit fishing for the cannery, we would go fishing for Humpies and these reds, that's when their skin turns red.

Old Fishing "Salmon"

siirluku. Nalluwaqa ek'itagan pisurlaqait qaillun. Iqallugsur-lan'engua cuumi maatermi (kiall-qurtaqau'u gwallu uksuarmi).

Taillalraa naatekcak iqallugnek taataqa. Qaillun ima pit-aqllaqai gwall'u caniqiluki. Pililalriit cali iqsakcagnek sagit iqsaitnek. MikeIngurnek iqsagnek aturlan'engut.

Llii'lalriit iqallugnek uksurkamen. Ilait iqallug-surlalriit nanwami gwall'u qut-mi. Piskuneng nangpia sug'et minarluki qupepiarluki. Taumi nanwamii segluki taumi tagulluki iniluki ciqluanun gwall'u lla-men initanun qaucinek qawartar-ceslluki taumi itrulluki ciqlua-men puyuetarluki kinercarluki.



Taatata nunaniqsaaglalraa allrak. Iqallugsuutengraarmiu faapriikaq taiyaqami pama'ut taglala iqallugsuulluta qurllur-tehmen gwall'u kuigmen. Pama'ut taglan'engukut tainginaagan kug-yallrunermek. Taiyaqan pisurlalraakut amartunek taumi narilngaatanek kawi'iyaqata narilngatat.

Caaqameng saaguayangusa-a'arneq pit'aqameng makut aturlaqait kakngaleguat per'lluki iqsaguacestun. Taumi qillerluki qelumek tan'erqamek gwall'u qaterqamek gwall'u cakuciqinarmek pingqertat. Piillalriit makunek nutaan qaillun pingerllartut ecui-Ingurnek qaterqarllinarnek pingqerllalriit llegalngurnek. Pingqerllalriit cali takqanek qur-

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

Cuumi Iqallugsuucillrat "Iqalluk"

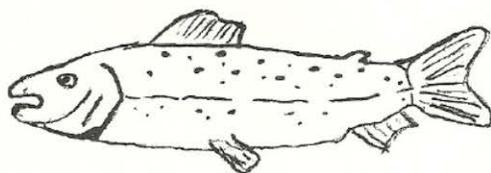
Sometimes if they caught little trouts like we do, they'd use these common pins. They'd bend them down like a hook. Then they would just tie them in with a string, black or white-any color of line they had. They never used to see this nylon lines before, just the white lines, real small ones, thin ones, they used to see.

They used to have a long nail, I think they called them "spikes". I don't know how they

bent those things. They'd tie them real good at the end of the pole. The pole would be about 3 or 4 feet. That's how they would catch them-(fish) with a nail. Bend it like a hook and sharpen it, file it real sharp, then they'd use it for fishing up there.

We used these smaller hooks, smaller than these halibut hooks. There never used to be triple hooks (just spikes or nails). They cut a little piece of wood and they'd put hooks on, 2 or 3 hooks. They would put them on the round wood, and bend it and tie it real good. Then they would snag the fish. But when we go fishing for some flounders we'd use smaller hooks.

There used to be lots of fish before. Now it seems like there's barely any fish around.



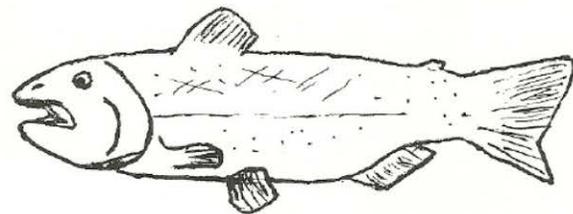
trout

Old Fishing "Salmon"

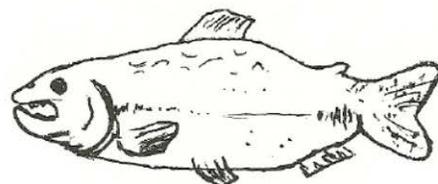
qanek, aperlaqait, "spaa'ikaanek" Aturlaqait perlluki qillrulluki asircangia'a, kenerkamen nall-qigqamen naaten kenerkaq tak-tagkwarluku. Kenerkaq naaten taktaluni (3 or 4 feet). Taw-aten qurqakun pisurlaqait. Qur-qaq per'lluku taumi ipegcarluku, napiilkaarluku ipgikcagceslluku taumi aturluku iqallugsursuutek-lluku.

Aturlaqepet mikelnguut iqsiiit mikellqelluki sagit iqsaita. Mak-unek tangerllan'engukut pinga'u-ruanek. Makut cali aturlaqait qelut, iqsak qillerlluku kener-amen akagngaqamen taumi pisurluki tamaakutgun. Am ggwangkuta mik-elnguut iqsiiit aturlaqepet pat-uqullugsuwaqamta.

Cuumi iqalluut amlerllalriit, nutaan awa piyutut.



red



pink

Story by
As told by
Art work by
Layout by

James Kvasnikoff
Juanita Melsheimer
James Kvasnikoff
Anita Evans

Cuumi Iqallugsuucillrat
"Iqalluk"

Old Fishing
"Salmon"

NATIONALMUSEETS SKRIFTER

Etnografisk Række, VI

" THE
CHUGACH ESKIMO "

BY

KAJ BIRKET-SMITH

NATIONALMUSEETS PUBLIKATIONSFOND
KØBENHAVN 1953

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Fig. 15. Makari showing model of deadfall. (Photo K.B-S.).

to which a cross-stick was tied. In the Copenhagen museum there is a specimen of the former type from Chenega (P 541); at the point where the three, faintly curving prongs meet, it is pierced for the attachment of a string. Gorge 7.3 by 4.8 cm; string 86 cm.

Cormorants were caught in a net of sinew braid stretched between the nests, or clubbed at night. On a bare rock called Nigaruvik, *i. e.* snaring place, off Port Gravina, eagles were snared with salmon heads for bait.

Bolas were not used in bird hunting, but flat stones were thrown by means of a cleft stick. An implement of this kind, now in the Copenhagen museum (P 543), was made by Makari (Fig. 16a). It consists of a narrow piece of wood, one end of which forms a slightly curved handle, whereas the other end is split in two, carved on the inside so as to accommodate the stone, and afterwards lashed together again. Length 68 cm. A spirit in one of the stories (p. 144) had a stone sling made of a seal pelvis fastened to a wooden handle. The stone was placed in the femoral socket. A whip sling may be used now, but not formerly, whereas ordinary slings were known.

The remains of sea birds, *i. e.* the guts (cf. the tale p. 160), were thrown back into the water, but those of land birds were left on the ground.

Fishing.

Halibut and cod were caught in the early summer. Halibut are said to bite especially on a flooding tide. However, as early as the beginning of May the salmon run starts with the arrival of the king salmon, and during the whole summer the run continues with different species. The summer is therefore the most important fishing season. Herring and olachen were also taken in large numbers. Several kinds of fish hooks and spears were

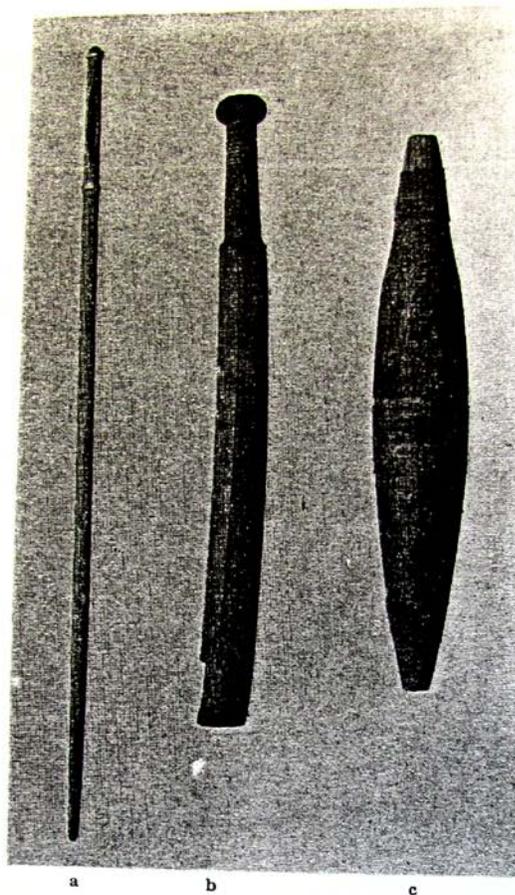


Fig. 16. Throwing board for stones (a), sealing club (b), and siphon (c). (Museum Copenhagen).

in use, whereas ordinary fishing nets were said to be unknown originally, and the netting implements from this area are apparently all of recent manufacture. It is true, however, that Portlock says that "herring, I believe, they catch with small nets"¹. At the present time, when salmon is caught for the canneries, the Chenega people have both ordinary nets and purse-seines from which the fish is scooped up with dip nets.

The halibut hook was made of two pieces of wood, the shorter of which was provided with a barb. This type is evidently the same as was used on Kodiak² and related to the Northwest Coast Indian form. In the *Museum für Völkerkunde* there is a specimen from Chenega, IV A 6251, which is made entirely of iron bent into a nearly elliptical shape (Fig. 17a). It is suspended by means of a piece of thong from the long branch of a short, bifurcated stick. To the shorter branch is tied a piece of sealskin thong with a round stone sinker notched at the edge for the lashing.

The cod hook had the shape of an acute angle and was made of wood or the "wishbone" (clavicles) of the great northern diver. During the archeological excavations we found

¹ Portlock 1789, 253.

² Birket-Smith 1941, 146.

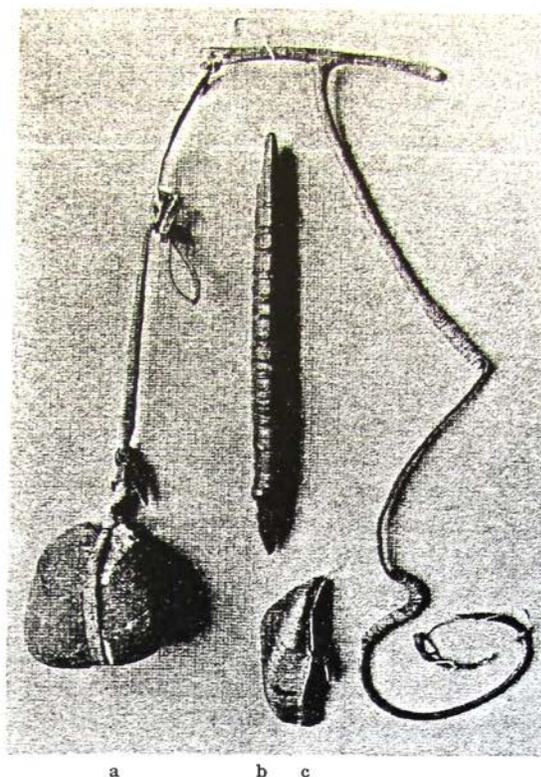


Fig. 17. Halibut hook (a), knife for scraping mussels (b) and shell scraper (c) (Museum Berlin).

V-shaped fish hooks with a bone barb and a shank of wood or bone. From Chenega comes a cod hook, P 542 in the National Museum of Copenhagen, suspended from a similar device as the one employed for the halibut hook (Fig. 21 a). The hook itself is of a simple, barbed type, and the sinker a natural boulder. Hook line 24 cm; sinker line 65 cm. Fish lines were formerly made of kelp spliced together, some pieces of kelp being nine fathoms long.

When the salmon entered the rivers, they were taken in weirs. A log was placed across the river, and on the upper side poles were set obliquely against it, the lower ends being driven into the bottom of the stream. Stone weirs were not (?) used. The fishermen stood above the weir and speared the fish with barbed harpoons. Portlock mentions salmon weirs, but unfortunately without giving any description of them¹. A gaff was also used for catching salmon. Fish traps made of roots, grass, or bark were placed at the mouths of the streams, with the top up-stream. When the tide went out the fish were trapped in the basket.

Herring were taken with a leister with three wooden prongs. In Chenega I saw a modern specimen with barbless iron prongs. At the same place I likewise noticed a spear said to be used in fishing, but called with the same name as the sealing lance. It had a flat, rather broad and blunt iron head with a small barb on either side. The head was inserted into a wooden shaft and secured by lashing. Herring are also taken on a fish rake, made of a long pole with heavy steel wires, the ends of which have been flattened out and sharpened, fastened to the pole for barbs or teeth. With this implement the herring are shoveled

¹ Portlock 1789, 253.

into the boat. Sometimes the pole is equipped with barbs made of straightened-out fish hooks.

Formerly a fish snare was made of spruce roots and fastened to the end of a stick. The length of the snare varied according to the depth of the stream.

Fish intestines should be thrown back into the water so that they may turn into new fish. If they drift ashore, the soul of the fish, which remains in the guts, will die and the fish will not come to life again. The first fish (salmon?) caught each year must be eaten entirely except for the gall and the gills. If anything of the fish is wasted, it will never come back.

Food Gathering.

As mentioned on a former occasion, food gathering was of some importance in Chugach economy, even though food procured in this way would only serve as a supplementary diet except in periods of actual dearth. The contents of the ancient shell heaps show that clams, cockles, mussels and other shellfish played no inconsiderable part in the kitchen (cf. p. 18). Sea urchins and a species of sea slug were also used for food, whereas there is no evidence that crabs and shrimps were eaten. Clams were dug especially in the spring, when the weather often prevented other methods of obtaining food. A knife from Chenega in the Berlin museum, IV A 6256, was stated to be used for scraping mussels (from the rocks?). It has a short, triangular iron blade inserted into a wooden shaft with a chisel-shaped end and seven cross-groves (Fig. 17b). Total length 26 cm, of which the blade is 3.5 cm.

The flora contains a great many species which were collected more or less regularly. Unfortunately it has only been possible to identify a minority of the plants that entered the diet, but at any rate their number was considerable. A wooden stick was used to dig up the roots and tubers. The edible plants included two species of rockweeds (*Fucus*) called lortuin'ät and ata'quit, two species of kelp (*Alaria?*), *vtuq* and *jit'a'lät*, and several other kinds of sea-weed (?) called *caralqät*, *vtut*, *caralqarpagät*, *kala'gät*, and *cauqarälq'ät* respectively. A great many berries were eaten either raw or prepared in some way: strawberries (*Fragaria chiloensis*), salmonberries (*Rubus spectabilis*), cloudberry (*R. chamæmorus*) wild currants (*Ribes sp.*), crowberries (*Empetrum nigrum*), blueberries (*Vaccinium ovalifolium?*), lagoonberries (*V. uliginosum?*), mountain cranberries (*V. vitis-idaea*), mossberries (*Oxycoccus quadripetalus*), chickenberries (*Arctostaphylos alpina?*), high-bush cranberries (*Viburnum pauciflorum*), *Unifolium dilatatum*, *Menziesia ferruginea*, etc. The bulbs of the Kamchatka lily (*Fritillaria camtschatensis*), locally known as Indian rice, were collected before the plants flower. A plant called *kuna'q*, looking somewhat like a pumpkin, which is yellow and sweet and has leaves like a fern, and the wild celery (*Coelopleurum gmelini*) were also gathered, and so were the stems of another huge umbellifer, the cow parsnip (*Heracleum lanatum*), the roots and leaves of the sorrel (*Rumex occidentalis*), the lupine (*Lupinus nootkatensis*), the nettle (*Urtica dioeca*), and a plant called *a'arquit*; the latter should be taken before the leaves come out. Crab apples, said to be plentiful before a hard winter, and the inflorescence of the Alaskan fringe-cup (*Tellima grandiflora*) were also consumed. The edible *kuna'q* mentioned above should not be mistaken for a similar plant, *artaq*, which was supposed to be the "crow's *kuna'q*". If to all these vegetable products we add the cambium layer of the hemlock and other conifers, it is evident that the part played by the flora in Chugach economy by far exceeded that of most other Eskimo.

ETHNOGRAPHIC OVERVIEW AND ASSESSMENT
FOR NANWALEK AND PORT GRAHAM

Cooperative Agreement No. 14-35-0001-30788
TM 11, Task 4. Nanwalek/Port Graham Ethnography

D R A F T

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December 30, 1999

Traditional Resource Use Areas

The resource harvest territory used by Nanwalek and Port Graham residents over the lifetimes of several elders alive in the early 1980s, is a reflection of the area used between contact and contemporary periods (Fig. 4). The use area is based on the recollections of Tanape (1982:pers. comm.) and Meganack (1982:pers. comm.) and reported in Stanek (1985:52-53). It is noteworthy that the use of such an extensive area was probably the result of the time in history when these two informants participated in the furbearer and marine mammal harvest activities of their parents and grandparents. When the Unegkumiut moved from the outer coast to Nanwalek and Dogfish Bay in the late 1800s, many continued their annual, seasonal resource harvests in traditional areas by moving to specific locations. The intensity of use in locations distant to Nanwalek and Port Graham decreased as reliance on cash employment increased after the 1930s and 1940s. However, elders' knowledge of much of the traditional use area was passed on to their children. They, in turn, continued to hunt marine mammals and land mammals, trap furbearers, and fish commercially in those traditional areas through the present day. This included the entire Kachemak Bay, and of particular interest was the use of the areas beyond Seldovia and east of Homer for moose hunting. An intimate knowledge of the use area is expressed in the Sugcestun naming of hundreds of places throughout their area and this has been documented in Leer (1980).

Traditional Alu'utiq Technology

Stanek (1985:56-82) collected information regarding traditional technologies in Nanwalek and Port Graham. Elders provided information about habitations, transportation methods, and hunting and fishing equipment. Descriptions of traditional technologies provided in 1982 were based on the actual use of such equipment during the lifetimes of the late J. Tanape and the late W. Meganack Sr. During their youth, these two men traveled widely with their families to areas on the outer Kenai coast and in Kachemak Bay. They were prominent fishermen and hunters with extensive knowledge of the country. They lived during a period which spanned the recent traditional past and the contemporary era of modern technology - from traditional skin kayaks and wooden paddles to modern aluminum boats and motors. In all cases, scale models or drawings were made by the informants or the field researcher to illustrate their descriptions. Illustrations were prepared from field notes and diagrams. Interestingly, a number of traditional hunting and fishing implements were in use well into the early 1900s, and several remain in use to the present. Hunting and Fishing Equipment

During the late 1800s and early 1900s, Native fishing and hunting technologies were very similar to those used during the late 1700s and early 1800s. This was due in part to the prohibition against firearm use in sea otter hunting implemented by the Russians and Americans, and the preference of Natives to use arrows and spears so as not to frighten the animal (DeArmond 1969:5,10). The use of many traditional pieces of equipment continued into the early 1900s. Also, the cost of firearms and ammunition and most modern types of equipment was too high for most Natives in the lower inlet communities.

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

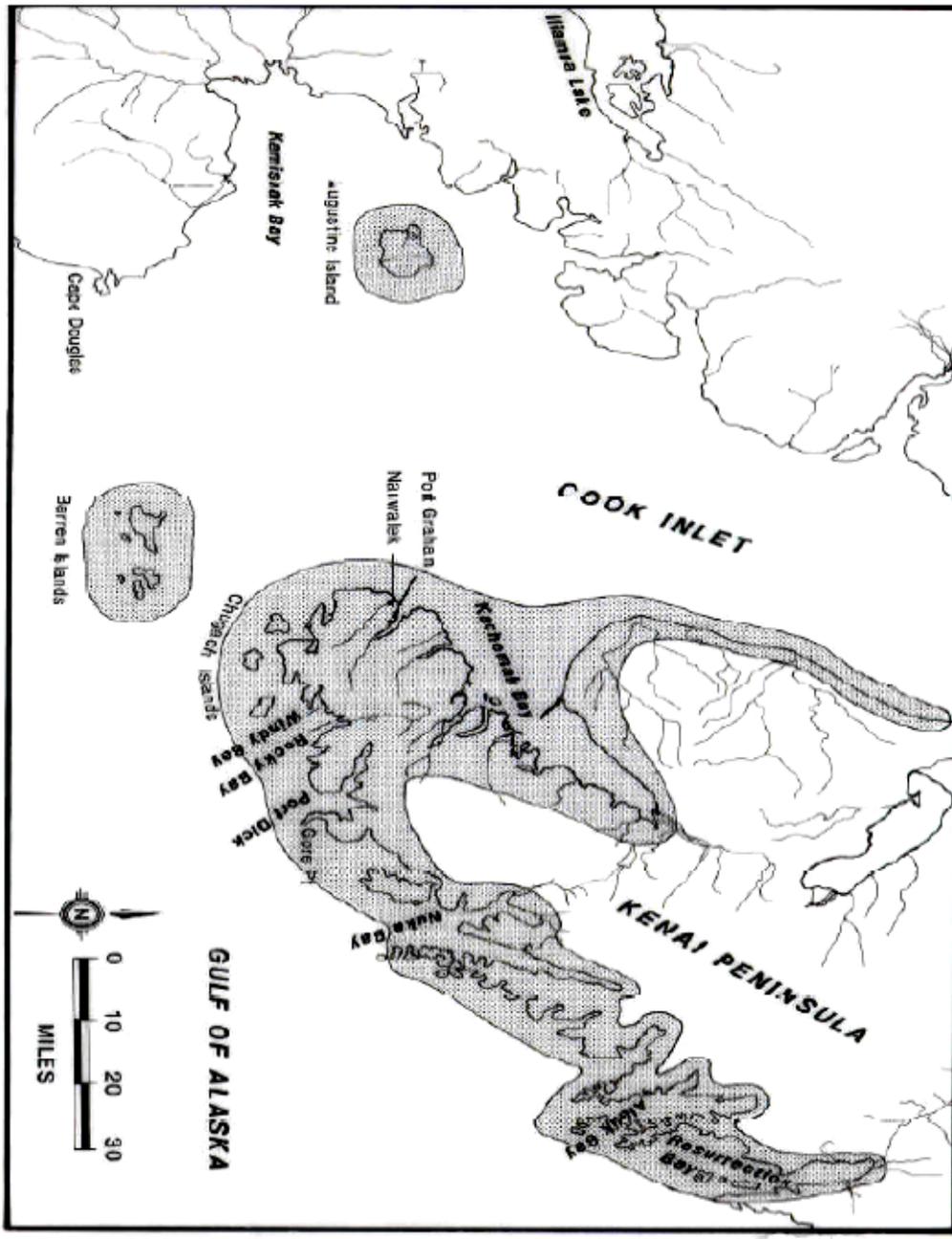


Figure 4. Traditional Wild Resource Harvest Areas of Nanwalek and Port Graham Residents

One of the most important and widely used equipment items was the spear. Spears were used for gathering many near-shore and intertidal resources, and for stream fishing. Several types of spears (*panak*) were described by J. Tanape and W. Meganack Sr. (1982:pers. comm.) and in Birket-Smith (1953:41). During the 1800s, spear points (*cingik*) were made of soft metal obtained from traders, canneries, and sawmills. The points had sizes, barbs, and attachments for specific uses. A small sized spear called *tuqsiiq* with a detachable point was used for stream fishing (Fig. 5). Fish spears had long tapered shafts made of spruce saplings. A short piece of sinew or cord attached the point to the narrow end of the shaft.

Once stuck into a fish, the spear point detached from the shaft. A longer, coiled line from the opposite end of the shaft was held by the fisherman and used to retrieve the spear and fish. For very large fish, the point was not tethered to the shaft, but was attached to a handline. A third type of fish spear with a fixed point (Fig. 6) was used for getting small bottomfish and other bottom-dwelling intertidal organisms (crabs, small halibut and flounder, sea urchin, sea cucumbers, sculpins, rock cod and anything else that could be gotten in the shallows) collectively called *uyangtaaq*. Several elders recalled spearing Dungeness and king crab during the 1950s in Port Graham bay.

The use of fish spears by Port Graham and Nanwalek residents continued up until the 1950s. Just before statehood, spears were outlawed by federal regulations. Rods and reels became the legal and adopted method of in-stream fishing. Not surprisingly, the Alu'utiq had something comparable, a hand-thrown line (*caniqsuq*) with a multi-barbed hook used just as a rod and reel to snag fish in streams or in lakeshore shallows (Fig. 7). In contact times, hooks were made from bone. When nails became available, they were bent into hooks. A variation of this device was made from cod hooks tied together in a cluster. A modification of modern fishing lures was to attach pieces of painted wood or red and white cloth to the hooks. Stone sinkers were attached to the end of the line. The hook would then drift in the current and remain off the bottom and move in the stream current. Two other types of fishing devices used into the 1920s and 1930s included the *kapuqaa'un* and the *keluk* (V. Kvasnikoff and B. Ukatish 1983:pers. comm.) (Fig. 8). The *keluk* was a gaff used primarily for removing fish from traps and weirs. The *kapuqaa'un* was a gaff with a releasable hook fixed by a line to a shaft. The hook was thrust at the fish and, as it hit, the hook was released from the handle. A short tether attached the hook to the pole and the fish could be hauled in with the pole. Other means of harvesting large quantities salmon in streams included traps and weirs. These methods enabled fishermen to quickly harvest large quantities of salmon required for winter supplies, and

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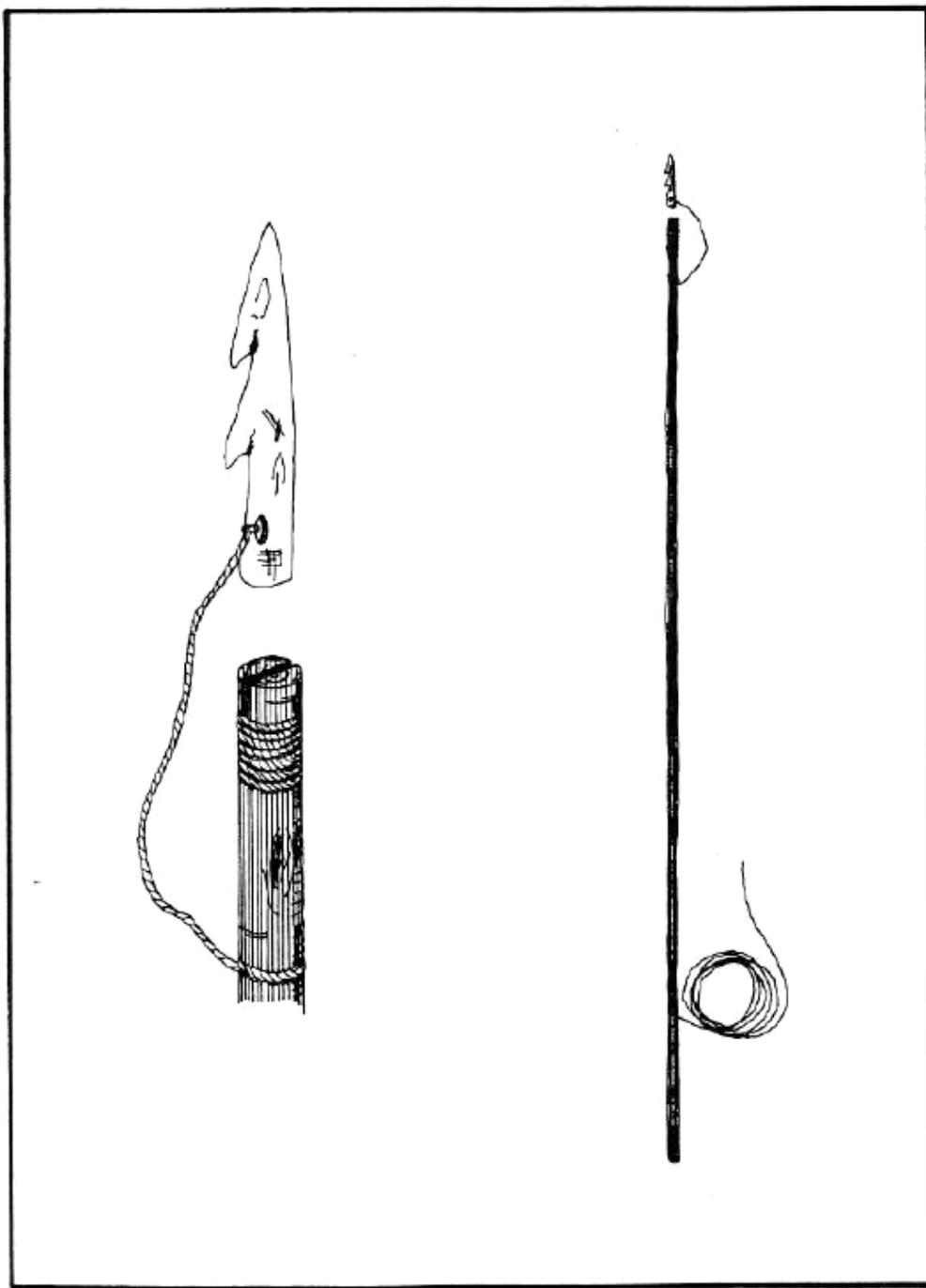


Figure 5. Fish spear (tuqsiiq) used for spearing fish in streams and shallow tidal areas. Described the the late Sergius Moonin.

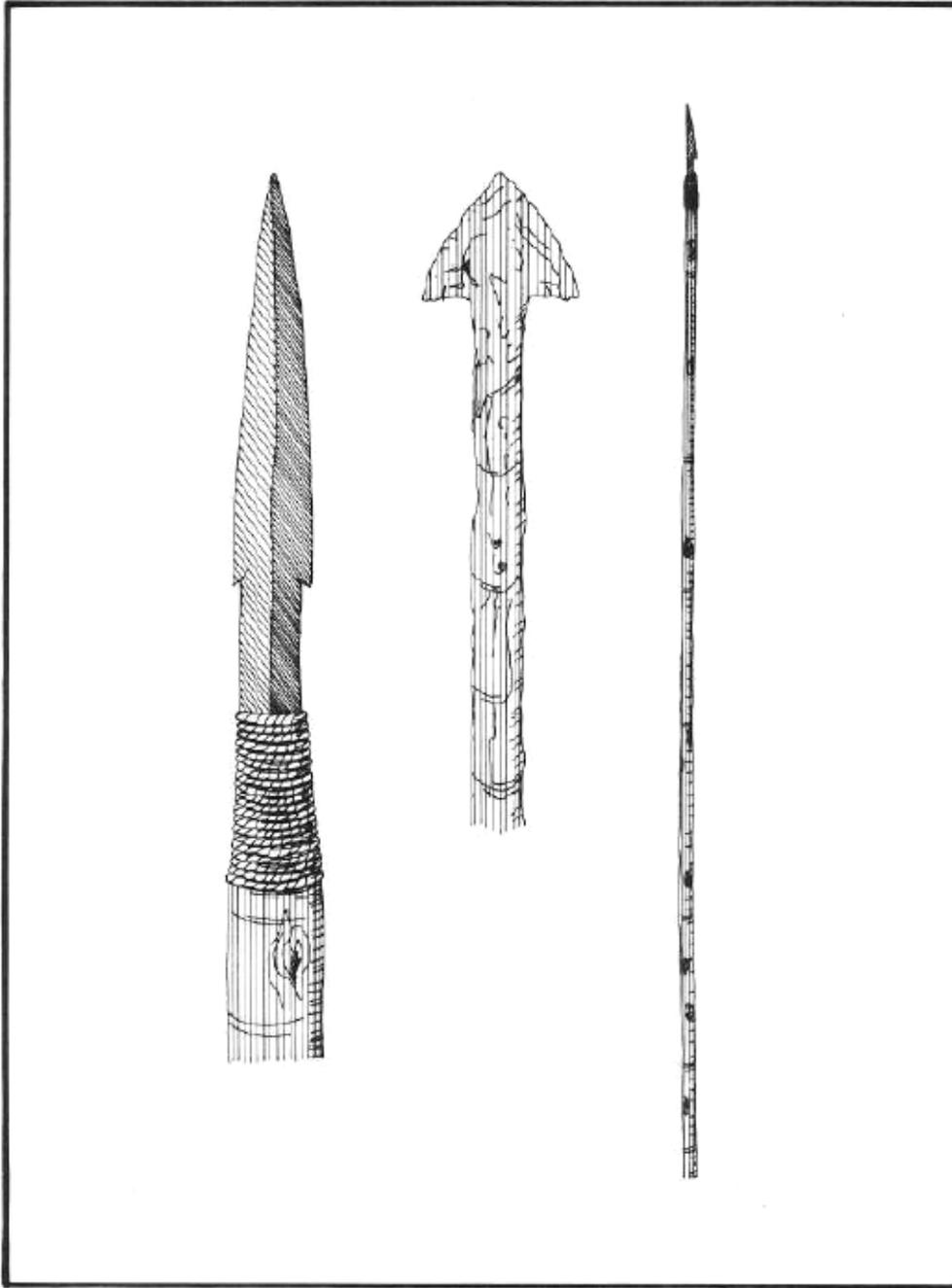


Figure 6. A spear for harvesting bottom-dwelling fish and shellfish. Described by the late Walter Meganack Sr.

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“Salmon”



Figure 7. Throw-line used for “hooking” salmon in streams usually had a lead weight attached.
(1/2 actual size) Described by Vincent Kvasnikoff

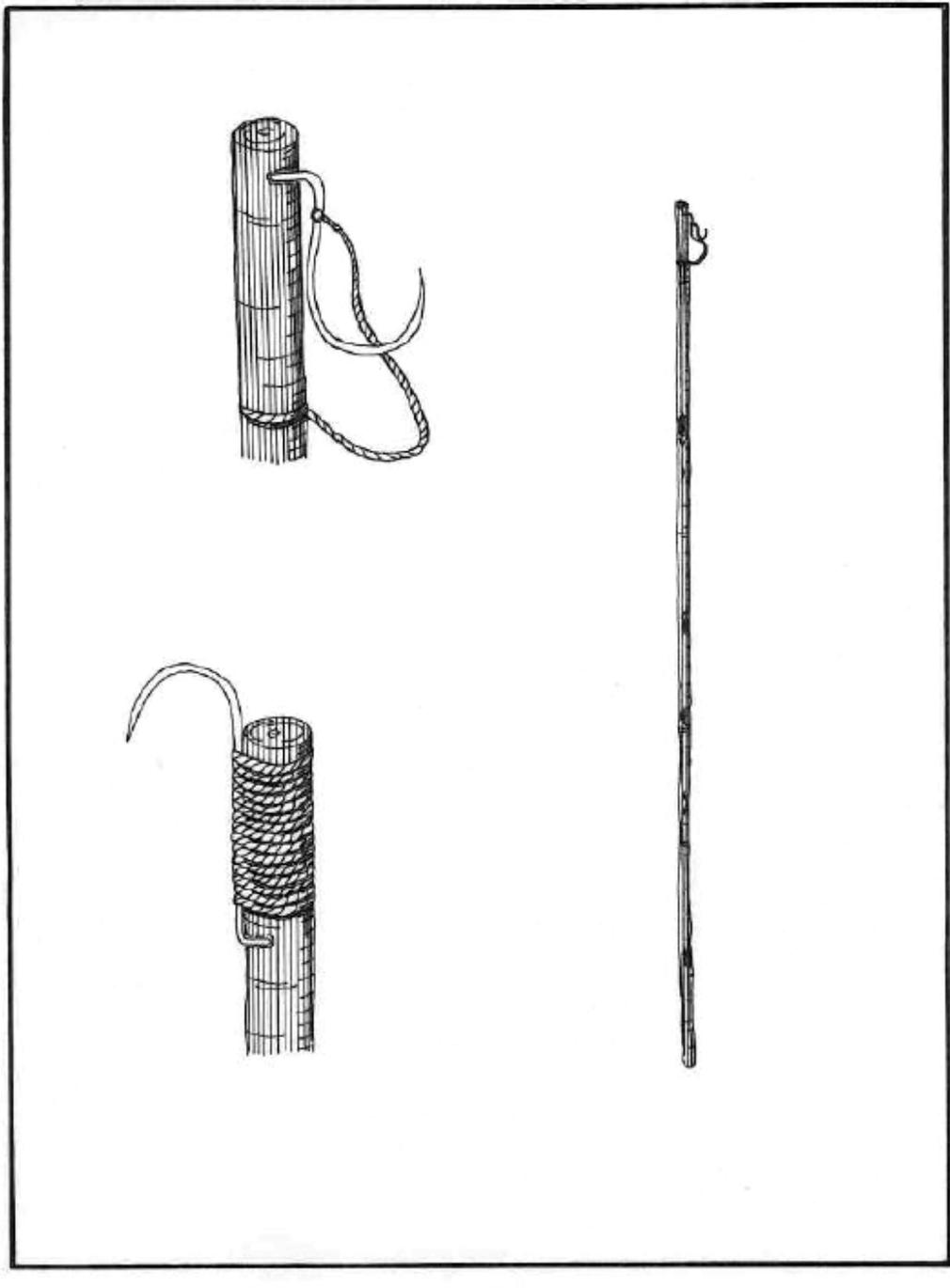


Figure 8. Salmon gaff hooks called Kluk. Described by Vincent Kvasnikoff and the late Ben Ukatish

preserve them by drying or smoking during periods of good weather. Traps and weirs were placed in the English Bay River in both tidal areas and in the falls. In the lower, tidal portion of the river, a weir described by J. Tanape (1982:pers. comm.) (Fig. 9) was used in the early 1900s. The weir was constructed of spruce logs and lashed together with roots. Vertical poles driven into the river bottom held logs lashed between them. A gate was built into the middle, and one end was open at high tide. At high tide a kayaker chased the fish beyond the weir. When the tide receded, a gate was closed and the fish were trapped behind the fence. Fish were then removed with hooks, nets, and by hand.

Another type of salmon trap was constructed in the waterfalls along the lower English Bay River. A fence made of spruce saplings was built part way across the base of the falls. Fish ascending the falls fell back against the fence. Fish held against the fence were removed with gaffs.

For saltwater species like halibut, sculpin, cod, and flounder, several types of handlines were used (Fig. 10). Traditional handlines were made of tightly rolled, smoked-dried kelp called *nuakataf* or whale sinew. After Russian contact, cord line was adopted. Typically, the line was attached to a horizontal bar from which several hooks and weights were suspended. A second hook arrangement in use to the present, had one or two hooks attached to the main line. A third type of line was laid on the beach at low tide with a baited hook on the ocean end and the other end tied off on the beach. Halibut and other bottomfish swimming along the shoreline were caught by this method. A fourth arrangement used for bottomfish involved a buoyed line anchored with a heavy weight. Multiple hooks were attached along the line (Figure 11). This method was particularly suitable for catching large fish since any severe pulling on the line could move the anchor some distance without breaking the line. Fishermen would locate the buoy and retrieve the fish.

During the 1930s, men from Nanwalek and Port Graham had hunting camps in Nuka, Yalik, and Aialik bays where they trapped furbearers and hunted marine mammals for both subsistence and commercial purposes. A federal bounty on marine mammals, eagles, Dolly Varden, and beluga was paid for certain parts turned in to federal agents. The bounty program was instituted in order to protect salmon resources from a perceived depletion by natural predators. A number of Port Graham and Nanwalek hunters traveled on large vessels to the outer Kenai coast to hunt seals and other predators for bounty. For land mammals, steel leg-hold traps were the primary means of capture; however, two traditional deadfall traps were also used. For small furbearers, such as weasel and mink, the *naneryaq* (Fig. 12) was usually baited to attract the animal. Another trap called the *aciirc'estaaq* (to go through) was used for large animals like land otter, fox, wolverine, and was made of one of two logs and set unbaited on a game trail. An animal following the trail walked through the opening between the two logs, tripped the trigger mechanism, and was crushed between the heavy falling log and two other logs buried in the ground.

For taking marine mammals, two types of spears were described. The first had a simple, straight, barbed point which when twisted would remain stuck in the animal. The second had a toggle point which detached from the shaft when the animal was struck. A line from the point was attached to a float made of seal stomach, and which marked the location of the animal. The spear was equipped, in historical times, either with stone points found locally or metal points made from soft metals obtained from ships, canneries, or sawmills (Figure 13).

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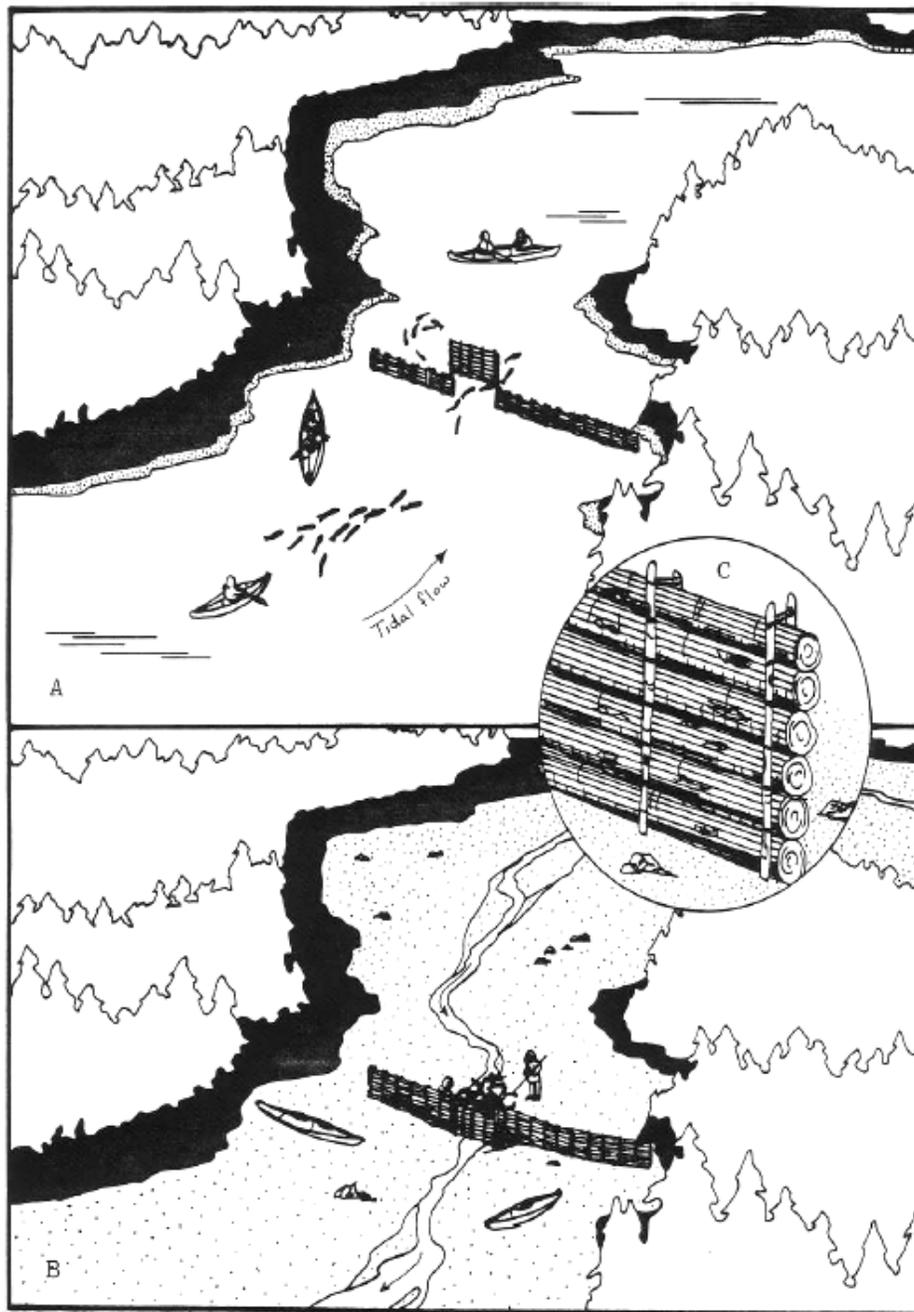


Figure 9. A fish weir used in the English Bay River. Described by the late Joe Tanape.

**No More
Fishtraps
For Me!**



Hand Trap

Sarge said that he had been working on fish traps too hard. He does not want to look at them anymore--even pictures of them--but he will for us;

They used to call the fish traps, which weren't driven with the pile driver or pilings, hand traps. The poles they used were 45 to 50 feet in length. About wintertime, after Christmas when the days got long, we had to go in the woods and get them poles. We cut the poles. You go in the flats. You see them flats when you pass by all around Niniilchik and all the places. We get a place close to where you don't haul far away with the dog team. That's got to be figured out. So we cut poles, put them on the dog sled. Bring them to the village here and on the other side of the beach. Not on the beach but above the beach, way above.

Pile them, I'd say you'd get two hundred poles, two hundred and fifty, five hundred to the most. That's the poles we need to make a trap. So we had to haul them out, and sometimes it took two, three months. If the road is no good, the dogs would be used. If it snowed, we had to break trail. That kept us going till nearly April, by the time we got all our poles out.

When it got warmer, the skins start coming off. Then we start peeling them. We'd stay there for about a week, peeling them all nice, and piling them up, ready to go if you want to sell them or you use 'em on your trap. That's how people made a little money that they spent on their holidays.

Well, first, before we started with the poles that were prepared to be used, we had iron pegs. The company used to bring old car axles and steel bars. They were about the width of a car--not over six feet, I'd say. They used to bring those in from Seattle or wherever they got them. We used to drive these down, one very eight feet or so. We had to drive them (to where the pot would be.)

You started out with a lead from the shore line a little way above the high water mark...

We had to work with the tide. As the tide was going out, we would drive them.

One time on putting the rails on, my dad said, "Put it here!", I says "Okay, I'll put it there." Bang! I hit him right on the toe. Oh, I thought he was going to hit me. So, I had to hold that rail for him to drive. You see somebody got to hold it. There was two, three people working all the time.

We worked ourselves out, if the tide was going out, and in, if it was coming in.

We had sledgehammers and all those iron bars. If we didn't have iron bars, then we had to make wooden pegs. They called them posts, and we'd use them. They were okay closer to shore, but the iron bars were best farther out.

These poles are shorter here at the shore line, but as we got deeper into the water, we had to use 45 to 50 footers-- if we would get them.

We had to work with the tides. We used to get minus tides, I say around eight point tides. We'd start to drive these because it was a minus tide, they were, I'd say, 21 to 22 footers. Along the Kenai Peninsula it (the tide) goes way out. You try to get all those pegs in. You've got to work fast with the tide coming in and going out. You have to work really fast, because you don't have much time.

Then we built a "heart." They called it that. It had about a four foot opening on that heart.

We had to drive this as long as the minus tides held out--we drove or else we had to wait for another minus tide we couldn't build it on one day, that's for sure!

They also had a "jigger." If you want to fish good on both ends--a flooding tide, going up the Inlet, or an out--going tide, you used a jigger.

They'd take a pot and first raise it up, (and) lash it with haywire, they used to call it. Then, they would put a middle capping on it, so it would hold tight. Then, they'd have to keep it from working out.

Then, on the high tides (again, we had to work on both tides--it all depends on the weather,) we put a top rig on, and it had to have a guy on there too. Everything has to be braced. They have to be solid, so it stands just straight.

When that's all braced we put on webbing. Web wire they call it. It's a heavy mesh. It's not chicken wire. It was for fish traps. We had to start way up there from the top capping down. If we couldn't get it at low water we had to use a dory, you know when the tides are small.

Into the trap itself there is a tunnel about a foot wide where the fish milling in the heart would feed into the trap. It was tied to the king pole.

About 3 poles distance from the trap they hung the apron. Light cable ran from top to bottom of the poles on each side of the heart entrance. There were rings tied to the sides of the apron web so it could be dropped when the light fishing period was closed. The tunnel was completely closed by swinging it to one side. The closures gave some fish a chance to escape up the stream to spawn.

When fishing was open they would raise the apron by it's strings (that's why it was called the apron) and tie the tunnel back on the king pole and they were ready to fish.

So, you have to work the pot and the heart, jiggers first, before you go along towards the shoreline. The fish comes this way, and if it's in the jigger it follows into the heart and it mills there.

And they'll mill there as the tide goes around, it goes into the tunnel. That's how they fixed it for fishing.

They fished the small tides and the big tides. When fish were in the trap they went out in a dory, cut the web and brailled the fish out. Whatever, king salmon, whatever the species of fish there is red salmon, silver salmon, and what not. Then they had a scow where they out the fish in for the tenders to pick up.

So that's the fish trap games. It's all hand work, that is why they call it hand trap. It took many days, many tides to make them. It's hard work lots of work to it. Sometimes big storms come, down it goes. And you have to start all over again if you want to. If you have the materials, you can go ahead and if you don't you're just out.

And everything cost money. They charge you. The company brings it to you, guywires and big spikes and that steel rails, whatever you need. They furnish that but they charge it to you when you're fishing.

Either if you're in a village, you hire your own man. They're dependable. They will do it, you know they'll help you. So they get their own man. The company don't have to hire.

But still they have to take it off your fishing statements, you know to pay the man. it isn't much. I don't know, maybe

three dollars a day or five dollars a day. That time there, the wages were pretty low.

I see pictures in Ninilchik. Some of my relatives has it, Victor Kalugin, he still has old scows and fish traps, hand traps."

The pile driven traps are different. Everything was easier to work. More people worked on it. The hammer does the hammering so you don't have to hit.

Driven traps, they're made out of piles. It's driven by a pile driver. if you've ever seen pile drivers. That's what they call it.

At block point there, they would drive out part of the way on the lead. And then it would be coal reef. You know the coal there on layer of coal they wouldn't drive. If they drive, the piling would pop out.

They would hang a cable across the top, then hang their wires, till they start driving again where they can hold the piling down. So it would be a distance of cable right here. And capping them is 2x8's or whatever they use capping. And the web wire is more higher. The pots are more bigger. And they have spillers.

The biggest trap was on Block Point. They had double spillers on it. And double hearts too. It was a sweeper now it is a driven trap. Some traps like McDonald Spit, we used to stay right on top of the rigging there. You know, they have a shack right there for the people. So you get up and when the boat comes in, you start working on your gear. Lift them up. It was easy. So was Seldovia trap. They had a small shack made for two people that took care of it, or watchman on that. Flat Island we didn't, I stayed there on year or two years. We had to come ashore.

We couldn't stay there on that thing. There was an old North-western fish house there. I think it was Northwestern Sawwans. When Fidalgo took over, the house was still there.

So we used just a dory to go in and out on the ocean. That was a bad one. We used to watch it, take a big gun and go up on the capping. Sealions, when there's a good run of fish, the sealions would go in there. They would tear up the King Salmon, the Red Salmon, oh something awful. So we had to shoot 'em. Get rid of them, because they would chase away the fish. I and Harry Norman, that was my partner before.

Yeah, the boat had to brail it out. We had to roll it out, because it gets in there. Every-time there's fish in there, you would see the sealions, just around there all the time.

"They pull those traps out in the fall when they're through. We have to pull all them pilings out. Take them in the bay or wherever they have them laid for the wintertime, for next spring operation. I was pretty small when I worked on them. But I did help my dad and somebody else before I worked on one of the traps. I was a teenager or smaller than that.

Story By: Tim Kvasnikoff
Drawing By: Jeff Evans
Layout By: Emily Kvasnikoff

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

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Available Sources: 1. Interview with Vincent Kvasnikoff 2. Interview with Simeon Kvasnikoff 3. ‘Fishing’ by Kaj Birket-Smith 4. ‘Old Fishing’ by Juanita Melsheimer 5. ‘Traditional Resource Use Areas’ by Ronald Stanek 6. ‘No More Fish Traps for Me!’ by Sarjus Kvasnikoff

Glossary:

- Tuqsiiq – fish harpoon/spear
- Kluks – salmon gaff
- Stick on a hook, backwards hook
- Harpoons – Cingik
- Caniqsuq – Hand-thrown line
- Kapuqaa’un – gaff with releasable hook
- Yamaq Kapkaanaq – rock fish trap
- Imaq Kapkaanaq – salt water fish trap
- Cuumi Iqallugsuucilrat – Old Fishing
- Spikes used for fishing – bent long nails
- Hook – Iqsak
- Gill net – Siitkaa
- Seine net – Kugyaq
- Handline – Nuakatat

FISH NET REPAIR

Grade: 6-8

Estimated time: 120 minutes

Standards: English C5a,b,c; Geography E1, E2, F3; History A5, B2; Government G2; Employability A2, A5, B5; AK Cultural A3, A4, C1, D1, D2, D3, E2

Focus: In this unit students will have the opportunity to actively participate in a hands-on activity that has been passed down through generations in Sugpiaq communities. Simultaneously, students will acquire a new skill that will make them more skilled in subsistence, while also helping students to consider working in the fishing industry as an attainable career choice. Finally, learning about fish net repair will provide students with a tangible connection to Sugpiaq past, as well as teaching them about the contemporary relevance of Sugpiaq heritage.

Vocabulary words:

Sugt' stun:

English:

Materials/Resources:

- Fishing net – to repair
- Rope
- Net Mending Needles (24 included in the Kit)
- Scissors
- Net Model from Exhibition
- Commercial Gear in Alaska. In *Alaska's Wild Salmon*, p. 45 – (one copy per students)
- Salmon Fishing Gear and How It Works by Jim Rearden (ed.). In *Alaska's Salmon Fisheries*, Pp. 26-42, Alaska Geographic. – (five copies)
- *Strongly suggested:* Sugpiaq Elder or fishing expert practiced in fish net repair
- Net Repair by Ulla Oxvig and Ulrik Jes Hansen. In *Fishing Gears*, Pp. 23-34.
<http://www.fisheriescircle.com/files/Fiskericirklen/Fagbogger/PDFer/Fishing%20gears/Fishing%20gears%20kap-3.pdf>

Teacher Preparation:

- Note to Teacher: This can be a partially outdoor activity. Possibly needs a large space to accommodate all students encircling the net. Make arrangements accordingly.
- Print out fishing net mending information and thoroughly review it. Also print extra copies to use in class as reference.

- Gather net and net mending supplies from the Kit
- Review net mending procedures

Activity Procedure:

A: Review material on fishing nets

1. Start the class by asking students what do they know about fishing nets? What are they made of? How are they used? Are all fishing nets the same? How are they different? Who makes fishing nets? Have they ever seen somebody mending fishing nets? Have they ever worked with a fishing net before?
2. Distribute the following reading material and instruct students to review the sections on fishing nets: “Commercial Gear in Alaska” in Alaska’s Wild Salmon, p. 45 and “Salmon Fishing Gear and How It Works” in Alaska’s Salmon Fisheries, Pp. 26-42.
3. Ask students to brainstorm on the question: What are the advantages of using a fishing net? E.g. People catch a large amount a fish in a short period of time. Nets do not bruise or scar the fish meat as fishing hooks do. It only takes a couple people to catch a large amount of fish. Etc.

B: Repair fishing net

1. Explain to the students that they will learn to mend a fishing net in today’s unit.
2. If there is an Elder or expert available, ask him or her to talk to the students about fishing nets in general.
3. Ask Elder/expert to follow demonstration by showing students how to use their needles and rope.
4. Continue by showing the correct technique of tying knots in order to mend damaged areas.
5. If there is no Elder/expert available, review material presented in “Net Repair” with students. Concentrate on 30-34.
6. Instruct students to proceed with mending the fishing net.
7. In the last 10 minutes of the class, review net information with students and ask them to reflect on their experiences.
8. Save the mended net for the last unit of the Kit (Presentation and Participation in Potluck).

SMOKED SALMON

Palik/Sekiaq

Grade: 6-8

Estimated time: Sekiaq 2-3 days, Palik 1-2 days,

Standards: Science A3, F1; World Languages A3, A4, B1, C4; Geography E1, E2, E4, F3; History A5, A6, B5; Skills for Healthy Life C6; AK Cultural A3, A4, C1, D1, D2, D3, E2

Focus: Many Sugpiaq children learn how to make *palik* and/or *sekiaq*, smoked salmon, early on in their lives. Others, however, may not be familiar with the process, even though they probably enjoyed eating smoked salmon on an everyday basis ever since they were little. In this activity, all children will have an opportunity to participate in a Sugpiaq cultural activity that is carried on and passed down from generation to generation. Students will develop an understanding of the human utilization of natural resources in a culturally specific context, as well as connect with traditional Sugpiaq heritage through the hands on activity of making their own smoked salmon.

Vocabulary words:

Sugt'stun: **Ciqlluaq** – Smokehouse, **Palik** – Smoked salmon, **Tamuuq** – Dried salmon, **Sekiaq** – Smoked and baked salmon, **Kenerkaq** – Wood, **Uumatak** – Smoked and boiled salmon

English: Smokehouse, Alder, Cotton Wood, Natural Resources

Materials/Resources:

- Salmon – cleaned (unless fresh fish is used, in which case cleaning can be a part of the activity)
- Salt (non-iodized)
- Potatoes
- Marinating bowls/tubs
- Paper towels
- Cookie sheets
- Cutting knife/uluq
- String to tie fish strips
- Smoke house/Little Chief Smoker
- Cotton wood chips (or others if alder is not available)
- Allergy information slips to be filled out by parents
- *Optional:* Contact and Invite and Elder or expert in smoking fish in a smokehouse

Teacher Preparation:

- Plan well ahead and gather the necessary items

- Review activity procedures
- Locate a smoker or a smokehouse you can use for the day
- Locate wood for smoking
- Find fish – buy at the store or find locally (if activity is scheduled during the fall, a salmon run might make it possible to get a fresh fish, otherwise use frozen and thawed out salmon)
- *Optional:* Make arrangements with a local Elder to come to class and show salmon cleaning and/or salmon preparation for smoking.
- Decide which version of the activity can be implemented in the class
- When using version 2 (smoker), write and have students take home the allergy slip the day before the activity, and return it with a parent’s signature

Activity Procedures:

A: Overview of Activity

1. Brainstorm with students on fish dishes they know. Direct their attention to smoked salmon and introduce the idea of palik and sekiaq. Point out, or have children point out the differences between dried and smoked salmon. This activity will give teachers insight on the general knowledge of their students’ regarding smoking salmon.
2. If there is an Elder available to participate in this activity, ask the Elder to talk to students about traditional methods of preserving salmon.
3. Explain activity procedures to students.

Version 1. – Smokehouse

A: Cleaning and cutting up fish

1. In this version the class uses a smokehouse to smoke salmon. This version can be used during early fall, which also means that there are still fresh silver salmon available to use. For this reason, this activity can include the cleaning and the cutting up procedures. If the teacher is not familiar with cleaning and cutting up salmon it is imperative to have an Elder/expert in the classroom. Furthermore, the goal of this activity is to teach students about Sugpiaq traditions, hence even a teacher experienced in cleaning fish will need help in teaching the traditional Sugpiaq methods of fish processing. In some instances, people in the community might be able to lend out their smokehouse during the winter as well, although the class will have to use already cleaned, frozen and thawed fish.
2. Instruct students to watch Elder cleaning the fish paying attention to details such as – cutting surface (covered with grass), implements used, direction of cuts, sequence of cleaning etc. Ask Elder to use Sugt’stun names and expressions while cleaning the salmon. Encourage students to recall the Sugt’stun name for salmon body parts and internal organs.
3. Ask Elder to explain about the various cuts used while preparing salmon, as well as their general purpose. E.g. cutting fish into strips, keeping it whole and making smaller cuts, the importance of thin strips... etc.
4. Instruct students to help the Elder tying the fish strips together.

B: Making the brine and curing the fish

1. Instruct students to listen to the Elder explaining about brines, and to take notes while the Elder prepares the brine.
2. All Elders have a different way of making their brine. The following is a general recipe:
 - a. Put approximately a gallon of water in a bucket/tub
 - b. Put a nail through a medium size potato
 - c. Add enough salt to the water, so that the potato floats
 - d. Add tied up salmon strips, and allow salmon to soak (this can be anywhere between 15-30 minutes, depending on the Elder)
 - e. Take fish out of the brine. Some people rinse the fish off with fresh water, others do not
 - f. Hang them in the smokehouse
3. Ask the Elder/expert to start the fire in the smokehouse, and explain students about the different kinds of wood that are good for smoking fish (wood that does not burn fast and does not put out a lot of heat). Most people use cottonwood in their smokehouse, but some people use other kinds of wood (e.g. alder).
4. Once the fire is going, ask Elder to explain students how a smokehouse works, the importance of ventilation, length of smoking etc.
5. Ask Elder to explain the difference between palik and sekiaq, as well as to explain how to complete the preparation of sekiaq. Instruct students to take notes.
6. Make arrangements with the owner of the smokehouse to have children come back and collect their sekiaq at a certain time, so that they can serve it at the potluck (final unit).

C: Reflecting on smoked fish activity

1. After the hands-on activities concluded, ask students to reflect on what they have learned. How was this salmon preparation different from what they are used to? Was it similar? How so?
2. Repeat vocabulary words (English and Sugt'stun) by listing them on the board.
3. Ask students to recall the steps in the smoke fish activity based on their notes and experiences.

Version 2. – Smoker

A: Cutting up fish

1. In this version the class uses a Little Chief smoker to smoke salmon. This version can be used any time during the school year, and it is a good alternative to a smokehouse. Even in this version, it is important to have a person experienced in cleaning and cutting fish to help with the activity. If the teacher is not familiar with cleaning and cutting up salmon it is imperative to have an Elder/expert in the classroom. Furthermore, the goal of this activity is to teach students about Sugpiaq traditions, hence even a teacher experienced in cleaning fish will need help in teaching the traditional Sugpiaq methods of fish processing. For this version, teachers need to locate and borrow a smoker for the day. The brining process takes 2 to 4 hours, while the smoking process takes an additional 2 to 4 hours. Therefore, it might be advantageous to combine this unit with the

- following one, so that students can use the soaking and smoking periods of time with completing salmon related activities.
2. Instruct students to watch Elder cleaning the fish paying attention to details such as – cutting surface (e.g. covered with grass), implements used, direction of cuts, sequence of cleaning etc. Ask Elder to use Sugt’s tun names and expressions while cleaning the salmon. Encourage students to recall the Sugt’s tun name for salmon body parts and internal organs.
 3. Ask Elder to explain about the various cuts used while preparing salmon, as well as their general purpose. E.g. cutting fish into strips, keeping it whole and making smaller cuts, the importance of thin strips... etc.

B: Making the brine and curing the fish

1. The following is a general recipe from www.smokehouseproducts.com. Smokehouse products are the makers of Little Chief Smokers.
Recipe URL address:
http://www.smokehouseproducts.com/recipes_detail.cfm?recipeID=7

1 qt. water
½ cup Non-Iodized salt
½ cup white sugar

Fill a quart jar 1/2 full with good warm water. Add salt and sugar. Mix well until dissolved. Top off jar with cold water. This recipe may be increased if you need more brine. Immerse prepared fish chunks, filets or small whole fish completely in the brine solution.

Brine chunks 1" thick, 8 to 12 hours or overnight.

Brine filets up to 1/2" thick about 4 hours

Brine small whole fish or very thin pieces about 2 to 4 hours.

Stir solution and rotate fish occasionally. Remove from brine. Rinse each piece in cool water and place on paper towels. Pat dry. In about 1 hour, you will notice a tacky glaze on the surface of the fish. This is called the "pellicle". Your fish is now ready for loading into the smoker.

THICK CHUNKS---Smoke 8 to 12 hours, using 3 panfuls of Chips 'n Chunks flavor fuel.

FILETS TO 1/2" ---Smoke 5 to 8 hours, using 2 panfuls of Chips 'n Chunks flavor fuel.

SMALL FISH, THIN PIECES---Smoke 2 to 4 hours using 1 or 2 panfuls of Chips 'n Chunks flavor fuel.

Add Chips 'n Chunks flavor fuel during the early stages of the drying cycle. Check the meat periodically for the degree of doneness you desire.

2. Instruct students to listen to the Elder explaining about brines, and to take notes while the Elder prepares the brine.

3. Soak fish in brine.

C: Suggestions for using soaking and smoking periods

1. Soaking period (2-4 hours) can be utilized in a variety of ways. As the Elder/expert is already in the classroom when the fish is placed into the brine, this is a good time to have the Elder talk about different topics pertaining to salmon preservation:
 - smokehouses
 - palik/sekiaq/tamuq
 - canning, freezing, salting
 - use of Sugt'stun words specific to salmon preservation
 - storing preserved fish
 - how to eat and prepare preserved fish
2. Smoking period (2-4 hours) can be used to complete the following unit (Compare-Contrast essay) with students. The advantages of this schedule are that students stay with the general outline of salmon and salmon fishing, yet have the opportunity to think about and develop an understanding of salmon fishing and processing as integral and interconnected elements. Another option is to continue with the class schedule and return to the Heritage Kit activity when the smoked fish is ready.
3. Take fish out from smoker.
4. If there are NO allergy issues with ANY of the students, ask students to try a small piece of their fish. In case of allergy issues, skip this step entirely.
5. Store fish for the last unit of the activity (potluck).
6. After the hands-on activities concluded, ask students to reflect on what they have learned. How was this salmon preparation different from what they are used to? Was it similar? How so?
7. Repeat vocabulary words (English and Sugt'stun) by listing them on the board.
8. Ask students to recall the steps in the smoke fish activity based on their notes and experiences.

COMPARE-CONTRAST ESSAY

Grade: 6-8

Estimated time: 150 minutes

Standards: English A1, A2, A4, A5, D1; Science E3, F1; Library B2, B4, B5; Geography E1, E2, F5; History Bb; AK Cultural B2, D5, E3, E4, E6

Focus: In this activity students will learn to identify the connections between traditional Sugpiaq and contemporary fishing techniques. Consequently, students will learn that ideas and technology may change overtime, yet such a change is still mediated through specific cultural understandings. Furthermore, students will practice their writing skills through a culturally focused discussion topic.

Vocabulary words:

Sugt’stun:

English:

Materials/Resources:

- Completed Fishing Techniques worksheets from Unit 5
- Notebooks or pieces of paper
- Pens/pencils
- Scratch paper
- Alaska’ Salmon Fisheries, Alaska Geographic 1983: 10(3) – 5 copies

Teacher Preparation:

- Gather books from the Heritage Kit
- Check classroom supplies
- Review activity (see description of previous activity as well for scheduling)

Activity Procedure:

A: Review Fishing Techniques, traditional and current

1. Distribute completed fishing techniques worksheet. Review it with students.
2. Explain students that they will be writing a compare-contrast essay on traditional a contemporary fishing techniques.
3. Review compare-contrast essay format with students. Be specific on the requirements, such as length, time frame, completion time etc...
4. Arrange students into small groups and distribute Alaska’s Salmon Fisheries to the groups.
5. Instruct students to flip through the book in order to gather ideas on contemporary fishing techniques for their essays. Give students approximately 20 minutes to

complete this part of the activity, and tell them that they can brainstorm within their groups.

6. Review material collected from the book, list them on board, and ask students to contribute additional ideas.

B: Compose essay

1. Instruct students to make an outline of their essay using their notes and completed worksheets.
2. Tell students to write their rough-draft.
3. Circulate in class and help students with their work.
4. Once a student is done with a rough draft, review draft and return it to student with suggestions.

C: Clean up essays – complete Final Copy

1. Instruct students to write the final copy of their essays. Explain that this will be part of the final exhibition and/or students will read it aloud during the last unit as a part of their class presentations.
2. Collect essays to use in last unit.

PRESENTATION AND POTLUCK

Grade: 6-8

Estimated time: 1 day

Standards: English A3, A4, A6, C4, C5a,b,c,d,e; World Languages A2, A3, C1; Art A1, A2, A3, A5, A6; B8, D6; AK Cultural A1, A3, A5, D1, D3, D6, E8

Focus: This activity is designed as the closing “ceremony” of the Heritage Kit experience. It can be organized by only by the 6-8 grade group on a smaller scale, or in cooperation with the other grade groups involving the entire community. It is also designed as a full day-long activity, providing ample time for preparation for both the presentations and the potluck. Students will have the opportunity to show their families and community members what they learned about salmon and salmon fishing. Students will also further their cultural awareness and take pleasure in their accomplishments in learning about fishing in the Sugpiaq cultural context by the positive reaction of, and reinforcement from, the community.

Vocabulary words:

Sugt’stun:

English:

Materials/Resources:

- All artwork produced by students during the Kit experience
- If photographs were taken during the activities, a selection of photos in print version
- Double sided tape, scotch tape, thumbtacks etc. for securing student’s work on walls
- A copies of invitation to Presentation and Potluck, one per student
- Parent sign-up sheet for potluck dishes

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Make copies of the invitations (one per student)
- Check with other teachers, if they are willing to cooperate in the presentations and potluck
- Check with principal regarding room assignments, using the cafeteria, or other large room where presentations can be held
- Contact parents regarding sign up for potluck dishes. If the entire school participates, some food will be provided by students in higher grades
- Check with principal whether the school can contribute any dishes to the potluck
- Collect all the art work children produced during the kit experiences

- Print out photographs, if there was any taken during the kit experience

Activity Procedure:

A: Decoration of room

1. Explain students what is expected of them during the presentation. Congratulate them on their accomplishments, and explain that their relatives and community members are interested to see what is it they learned.
2. Ask students to help securing their artwork on the walls of the room where the presentation will take place and to help with arranging the photo display area.

B: Preparation and presentation

1. This section of the activity can be tailored to specific talents, student bodies and situations. Teachers, based on their knowledge of their students can assign tasks to individuals, small groups, or the entire class.
2. Students can practice talking about their experience with fishing, learning new Sugt'stun words, their favorite activity, practice reading their essays, compose a short demonstration on fish net repair, compose a short speech explaining their Life cycle Migration board games or explain how they made smoked fish etc.
3. Provide at least 3 hours for students to practice their performance.
4. If other grades are participating as well, make sure to have at least one practice run in the presentation room with the all the grades present.
5. Arrange for students to finish their sekiaq by putting it into the oven for approximately 20 minutes on 350°. Alternately, instruct students to cut up their palik and place it on plates for the potluck. If it is possible, 6-8 grade students can help younger students to prepare a dish for the potluck.

C: Potluck

9. Remind students that they need to be respectful to Elders, and instruct them to go around the room and ask Elders if they needed anything before they get their own food.
10. 6-8 students will be responsible for cleaning up after the potluck, with help from the Pk-2 grades.

Cuumi Iqalluggsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

Dear Parents and Guardians,

Our _____ grade class participated in the **Cuumi Iqalluggsuucillrat “Iqalluk”, Old Fishing “Salmon” Heritage Kit** experience in the past two weeks. Through this curriculum, created by Chugachmiut, students learned about salmon and salmon fishing in a traditional Sugpiaq context.

We would like to invite you to please join us on the _____ of _____, 20____, as our students share their newly acquired knowledge through a presentation, which will be followed by a potluck.

If you wish to contribute a dish, please contact _____

We are looking forward to seeing you at the presentation!

Sincerely,

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

Overview of 9-12 activities

	What is a salmon?	How to catch a salmon?	What do we think about a salmon?
	Anatomy and Life Cycle	Tools and Techniques	Fishing in Social Context
9-12	<ul style="list-style-type: none"> - Salmon Species Research - Cleaning and Cutting Fish – Video and Essay - Life Cycle Calendar 	<ul style="list-style-type: none"> - Drawing a Fishing Spear - Habitat Water Samples - Salt Water Fish Trap 	<ul style="list-style-type: none"> - Local Fishing Jobs - Writing a Poem on Fishing/Salmon - Presentation and Participation in Potluck

SALMON SPECIES RESEARCH

Grade: 9-12

Estimated time: 5 hours (can be broken up to two days as research [3 hours] and writing [2 hours])

Standards: English A1, A2, A4, C1, C2, C3, C4; Science C1, C2; Technology A1, A2, A3, B1, B2, B3; Library B2, B3, B4, B5; AK Cultural E2

Focus: In this unit students will learn to identify the five pacific salmon species based on physical appearance as well as habitat characteristics. Through this activity students will also further their research skills, by locating and extracting information from the Internet and summarizing their material into a report. Lastly, students will learn to connect traditional Sugpiaq knowledge with scientific information while internalizing information on Pacific salmon species.

Vocabulary words:

Sugt'stun:

English:

Materials/Resources:

- Access to computer lab
- Research form (to be emailed to students)
- Notepad and pencil
- Internet Resources page (to be emailed to students)
- Alaska's Wild Salmon (for teacher's review)

Teacher Preparation:

- Review activity procedures and decide on the timeframe
- Review Alaska's Wild Salmon
- Review and email Research Form and Internet Resources page to each student
- Check classroom supplies (notepad and pencil)
- Arrange for the use of the computer lab
- Print out one Research Form and one Internet Resources page
- Review websites listed on the Internet Resources page

Activity Procedure:

A: Introduction to internet research on salmon species

1. Brainstorm with students on the different varieties of salmon by asking a series of questions. Be prepared that some students might have extensive knowledge, while others will know only basic information. Example: What kinds of fish can we call salmon?

Why? What are salmonids? Are all salmonids salmon? What are the five Pacific salmon species? How are they similar? How are they different?

2. Explain student activity procedures and describe the final project. Be specific on all the requirements and your expectations.
3. Ask students how would they go about finding information on the internet? Review how search engines work, and specify one or two that you want students to use.
4. Use the printed out Internet Resources Page to explain what kinds of information they might be looking for, how to fill out the Research Form, how many websites and research forms they need to complete for the activity.

B: Locating information and completing research

1. Instruct students to occupy the computer lab and begin their research.
2. Periodically remind students to stay on task and to focus; it is easy to get distracted with other interesting information while doing web research.
3. Circulate in room and help students with questions, monitor their progress and give suggestions.

C: Reflection and sharing gathered information

1. Once all students are finished with their work (or the allotted time is up), ask students to report on their findings. Which website was the most helpful? What search keywords did they use? What worked and what did not work in terms of finding information?
2. Prompt students to share the information they have found. Did they find information on five salmon species? Was there something they had already known? Did the information they found coincide with the information they learned from their Elders and parents? Was it different? How so? What was the most interesting fact they learned about salmon and salmon species?
3. Instruct students to review their research pages and select 1-3 specific information from each website they reviewed. Each piece of information must be different.
4. Instruct students to write a paragraph on each piece of information, making sure to cite where the information came from.
5. Tell students to compile their paragraphs into a short report. Encourage students to reflect on the information they have found and the information they learned from their Elders and parents on salmon. Give ample time for completing the writing part of the activity.
6. Save all reports for use in the last unit of the activity.

SALMON SPECIES RESEARCH

Internet Resources Page

Name: _____

Grade: _____

Suggested websites:

1. Alaska Department of Fish and Game, Wildlife Notebook Series
2. Salmon Nation
3. Think Salmon
4. Alaska Seafood Marketing Institute
5. ThinkQuest Library - Salmon

Keywords used: e.g. pacific salmon species,

Approved search engines:

SALMON SPECIES RESEARCH

Research Form

Name: _____

Grade: _____

Website Title:

Website URL:

Date Accessed:

Salmon Species covered on this website:

Information found on Salmon Species:

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

Website Title:

Website URL:

Date Accessed:

Salmon Species covered on this website:

Information found on Salmon Species:

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

Website Title:

Website URL:

Date Accessed:

Salmon Species covered on this website:

Information found on Salmon Species:

CLEANING AND CUTTING FISH – VIDEO AND ESSAY

Grade: 9-12

Estimated time: 90 minutes

Standards: English A1, A2, A4, A5, B1, B2, D1; Science A3, C1, C2, C3, F1; World Languages A3, A4, B2, B3; History A6; AK Cultural A3, A4, A6, D2, E2

Focus: In this activity students will learn the internal and external body parts of salmon in English and in Sugt’stun. Students will also have an opportunity to observe the way salmon is cleaned and processes by Sugpiaq people, as well as to reflect on the material by compiling their thoughts into an essay. Optional: This unit provides opportunities for teachers to further expand the focus of the activity to biology, marine biology, or cell biology.

Vocabulary words:

Sugt’stun: **Nasquq** – Head, **Ik** – Eye, **Qaneq** – Mouth, **Culugsutia** - Fins, **Rririt** – Scales, **Pumyaq** – Tail Fin, **Napateq** – Heart, **Tenguk** – Liver, **Qaryat** – Eggs, **Cungaq** – Gall bladder, **Anerrteqsutai** – Air sac, **Aqsaquq** – Stomach, **Pacik** – Gills

English:

Materials/Resources:

- CD – Pauline Demas cutting fish
- Pen
- Paper
- Access to computer with good speakers, or smartboard

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Review CD and activity procedures
- Check classroom supplies
- Check equipment

Activity Procedure:

A: Overview of external and internal salmon body parts

1. Introduce topic to students by brainstorming on fish processing. Have they cleaned a salmon before? Who taught them how to do it? How did they use the fish they have cleaned? Can they list any of the salmon’s body parts? Do they know the Sugt’stun names for any of them?
2. Explain students that they will watch a short movie on cleaning and cutting up salmon. Instruct students to pay close attention to every detail. Play movie of Pauline Demas cutting pink salmon.

3. Ask students to reflect on what they have seen. Was it something familiar? Was it different from the way they learned to clean fish? How so?
4. Play the movie the second time and instruct students to take notes.
5. Using the CD, ask students to practice and repeat the Sugt’stun words/expressions.
6. Give students ample time to write down the Sugt’stun material.

B: Writing essay

1. Explain students that they will be working on an Informal Essay. They are encouraged to express their own opinions and views, yet they still need to adhere to an essay format.
2. The subject of the essay is the fish cleaning and cutting process; including its description, the information they have learned, reflection on what they have known prior to the class, and observations they made.
3. Give students plenty of time to complete their essays (approximately 1 page long).
4. Review essays and suggests changes, re-writes if necessary.
5. Collect essays and save them to be used in the last unit of the Heritage Kit experience.

LIFE CYCLE CALENDAR

Grade: 9-12

Estimated time: This activity extends over 2 days; however, it requires only a few hours on each day. Day 1 – 2 hour; Day 2 – 2 hours (Total 4 hours)

Standards: Science A3, C2, C3, F1, F2, F3; Technology A2, B2, C3, D1; Library B2, B3, B4, B5; Geography E1, E2, E3, E4, F6; History B1b, D6; AK Cultural E2

Focus: In this unit, students will learn about the life cycle of salmon species and use the information to create a calendar displaying information based on what they have learned. Students will acquire and combine knowledge on traditional Sugpiaq subsistence activities and scientific documentation based on their studies in marine biology. Moreover, students will have an opportunity to work in an interdisciplinary environment by completing a project based on local history, biology, Sugpiaq cultural knowledge, and computer literacy.

Vocabulary words:

Sugt’stun:

English:

Materials/Resources:

- Alaska’s Wild Salmon (one per student)
- Life Cycle Poster
- Access to Scanner
- Access to computers with word processor and internet
- Digital cameras with batteries (optional)
- Photo paper (included in the Kit)
- Access to color printers
- Tabios, Derenty: Looking Back on Subsistence – 5 copies (included in the Kit)
- Melsheimer, Juanita: Old Fishing. In Aleksandrovsk No.2. pp 7 - 9. – 5 copies
- Fish. In Crowell et all. Looking Both Ways. Pp. 176. – 5 copies
- Picture request slips (1 per student, see resources)
- Calendar templates – to be emailed to students
- CD – Kathy Brewster
- *Optional:* Invite an Elder to participate in the class
- List of months and days of the week in Sugt’stun – for reference

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Review activity procedures

- Print out picture request slips
- Email calendar template to students
- Reserve computer lab
- Review CD
- Copy and review reference material (books and articles)
- Check equipment – scanner, camera, printers
- *Optional:* Make arrangements for an Elder to visit the class and to talk about the Sugpiaq traditions of handling and using salmon

Activity Procedure:

Day 1:

A: Introducing Salmon Life Cycle

1. Explain students the activities of the unit.
2. Distribute Alaska’s Wild Salmon and instruct students to read 14-19.
3. Using the Life Cycle poster, review the information with students, pointing out the major stage of a salmon’s life cycle.
4. If an Elder is visiting the class, ask Elder to talk to students about the various activities related to the use of salmon in each season. Make sure that students take notes.
5. Play CD of Kathy Brewster talking about salmon preservation and use in various seasons.
6. Explain students that they are going to produce a calendar as a group. Depending on the number of students, divide all participants into 12 groups. Each group will be responsible for one month (2 pages in the calendar). Assign months to students (or let them select it).
7. Point out to students that there is additional material available for them to review during their work (books and articles).

B: Designing and formatting calendar

1. Explain students that they are going to create a wall calendar with pictures. As homework, they will need to go home and ask their family members for the use of photographs depicting salmon related activities. The photographs can vary in subject and age, as long as they are relevant to the general theme of the unit. E.g. for winter months, photos can depict smoked salmon dishes, frozen fish, scenery of rivers and lakes etc.
2. Move students in to the computer lab.
3. Instruct them to open their emails, retrieve the calendar template and save it on their computers.
4. Instruct students to re-format their template based on their “own” months. Afterwards, tell students to brainstorm within their group on the information they wish to include on their calendar page. They can use all available resources for this segment of the activity (books, articles, poster, Alaska’s Wild Salmon, and notes from Elder). Make sure to point out that students will also need to use photographs.
5. Instruct students to prepare an outline and start designing their calendar page.
6. Students need to also make sure to research and include major holidays on their calendar page.
7. Distribute picture request slips to students, and tell them to use it to help explain their families the activity they are participating in. Make sure to remind student that they need to collect and bring to class 2-3 photographs pertaining to their own month.

Day 2.

1. Begin day 2 by reviewing activity procedures.
2. Instruct students to continue working on their design. During this time, also tell students to take turns at the scanner scanning their photographs. A group working on a month should use the scanner together, but all other groups should stay at their workstation designing. This schedule will reduce the probability of losing, mixing up, or damaging pictures. Help students with their scanning.
3. Once all pictures are scanned, ask students to stop their work and check all their pictures. Instruct them to place their pictures into their locker or bag.
4. After all the pictures are stored away safely, tell students to insert their pictures into their designs.
5. When students are done, review their work, suggest corrections, and re-writes.
6. Tell students to email their page to teacher, who will compile it into a calendar format.
7. Print calendars using a color printer and photo paper. If possible, print more than one copy, so that children can share their work. Assemble calendar. One copy should be given to the Elder, who visited the class during the activity; another copy should be placed into the classroom.

CYCLE CALENDAR

Days of the Week:

Sunday - Aga'uniq
Monday - Pekneq
Tuesday - Aipi'in
Wednesday - Pingayi'in
Thursday - Staami'in
Friday - Tallimi'in
Saturday – Maqineq

Months:

January –
February –
March –
April –
May –
June –
July –
August –
September –
October –
November –
December –

LIFE CYCLE CALENDAR

Dear Parents and Guardians,

The 9-12th grade students are working on creating a calendar based on the life cycle of salmon. They are studying traditional Sugpiaq knowledge, as well as fish biology through the Cuumi Iqallugsuucillrat “Iqalluk” - Old Fishing, Salmon - Heritage Kit curriculum.

We are asking family members to support students in their project, by providing them with family photographs and pictures depicting salmon related activities. Each student is responsible for bringing 2-3 photographs related to the particular month they are working on.

These pictures will be scanned at the school and returned to the families by students. They will be used in the calendar, which will be available to view during the final potluck and presentation.

Thank you for your help, and we hope you will be able to join us for the potluck.

Teacher’s Signature

Date

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

MONTH
MONTH in SUGT’STUN

Sunday Aga’uneq	Monday Pekneq	Tuesday Aipi’in	Wednesday Pingayi’in	Thursday Staami’in	Friday Tallimi’in	Saturday Maqineq

Created by: _____

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

OLD FISHING by Juanita Melsheimer

CUUMI IQALLUG- SUUCILLRAT

For information on old-time ways of fishing, we are using Juanita Melsheimer as our local authority. The following are quotations from Juanita.

I never saw rods and reels before, but my dad used to have some kind of spear-like thing. He used to make it out of (with) hand saws, not these Homelight chain saws, but these saws with a handle on both ends. They cut a sharp part of a saw with an ax and they'd tie it down on a pole and make a spear. Then he'd use it for fishing in the lagoon or up on the river there at the waterfall.

Whenever he saw a fish, he would throw the spear right at the fish. That's how they would catch fish. If he catches (hits) one, he could see the pole go up and down on the top of the water. That meant he's got one. He'd row real fast to get it.

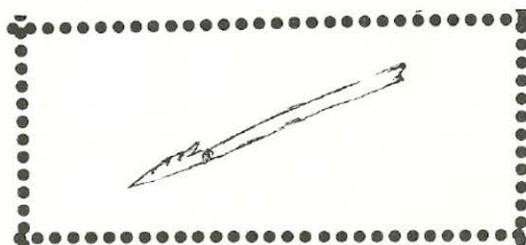
Another thing, they used to have these hand lines. They would cast the line out where lots of fish were, sink it and snag them one by one.

To kill a fish some would use oars. They'd hit the fish with oars like you kids do now. They'd throw rocks at them and hit them (while they were) in a shallow place.

(Back then) I never went fishing like I do now. My dad was the only one, and my mom. They used to go fishing together and it was very seldom that they would take us. But then they used to have a little seine to catch lots of fish.

Ggwii tangerllan'engua iqsa-guaneq cuumi, taataqa aturlalraa tuqsiinek. Piliaqllaqait pilallret aturluki, pilat tamaakut atunem pungqerlluteng. Keplluki ipegqait tupuulumek, taumi iqallugsurluteng nanwami gwall'u pamani kuigmi, ggwall'u qurllur-tehmi.

Nani tangrraqami iqallugnek tuqsiini egllaqii taatama kaki-piarluki pisuqengani. Taugna-llu tuqsiiya tangerlluku cekar-taruarluni.



Taumi-llu aqwaluku pakiurluni petgeruaqiinarluni.

Ukut cali aturlaqait qelut. Eglluku una'ut taumi-llu canigiluku nani tangertat amlerqaneq iqallugnek taumi-llu tawa'ut kic'eslluki taumi caniqiluki.

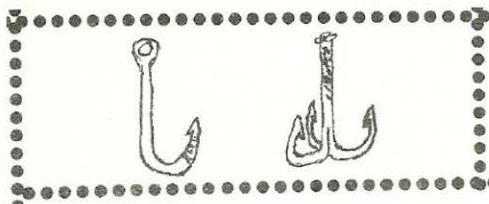
Pakiu'utet cali aturlaqait asugturluki qaillun ellpei aturla'aci nutaan. Cakuneng aglaur-luki ek'ilngurmi.

Cuumi iqallugsurlan'engua qaillun nutaan pisurlarcia taataqa taumi maamaaqa pisurlalriik. Qakukcakun tagullaqiikut pam'aut ggqangkuta miklemtehni. Kugyanguasa'arnek aturlalriit amlerqaneq iqallugnek piicaa-qameng.

Kuigmi pisurlaqait naluwar-luteng asuugturluki ggwall'u tuq-

In the rivers up there they would wade around and catch them (salmon). They would hit them with spears or poles they had. If it was shallow I don't know how they would catch them. I never used to go when my dad went way up there to fish this time of year (late summer and fall). He used to bring lots of fish down.

I don't know how they used to catch them, maybe they snagged them. They used to make big hooks-these halibut hooks. They never used these small hooks like we have.



If they liked to put up fish for the winter, you know, put fish away, there would be some guys who would go out fishing on a skiff out here on the beach or in the lagoon. They'd catch fish and divide them for families. Each family would get so much fish, you know. They would divide all the fish and clean them in the lagoon, and pack (carry) them to the smoke houses or outside to the fish racks.

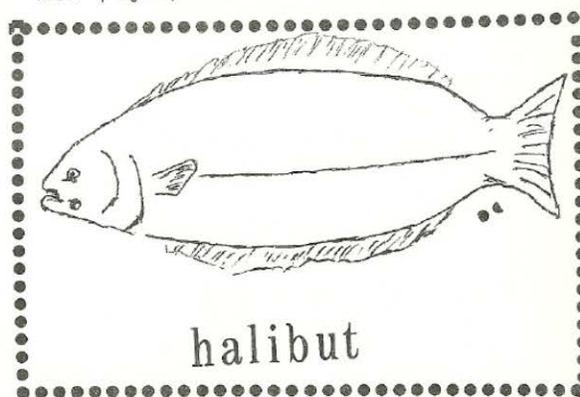
They'd hang them first for a few days. Then they'd take them into the smoke houses, to smoke them and dry them.

My dad used to have fun, I think. Even when he used to fish for the cannery in the summer time. He was a fisherman and would come home and go up to the waterfall or river and catch fish for us. When he was not home, we'd fish for some flounders and halibuts along the beach, but we never used to go to the waterfall, first lake or the rivers till later. When he quit fishing for the cannery, we would go fishing for Humpies and these reds, that's when their skin turns red.

siirluku. Nalluwaqa ek'itagan pisurlaqait qaillun. Iqallugsur-lan'engua cuumi maatermi (kiall-qurtaqau'u gwallu uksuarmi).

Taillalraa naatekcak iqallugnek taataqa. Qaillun ima pit-aqllaqai gwall'u caniqiluki. Pililalriit cali iqsakcagnek sagit iqsaitnek. Mikelngurnek iqsagnek aturlan'engut.

Llii'lalriit iqallugnek uksurkamen. Ilait iqallug-surlalriit nanwami gwall'u qut-mi. Piskuneng nangpia sug'et minarluki qupepiarluki. Taumi nanwamii segluki taumi tagulluki iniluki ciqlluanun gwall'u lla-men initanun qaucinek qawartar-ceslluki taumi itrulluki ciqlluan-puyuetarluki kinercarluki.



halibut

Taatata nunaniqsaaglalraa allrak. Iqallugsuutengraarmiu faapriikaq taiyaqami pama'ut taglala iqallugsuulluta qurllur-tehmen gwall'u kuigmen. Pama'ut taglan'engukut tainginaaqan kug-yallrunermek. Taiyaqan pisurlalraakut amartunek taumi narilngaatanek kawi'iyaqata narilngatat.

Caaqameng saaguayangusa-a'arneq pit'aqameng makut aturlaqait kakngaleguat per'lluki iqsaguacestun. Taumi qillerluki qelumek tan'erqamek gwall'u qaterqamek gwall'u cakuciqinarmek pingqertat. Piillalriit makunek nutaan qaillun pingerllartut ecui-ngurnek qaterqarllinarnek pingqerllalriit llegalngurnek. Pingqerllalriit cali takqanek qur-

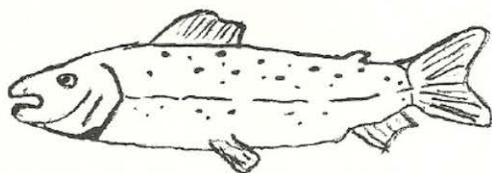
Sometimes if they caught little trouts like we do, they'd use these common pins. They'd bend them down like a hook. Then they would just tie them in with a string, black or white-any color of line they had. They never used to see this nylon lines before, just the white lines, real small ones, thin ones, they used to see.

They used to have a long nail, I think they called them "spikes". I don't know how they

bent those things. They'd tie them real good at the end of the pole. The pole would be about 3 or 4 feet. That's how they would catch them-(fish) with a nail. Bend it like a hook and sharpen it, file it real sharp, then they'd use it for fishing up there.

We used these smaller hooks, smaller than these halibut hooks. There never used to be triple hooks (just spikes or nails). They cut a little piece of wood and they'd put hooks on, 2 or 3 hooks. They would put them on the round wood, and bend it and tie it real good. Then they would snag the fish. But when we go fishing for some flounders we'd use smaller hooks.

There used to be lots of fish before. Now it seems like there's barely any fish around.

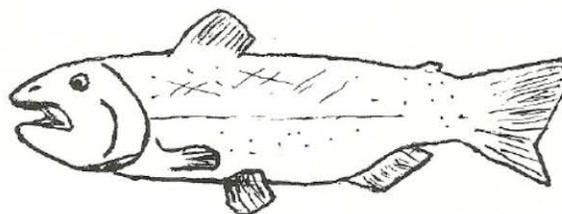


trout

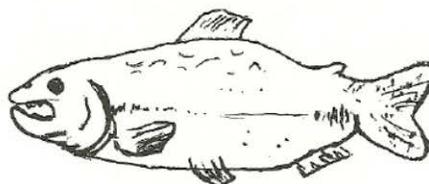
qanek, aperlaqait, "spaa'ikaanek" Aturlaqait perlluki qillrulluki asircangia'a, kenerkamen nall-qigqamen naaten kenerkaq tak-tagkwarluku. Kenerkaq naaten taktaluni (3 or 4 feet). Taw-aten qurqakun pisurlaqait. Qur-qaq per'lluku taumi ipegcarluku, napiilkaarluku ipgikcagceslluku taumi aturluku iqallugsursuutek-lluku.

Aturlaqepet mikelnguut iqsiiit mikellqelluki sagit iqsaita. Mak-unek tangerllan'engukut pinga'uru-ruanek. Makut cali aturlaqait qelut, iqsak qillerlluku kenerkamen akagngaqamen taumi pisurluki tamaakutgun. Am ggwangkuta mik-elnguut iqsiiit aturlaqepet pat-uqullugsuwaqamta.

Cuumi iqalluut amlerllalriit, nutaan awa piyutut.



red



pink

Story by James Kvasnikoff
As told by Juanita Melsheimer
Art work by James Kvasnikoff
Layout by Anita Evans

DRAWING A FISHING SPEAR

Grade: 9-12

Estimated time: 3.5 hours

Standards: World Languages B2, B3; Geography E1, E2, E4, E5; History A5, A6, B1b, C2; Art A1, A4, B4, B8; AK Cultural A3, A4, A5, D1, D2, D3, E8

Focus: By participating in this activity, students in the 9th-12th grades will develop an understanding of traditional Sugpiaq fishing methods, as well as record the information they learn through an artistic interpretation. First, students will listen to descriptions of Sugpiaq fishing spears and their use through oral history recordings with Elders. Secondly, students will reflect on the internalized material by creating a drawing depicting a fish spear in use.

Vocabulary words:

Sugt'stun: **Tuqsiiq** – Fish harpoon/spear, **Kluks** – Salmon gaff, **Cingik** – Harpoons, **Kapuqaa'un** – Gaff with releasable hook

English:

Materials/Resources:

- Fishing spear model from exhibition
- Access to Project Jukebox, smartboard or computer with good speakers
- Drawing paper
- Pencils
- Traditional Alu'utiq Technology by Ronald Stanek In *Ethnographic Overview and Assessment for Nanwalek and Port Graham* (for teacher's review)
- *Optional:* Invite an Elder, Fishing Expert (Fish and Game personnel, archeologist or museologist) to talk to the class about fishing spears and their use.

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Review Jukebox procedures and material prior to class
- Check audio equipment in advance
- Check classroom supplies

Activity Procedure:

A: Introduction to fishing spears

1. Brainstorm with students on fishing techniques they know, and then direct their attention to fishing spears. Use the information in Traditional Alu'utiq Technology by Stanek to review how fishing spears were used.
2. Ask students if they think fishing with spears was easy? If yes, why; if not, why not? Bring students' attention to the differences between fishing with poles and fishing with

spears. If there is an Expert/Elder available, ask him or her to talk to students about the use of fishing spears.

- a. With spears one cannot reach fish out further in the sea as well as one can with poles.
- b. As John Moonin, one of the Elders in Port Graham, pointed out, with spears one either catches a fish or not. With poles and hooks, people often scratch the fish without catching it, resulting harming fish stock swimming in our waters.
- c. In order to use a spear effectively, one needs to learn about currents, fish habitat, water characteristics, etc. Furthermore, one needs to learn the correct motions of using a spear.
- d. When using a spear, one has more control over the species of salmon one catches.
- e. Poles are readily available for purchase, while spears take time to make.
- f. Etc.

B: Introduction to Jukebox

1. Explain students that they will be listening to an interview by an Elder from Nanwalek who has passed on. He will be talking about fishing spears Sugpiaq people used in the past.
2. Explain the significance of jukebox. Brainstorm on history and oral history. E.g.: What is history? What is the difference between oral and written history? What can we use oral histories for? Why are they important?
3. Locate www.jukebox.uaf.edu. Make sure to walk through the pages together with the students, explain each page
 - a. Page 1: Project Jukebox. Explain students that this is an internet website and that they can visit it by using their computers at home. Show them the various collections at the bottom of the page, highlighting one-or two that might interest them. Show them how to find Nanwalek / Port Graham
 - b. Page 2: Site Use Agreement: Explain why is it important to follow the rules outlined in the agreement, and why is it allowed for you to accept it.
 - c. Page 3: General introduction
 - d. Page 4: Background History: Scroll through the page pausing on the pictures, while explaining to students that they can find background historical information on this page.
 - e. Page 5: “The Unegkurmiut ...”: Explain that this is information on Lower Kenai Peninsula Sugpiaq history.
4. Upon reaching the Nanwalek / Port Graham page, explain the type of information and interview topics available here. First click Port Graham, than go back to Nanwalek. (In Port Graham and Nanwalek: stop to discuss each person identified on these pages. Ask students to identify these people by name, relationship to them, etc)

C: Listening to stories, comprehending material through discussion

1. Select the Vincent Kvasnikoff collection. Explain that this interview was recorded in 1997. How many years ago was that? (In Nanwalek and Port Graham ask students to identify Vincent Kvasnikoff, such as how is he related to them, short stories etc.)
2. Listen to the 14th interview by Vincent Kvasnikoff on Fishing Tools (<http://www.jukebox.uaf.edu/NanPG/nanwalek/html/23506.html>). Discuss students what they have heard.

3. Replay segment, ask students to follow the interview closely while taking notes.
4. Locate the 16th interview by Simeon Kvasnikoff in the Port Graham section (<http://www.jukebox.uaf.edu/NanPG/prtgrham/html/23507.html>)
5. Repeat procedures in steps 2-6.

D: Drawing a fishing spear based on oral history information

1. Review the information heard and noted down by students. Ask students to explain how fishing spears were used. This is also a good opportunity for students to listen to additional information from an Elder or an Expert in the classroom, which will enhance their learning experience.
2. Explain students that they need to create an art piece (drawing) depicting a fishing spear (in use, detailed analytical drawing, drawing to scale, artistic interpretation, etc.) based on what they have learned.
3. Make sure to tell students the available time they have for completing their art piece. Also, explain students that they need to think about the subject, composition, and techniques they are going to use before they start working. Students can use their notes to design their art piece.
4. While students are working, circulate in the classroom and monitor progress.
5. Collect and review completed drawings. Ask students to explain their design.
6. Save completed artwork, so that they can be used in the last unit of the Heritage Kit Experience.

ETHNOGRAPHIC OVERVIEW AND ASSESSMENT
FOR NANWALEK AND PORT GRAHAM

Cooperative Agreement No. 14-35-0001-30788
TM 11, Task 4. Nanwalek/Port Graham Ethnography

D R A F T

Prepared by:

Ronald T. Stanek

Submitted to:

United States Department of the Interior
Minerals Management Service
Anchorage, Alaska 99508-4302

Submitted by

Division of Subsistence
Alaska Department of Fish and Game
333 Raspberry Road
Anchorage, Alaska 99518

December 30, 1999

Traditional Resource Use Areas

The resource harvest territory used by Nanwalek and Port Graham residents over the lifetimes of several elders alive in the early 1980s, is a reflection of the area used between contact and contemporary periods (Fig. 4). The use area is based on the recollections of Tanape (1982:pers. comm.) and Meganack (1982:pers. comm.) and reported in Stanek (1985:52-53). It is noteworthy that the use of such an extensive area was probably the result of the time in history when these two informants participated in the furbearer and marine mammal harvest activities of their parents and grandparents. When the Unegkumiut moved from the outer coast to Nanwalek and Dogfish Bay in the late 1800s, many continued their annual, seasonal resource harvests in traditional areas by moving to specific locations. The intensity of use in locations distant to Nanwalek and Port Graham decreased as reliance on cash employment increased after the 1930s and 1940s. However, elders' knowledge of much of the traditional use area was passed on to their children. They, in turn, continued to hunt marine mammals and land mammals, trap furbearers, and fish commercially in those traditional areas through the present day. This included the entire Kachemak Bay, and of particular interest was the use of the areas beyond Seldovia and east of Homer for moose hunting. An intimate knowledge of the use area is expressed in the Sugcestun naming of hundreds of places throughout their area and this has been documented in Leer (1980).

Traditional Alu'utiq Technology

Stanek (1985:56-82) collected information regarding traditional technologies in Nanwalek and Port Graham. Elders provided information about habitations, transportation methods, and hunting and fishing equipment. Descriptions of traditional technologies provided in 1982 were based on the actual use of such equipment during the lifetimes of the late J. Tanape and the late W. Meganack Sr. During their youth, these two men traveled widely with their families to areas on the outer Kenai coast and in Kachemak Bay. They were prominent fishermen and hunters with extensive knowledge of the country. They lived during a period which spanned the recent traditional past and the contemporary era of modern technology - from traditional skin kayaks and wooden paddles to modern aluminum boats and motors. In all cases, scale models or drawings were made by the informants or the field researcher to illustrate their descriptions. Illustrations were prepared from field notes and diagrams. Interestingly, a number of traditional hunting and fishing implements were in use well into the early 1900s, and several remain in use to the present.

Hunting and Fishing Equipment

During the late 1800s and early 1900s, Native fishing and hunting technologies were very similar to those used during the late 1700s and early 1800s. This was due in part to the prohibition against firearm use in sea otter hunting implemented by the Russians and Americans, and the preference of Natives to use arrows and spears so as not to frighten the animal (DeArmond 1969:5,10). The use of many traditional pieces of equipment continued into the early 1900s. Also, the cost of firearms and ammunition and most modern types of equipment was too high for most Natives in the lower inlet communities.

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

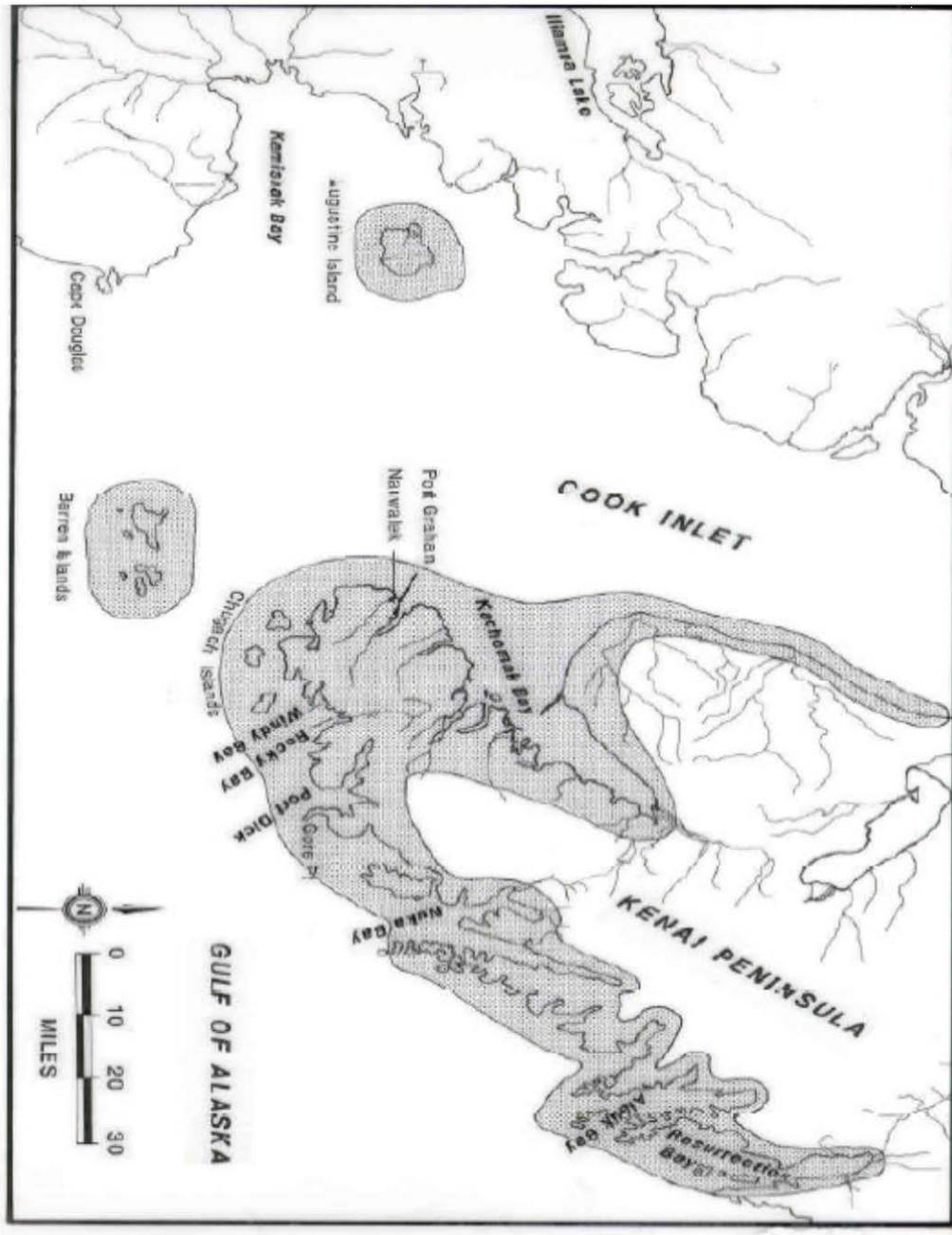


Figure 4. Traditional Wild Resource Harvest Areas of Narwalek and Port Graham Residents

One of the most important and widely used equipment items was the spear. Spears were used for gathering many near-shore and intertidal resources, and for stream fishing. Several types of spears (*panak*) were described by J. Tanape and W. Meganack Sr. (1982:pers. comm.) and in Birket-Smith (1953:41). During the 1800s, spear points (*cingik*) were made of soft metal obtained from traders, canneries, and sawmills. The points had sizes, barbs, and attachments for specific uses. A small sized spear called *tuqsiiq* with a detachable point was used for stream fishing (Fig. 5). Fish spears had long tapered shafts made of spruce saplings. A short piece of sinew or cord attached the point to the narrow end of the shaft.

Once stuck into a fish, the spear point detached from the shaft. A longer, coiled line from the opposite end of the shaft was held by the fisherman and used to retrieve the spear and fish. For very large fish, the point was not tethered to the shaft, but was attached to a handline. A third type of fish spear with a fixed point (Fig. 6) was used for getting small bottomfish and other bottom-dwelling intertidal organisms (crabs, small halibut and flounder, sea urchin, sea cucumbers, sculpins, rock cod and anything else that could be gotten in the shallows) collectively called *uyangtaaq*. Several elders recalled spearing Dungeness and king crab during the 1950s in Port Graham bay.

The use of fish spears by Port Graham and Nanwalek residents continued up until the 1950s. Just before statehood, spears were outlawed by federal regulations. Rods and reels became the legal and adopted method of in-stream fishing. Not surprisingly, the Alu'utiq had something comparable, a hand-thrown line (*caniqsuq*) with a multi-barbed hook used just as a rod and reel to snag fish in streams or in lakeshore shallows (Fig. 7). In contact times, hooks were made from bone. When nails became available, they were bent into hooks. A variation of this device was made from cod hooks tied together in a cluster. A modification of modern fishing lures was to attach pieces of painted wood or red and white cloth to the hooks. Stone sinkers were attached to the end of the line. The hook would then drift in the current and remain off the bottom and move in the stream current. Two other types of fishing devices used into the 1920s and 1930s included the *kapuqaa'un* and the *keluk* (V. Kvasnikoff and B. Ukatish 1983:pers. comm.) (Fig. 8). The *keluk* was a gaff used primarily for removing fish from traps and weirs. The *kapuqaa'un* was a gaff with a releasable hook fixed by a line to a shaft. The hook was thrust at the fish and, as it hit, the hook was released from the handle. A short tether attached the hook to the pole and the fish could be hauled in with the pole. Other means of harvesting large quantities salmon in streams included traps and weirs. These methods enabled fishermen to quickly harvest large quantities of salmon required for winter supplies, and

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

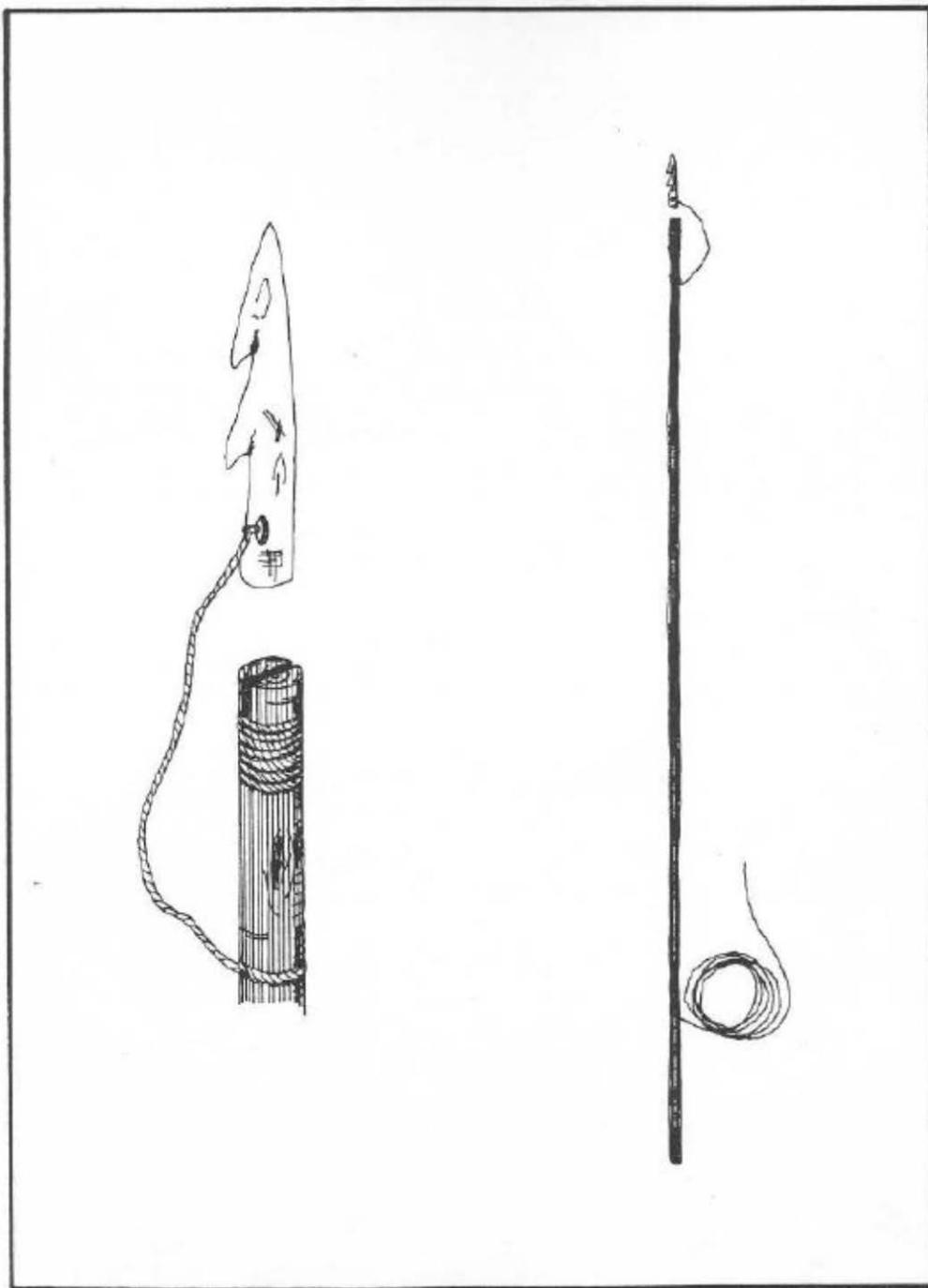


Figure 5. Fish spear (tuqsiq) used for spearing fish in streams and shallow tidal areas. Described the the late Sergius Moonin.

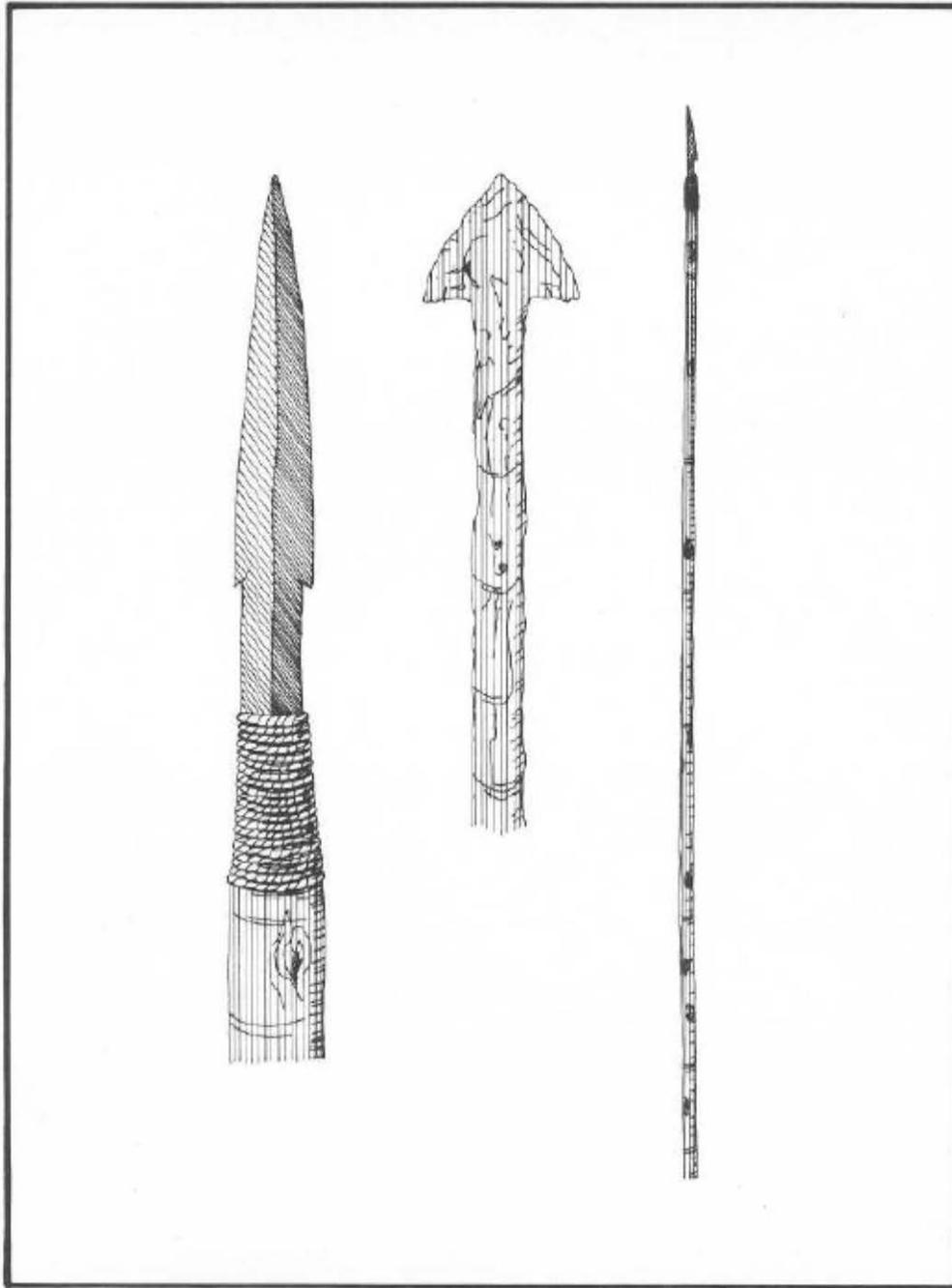


Figure 6. A spear for harvesting bottom-dwelling fish and shellfish. Described by the late Walter Meganack Sr.

preserve them by drying or smoking during periods of good weather. Traps and weirs were placed in the English Bay River in both tidal areas and in the falls. In the lower, tidal portion of the river, a weir described by J. Tanape (1982;pers. comm.) (Fig. 9) was used in the early 1900s. The weir was constructed of spruce logs and lashed together with roots. Vertical poles driven into the river bottom held logs lashed between them. A gate was built into the middle, and one end was open at high tide. At high tide a kayaker chased the fish beyond the weir. When the tide receded, a gate was closed and the fish were trapped behind the fence. Fish were then removed with hooks, nets, and by hand.

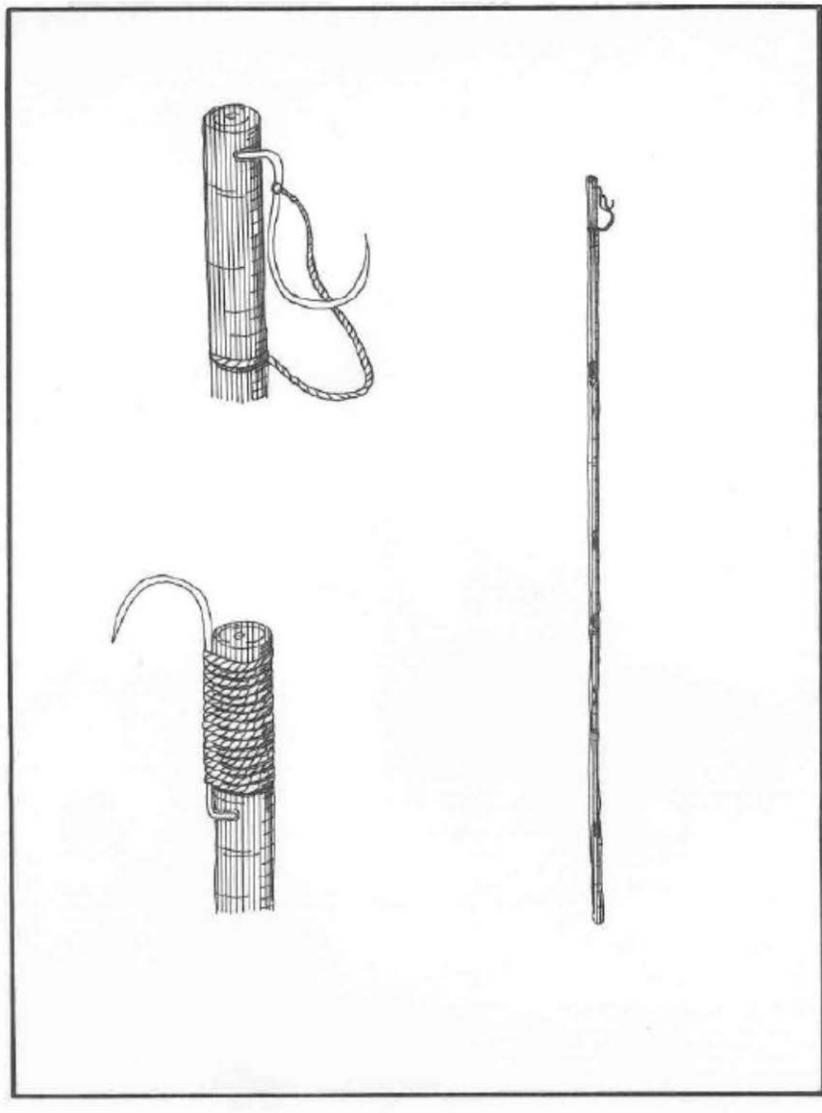


Figure 8. Salmon gaff hooks called Kluk. Described by Vincent Kvasnikoff and the late Ben Ukatish

HABITAT WATER SAMPLES

Grade: 9-12

Estimated time: 4 hours

Standards: Science A1, A3, C3, E2, F2, F3; Geography A5, C1, C3, F6; History A4, A6, B1b, Government G2; AK Cultural A3, D1, D3, E2, E4

Focus: By collecting and testing the qualities of riverine and marine water habitat, students will gain experience in conducting lab activities, marine biology, and salmon habitat. Students will also realize the intersections between biology and traditional Sugpiaq knowledge by reflecting on the correlations between the water qualities of salmon habitat and the observations Elders had collected and passed down through a multitude of generations.

Vocabulary words:

Sugt’stun:

English: Marine, Riverine,

Materials/Resources:

- Alaska’s Salmon (one per group)
- Water testing kits
- CD
- Notepads
- Pencils
- *Optional:* Inviting and Elder or Expert

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Select a marine and a riverine location to collect water samples
- Make arrangements for a field trip to collect water samples
- Review Alaska’s Wild Salmon (pages 14-35)
- Review CD and activity procedures
- *Optional:* This activity can be significantly enhanced by making arrangements for an Elder and/or a fish expert (marine biologist, fish industry worker, ichthyologist, etc.) to attend the class and participate in the activities.

Activity Procedure:

A: Reviewing salmon habitat with a special focus on water

1. Everybody knows that salmon live in water. But what kind of water do they actually live in? Brainstorm with students on the general idea of salmon habitat. What kinds of characteristics should water have to provide as a healthy habitat for salmon? Are these characteristics the same for fresh and salt water? How are they different? Why are they different? Do salmon need the same kinds of habitat through their entire life cycle? Asking such questions will help assess students’ knowledge on the subject and direct their attention to formulate further questions regarding salmon habitat.
2. Explain students that they will be reviewing information on the significance of water in the life of salmon.
3. Divide students into small groups and distribute Alaska’s Wild Salmon (one copy per group).

4. Instruct students to review pages 14-35, and take notes as a group on the most important factors they discover. Make sure to tell students that they have 30 minutes to complete this activity.
5. Continue by asking students to share their notes with the other groups. As a whole, list all information on the board.

B: Exploring Sugpiaq traditional knowledge on saltwater and freshwater salmon habitat.

1. Ask students to give a definition on the word “expert”. What does it mean? How do people become experts in something? What do you have to do to become an expert in something? What are they an expert of?
2. Explain students that Sugpiaq people have been catching, processing and eating fish ever since they settled down on the coasts of the Gulf of Alaska. In order to be able to catch and eat salmon, they had to pay close attention to its habits and lifestyle. This knowledge had accumulated overtime as it was passed down from generations to generations. Ask students to give a few example of such information? Who taught them about salmon? In what context?
3. If there is an Elder available, this is a good time to ask the Elder to talk about traditional knowledge about salmon, salmon habitat and especially the differences between salmon caught in fresh and salt water.
4. Play film interview with Nick Tanape. Review CD with students and instruct them to take notes. Afterwards, as students to reflect on the information they have heard.

C: Collecting water samples and laboratory work

1. Review activity procedures with students. Remind them to adhere to the rules and procedures used during field trips.
2. Review and explain water sample kit instructions
3. Take students on a fieldtrip, where they can collect water samples from both marine and riverine environment. If possible, take pictures during the field trip and the subsequent water testing activities.
4. Once back in the classroom, split students back into small groups. Explain students what is expected of them. Use the Water Testing manual to point out instructions and laboratory procedures.
5. Instruct students to start on their testing. Circulate in the room and help students with questions.
6. Ask students to compare the result of their tests between fresh and salt water.
7. Discuss the results as a group. Ask students to reflect on the information they have heard from the visiting Elder, on the CD, and learned from their own experiences.

SALT WATER FISH TRAP

IMAQ KAPKAANAQ

Grade: 9-12

Estimated Time: This is a multi day project; however it requires only a few hours on each day. Day 1: 4 hours (1 hour field trip, 3 hours classroom activity); Day 2: 2 hours; Day 3: 3 hours

Standards: English C4, C5a, b, c, d, e; Science E3, F1, F2; Geography E1, E2, E4; History A6, B5; Art A5; AK Cultural C1, D1, D2, D3, E2

Focus: Building a Salt Water Fish Trap model will teach students about the past of their ancestors and help them understand Sugpiaq technological history through an exercise with a tangible end product. Students have the opportunity to make use of the information they acquired on salmon and salmon fishing in the previous units of the Heritage Kit, as well as to develop an understanding and appreciation for a traditional fishing method.

Vocabulary words:

Sugt'stun: **Imaq Kapkaanaq**

English:

Materials/Resources:

- “No More Fish Traps For Me!” by Sarjus Kvasnikoff, Alexandrovsk No. 3, p. 20- 23.
- Card board box
- Newspaper
- Flour
- Water
- Acrylic Paint
- Spruce Tree branches (each model will need 45 pieces). 12 feet of spruce tree branches per project, each strip of branch needs to be 1/8 – 1/16 inch in diameter peeled, cut into 3 inch length
- 1’ x 1’ Window Screen mesh
- Graph paper
- Ziplock bags
- Glue gun
- glue sticks (6 per project)
- Containers for mixing glue
- Salt Water Fish Trap model from exhibition
- Camera with extra batteries
- *Optional:* Ask an Elder to visit the class on the first day of the activity, if possible ask Elder to accompany students on the field trip

Teacher Preparation:

- Plan the field trip to collect the required rocks and tree branches. Make arrangements and ask permission for field trip.
- Collect newspaper (12 full pages of newspaper per project)
- Review “No More Fish Traps For Me” by Sarjus Kvasnikoff – print out copies (one per students)
- Review fish trap construction procedures
- Check classroom supplies
- Locate additional supplies (flour, a container of water, card board boxes, etc.)
- *Optional:* make arrangements for an Elder to talk about traditional Sugpiaq fishing and fish traps

Activity Procedure:

A: Introduction to Salt Water Fish Traps

1. Ask students if they have ever heard of a fish trap. Ask them to theorize what a fish trap could be based on the word and their imaginations.
2. If there is an Elder available to visit the class, ask Elder to talk about Fishing in general, and Salt Water Fish Traps in specific. Use the Fish Trap model from the exhibition to demonstrate the mechanics of the trap.
3. Distribute “No more Fish Traps for Me” article. Instruct students to read it, then follow up with a short discussion on the information they read about. Use the fish trap model to point out different sections described in the article.
4. Decide the number of fish traps students will be building in this activity. If it is more than one, divide students to groups. Make sure that each group will collect the necessary material.

B: Field Trip to collect rocks and tree branches

1. Using the Salt Water Fish Trap model point out the students all the materials (rocks and branches) needed for the construction. Point out the sizes, shapes, length etc.
2. Review field trip procedures with students. Remind them to stay together, follow directions, follow safety procedures, etc.
3. If there is an Elder accompanying students on the field trip, ask the Elder to explain why is it important to show respect for the environment, and how students should do that.
4. During the field trip remind students the size of rocks and branches they need to collect. Each project needs 1 one gallon size ziplock bag of sand like rocks, and 1 one gallon size ziplock bag of pebble size rocks.
5. Take photos during the field trip.

C: Assembling the fish trap model

Day 1:

1. Once back in the classroom, arrange students around their work stations. If there will be more than one model constructed, split students up to groups.
2. Instruct students to pick a box to use (one per each group, if there is more than one). Tell students to get a stack of newspaper, and explain them how to prepare their glue by combining 1 part of flour with 2 parts of water. If it is available, students can add Acrylic paint to their glue mixtures to create a more realistic look.

3. Using the newspaper build the landscape inside the box. As they are depicting seashore, the “beach” setting needs to slant towards one end of the box lengthwise. Once it is complete, allow 24 hours for drying.

Day 2:

1. Have the students split back up into their groups, and instruct them to prepare the glue mixture one more time (1 part flour and 2 parts water).
2. Pour mixture onto model and spread the glue so that it is evenly spread across the surface
3. Place the small sand like rocks on their model showing the beach sloping. Put it aside and allow 24 hours to dry.
4. Instruct students to begin making the fish trap basket.
 - Take 6 – 4 inch long pieces of wood, slowly peeling them until they get to the thickness of a toothpick.
 - Take one of sticks and slowly bend into a circle and glue together.
 - Take the other 5 sticks and glue them to the circle each being equal distances from each other;
 - Then bring each opposite ends together and glue them in place
5. Save all pieces for the last day.

Day 3:

1. Pass out graph paper, and have students draw a plan of how their trap is going to be placed into their model. Make sure to point out that students need to use a 1/4 inch black mark where each spruce tree branch is going to be placed.
2. Place drawing in model and begin poking a hole through the paper and model floor where each spruce branch is going to be placed.
3. After all holes are marked and punctured, begin hot gluing each spruce posts into each hole.
4. When posts are secured into the “ocean floor”, measure the height of the posts from the surface of model to the top of the posts and begin cutting the window screen to fit and hot glue it on.
5. Placement of the fish trap basket:
 - Wrap window screen around the fish trap basket and hot glue it on
 - Place the fish trap basket in the entrapment box with the opening of the fish trap basket opening facing the entrapment opening.
 - Allow few hours to dry
6. While waiting for the model to dry completely, ask students to reflect on their experience, and connect it to the information they have learned from their readings during the first day of the activity.
7. If desired, allow students to color and paint their fish trap models.
8. Save models for the last unit of the Heritage Kit experience (Presentation and Potluck)

**No More
Fishtraps
For Me!**



Hand Trap

Sarge said that he had been working on fish traps too hard. He does not want to look at them anymore--even pictures of them--but he will for us;

They used to call the fish traps, which weren't driven with the pile driver or pilings, hand traps. The poles they used were 45 to 50 feet in length. About wintertime, after Christmas when the days got long, we had to go in the woods and get them poles. We cut the poles. You go in the flats. You see them flats when you pass by all around Ninilchik and all the places. We get a place close to where you don't haul far away with the dog team. That's got to be figured out. So we cut poles, put them on the dog sled. Bring them to the village here and on the other side of the beach. Not on the beach but above the beach, way above.

Pile them, I'd say you'd get two hundred poles, two hundred and fifty, five hundred to the most. That's the poles we need to make a trap. So we had to haul them out, and sometimes it took two, three months. If the road is no good, the dogs would be used. If it snowed, we had to break trail. That kept us going till nearly April, by the time we got all our poles out.

When it got warmer, the skins start coming off. Then we start peeling them. We'd stay there for about a week, peeling them all nice, and piling them up, ready to go if you want to sell them or you use 'em on your trap. That's how people made a little money that they spent on their holidays.

Well, first, before we started with the poles that were prepared to be used, we had iron pegs. The company used to bring old car axles and steel bars. They were about the width of a car--not over six feet, I'd say. They used to bring those in from Seattle or wherever they got them. We used to drive these down, one very eight feet or so. We had to drive them (to where the pot would be.)

You started out with a lead from the shore line a little way above the high water mark...

We had to work with the tide. As the tide was going out, we would drive them.

One time on putting the rails on, my dad said, "Put it here!", I says "Okay, I'll put it there." Bang! I hit him right on the toe. Oh, I thought he was going to hit me. So, I had to hold that rail for him to drive. You see somebody got to hold it. There was two, three people working all the time.

We worked ourselves out, if the tide was going out, and in, if it was coming in.

We had sledgehammers and all those iron bars. If we didn't have iron bars, then we had to make wooden pegs. They called them posts, and we'd use them. They were okay closer to shore, but the iron bars were best farther out.

These poles are shorter here at the shore line, but as we got deeper into the water, we had to use 45 to 50 footers-- if we would get them.

We had to work with the tides. We used to get minus tides, I say around eight point tides. We'd start to drive these because it was a minus tide, they were, I'd say, 21 to 22 footers. Along the Kenai Peninsula it (the tide) goes way out. You try to get all those pegs in. You've got to work fast with the tide coming in and going out. You have to work really fast, because you don't have much time.

Then we built a "heart." They called it that. It had about a four foot opening on that heart.

We had to drive this as long as the minus tides held out--we drove or else we had to wait for another minus tide we couldn't build it on one day, that's for sure!

They also had a "jigger." If you want to fish good on both ends--a flooding tide, going up the Inlet, or an out--going tide, you used a jigger.

They'd take a pot and first raise it up, (and) lash it with haywire, they used to call it. Then, they would put a middle capping on it, so it would hold tight. Then, they'd have to keep it from working out.

Then, on the high tides (again, we had to work on both tides--it all depends on the weather,) we put a top rig on, and it had to have a guy on there too. Everything has to be braced. They have to be solid, so it stands just straight.

When that's all braced we put on webbing. Web wire they call it. It's a heavy mesh. It's not chicken wire. It was for fish traps. We had to start way up there from the top capping down. If we couldn't get it at low water we had to use a dory, you know when the tides are small.

Into the trap itself there is a tunnel about a foot wide where the fish milling in the heart would feed into the trap. It was tied to the king pole.

About 3 poles distance from the trap they hung the apron. Light cable ran from top to bottom of the poles on each side of the heart entrance. There were rings tied to the sides of the apron web so it could be dropped when the light fishing period was closed. The tunnel was completely closed by swinging it to one side. The closures gave some fish a chance to escape up the stream to spawn.

When fishing was open they would raise the apron by it's strings (that's why it was called the apron) and tie the tunnel back on the king pole and they were ready to fish.

So, you have to work the pot and the heart, jiggers first, before you go along towards the shoreline. The fish comes this way, and if it's in the jigger it follows into the heart and it mills there.

And they'll mill there as the tide goes around, it goes into the tunnel. That's how they fixed it for fishing.

They fished the small tides and the big tides. When fish were in the trap they went out in a dory, cut the web and brailled the fish out. Whatever, king salmon, whatever the species of fish there is red salmon, silver salmon, and what not. Then they had a scow where they out the fish in for the tenders to pick up.

So that's the fish trap games. It's all hand work, that is why they call it hand trap. It took many days, many tides to make them. It's hard work lots of work to it. Sometimes big storms come, down it goes. And you have to start all over again if you want to. If you have the materials, you can go ahead and if you don't you're just out.

And everything cost money. They charge you. The company brings it to you, guywires and big spikes and that steel rails, whatever you need. They furnish that but they charge it to you when you're fishing.

Either if you're in a village, you hire your own man. They're dependable. They will do it, you know they'll help you. So they get their own man. The company don't have to hire.

But still they have to take it off your fishing statements, you know to pay the man. it isn't much. I don't know, maybe

three dollars a day or five dollars a day. That time there, the wages were pretty low.

I see pictures in Ninilchik. Some of my relatives has it, Victor Kalugin, he still has old scows and fish traps, hand traps."

The pile driven traps are different. Everything was easier to work. More people worked on it. The hammer does the hammering so you don't have to hit.

Driven traps, they're made out of piles. It's driven by a pile driver. if you've ever seen pile drivers. That's what they call it.

At block point there, they would drive out part of the way on the lead. And then it would be coal reef. You know the coal there on layer of coal they wouldn't drive. If they drive, the piling would pop out.

They would hang a cable across the top, then hang their wires, till they start driving again where they can hold the piling down. So it would be a distance of cable right here. And capping them is 2x8's or whatever they use capping. And the web wire is more higher. The pots are more bigger. And they have spillers.

The biggest trap was on Block Point. They had double spillers on it. And double hearts too. It was a sweeper now it is a driven trap. Some traps like McDonald Spit, we used to stay right on top of the rigging there. You know, they have a shack right there for the people. So you get up and when the boat comes in, you start working on your gear. Lift them up. It was easy. So was Seldovia trap. They had a small shack made for two people that took care of it, or watchman on that. Flat Island we didn't, I stayed there on year or two years. We had to come ashore.

We couldn't stay there on that thing. There was an old Northwestern fish house there. I think it was Northwestern Sawans. When Fidalgo took over, the house was still there.

So we used just a dory to go in and out on the ocean. That was a bad one. We used to watch it, take a big gun and go up on the capping. Sealions, when there's a good run of fish, the sealions would go in there. They would tear up the King Salmon, the Red Salmon, oh something awful. So we had to shoot 'em. Get rid of them, because they would chase away the fish. I and Harry Norman, that was my partner before.

Yeah, the boat had to brail it out. We had to roll it out, because it gets in there. Everytime there's fish in there, you would see the sealions, just around there all the time.

"They pull those traps out in the fall when they're through. We have to pull all them pilings out. Take them in the bay or wherever they have them laid for the wintertime, for next spring operation. I was pretty small when I worked on them. But I did help my dad and somebody else before I worked on one of the traps. I was a teenager or smaller than that.

Story By: Tim Kvasnikoff

Drawing By: Jeff Evans

Layout By: Emily Kvasnikoff

LOCAL FISHING JOBS

Grade: 9-12

Estimated time: 3 hours

Standards: Science A3, C2, C3; Geography B7, C1, E1, E2, E3, E4; Government C2, A4, G2, G3, G5; Employability A2, A3, A5; AK Cultural A4, E2, E6

Focus: This activity is designed to help students recognize the importance of salmon in their local economy and its global correlations. Students will also learn about the rules and regulations pertaining to salmon fishing, particularly subsistence fishing, while realizing the interconnectedness of salmon and human existence in their local environment. Finally, students will explore fishing jobs through a series of hands-on exercise, which will prompt them to reflect on their personal career plans and goals.

Vocabulary words:

Sugt'stun:

English:

Materials/Resources:

- Fishing Enhancement Job Application Paperwork (one per student, 5 pages per packet)
- Fish Count Paperwork (one per group, 2 pages per packet)
- Hand-outs for Fish Count and Recognition Exercise (included in the kit, total of 10)
- Alaska Fish and Game Subsistence Regulations:
[http://www.legis.state.ak.us/basis/folioproxy.asp?url=http://www.jnu01.legis.state.ak.us/cgi-bin/folioisa.dll/aac/query=\[JUMP:'5+aac+01!2E001'\]/doc/{@1}/hits_only?firsthit](http://www.legis.state.ak.us/basis/folioproxy.asp?url=http://www.jnu01.legis.state.ak.us/cgi-bin/folioisa.dll/aac/query=[JUMP:'5+aac+01!2E001']/doc/{@1}/hits_only?firsthit)
(background information for teacher's use)
- Policy for the management of sustainable salmon fisheries:
[http://www.legis.state.ak.us/basis/folioproxy.asp?url=http://www.jnu01.legis.state.ak.us/cgi-bin/folioisa.dll/aac/query=\[JUMP:'5+aac+39!2E222'\]/doc/{@1}?firsthit](http://www.legis.state.ak.us/basis/folioproxy.asp?url=http://www.jnu01.legis.state.ak.us/cgi-bin/folioisa.dll/aac/query=[JUMP:'5+aac+39!2E222']/doc/{@1}?firsthit)
(background information for teacher's use)
- Print out and copy “Federal Provisions for the Taking of Fish”
<http://alaska.fws.gov/asm/pdf/fishregs09/general.pdf> (one per student, 4 pages per packet)
- Copy of Work Page Information (one per student)
- Copy of unit Worksheet (one per student)
- Fish species photographs (included in the Kit)
- Small ruler (one per student)

- *Optional:* Invite an Fish Enhancement Program representative

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Review Alaska Fish and Game Subsistence Regulations
- Copy all necessary work material (included in the Kit)
- Review Work page, Worksheet, “Federal Provisions for the Taking of Fish”
- Review Fish Enhancement paperwork
- Review Fish Enhancement Job Application Paperwork
- Review Fish Count activity procedures
- Check classroom supplies (rulers)
- *Optional:* Contact and invite a Fish Enhancement Project personnel to come to class and talk to students about salmon runs and counts.

Activity Procedure:

A: What is subsistence fishing?

1. Brainstorm with students on various kinds of fishing regulations they are aware of, know about, or follow in their everyday lives. Record their answers on a board, smartboard or presentation board.
2. Distribute a copy of the Work Page Information sheet to students (see resources).
3. Point out four distinct type of fishing: commercial, sport, personal, and subsistence. Explain that the differences between these categories are the purpose of fishing. Ask students to define the reasons behind taking fish when engaging in these fishing activities. Make sure to point out the differences between Subsistence and Personal use.
4. Explain students that they are going to be focusing on subsistence fishing regulations in the following exercise, as it is one of the most prevalent reasons for fishing for Sugpiaq people.
5. Distribute a copy of “Federal Provisions for the Taking of Fish” to students. Repeat the definition for Subsistence fishing.
6. Distribute unit worksheet. Instruct students to work in pairs or small groups to read the information and to fill out the worksheet, but each student has to have their individual worksheet completed by the end of the activity.
7. Check answers with students as a group.

B: Fish Enhancement Project

1. Ask students to recall the elements of a healthy fish habitat. Ask students to brainstorm, and draw up arguments supporting the need for a healthy environment for abundant salmon runs. Ask students to theorize what would happen if there was no salmon in their community for one year.
2. Explain students the general purpose of a fish enhancement program. Use the ANA-Nanwalek Sockeye Enhancement Project description to cover the following areas:
 - a. self-sustaining program
 - b. pathogen free source of water

- c. production – exvessel value (price paid to fishermen)
 - d. correlation between number of eggs, number of smolt and number of returning fish
 - e. importance of maintaining returning fish numbers by periodically closing down all types of fishing until the required numbers of salmon are reached
 - f. importance of skill and training of all participants of the project
3. Explain students the daily procedures of a salmon enhancement program. If there is a person working for a fish enhancement project available to visit the school for this activity, ask him or her to explain the daily activity procedures. Emphasize that the weir needs to be closely and constantly monitored, so as to keep the fish healthy. People work in groups, usually in day and night shifts in enhancement projects.
 - a. First, they count the outgoing smolt. Ask students to clarify why this is important.
 - b. Secondly, they count the incoming fish. Ask students why this is important.
 - c. Review and explain Fish Enhancement fish count paperwork
4. Explain students the activity procedure. They will work in groups, as people work at the weir, to count outgoing smolts and incoming adult fish.
5. Counting smolts: Distribute smolt count worksheet and smolt hand-outs, one per group.
 - a. Explain, or have the Fish Enhancement expert explain, students the importance of each rubric and field.
 - b. Instruct students to count the fish present on their hand-outs, and record the numbers and characteristics on the paperwork. Tell students to concentrate on Fork length and remarks.
 - c. Tally fish count on the board. Ask students to calculate the projected income of adult sockeye salmon based on the smolt numbers in 4-5 years. (number of smolt x 0.18 = number of adults).
6. Counting adult fish: Distribute adult count worksheet and adult count hand-outs, one per group. All students will use the daytime worksheet.
 - a. Explain, or have the Fish Enhancement expert explain, students the importance of each rubric and field.
 - b. Instruct students to count the various types of fish present on their hand-outs, and record the numbers and characteristics on the paperwork. Tell students to concentrate on Sockeye Trap 1, Coho, Dollies, Other, and Adults.
 - c. Tally fish count on the board. Ask students to calculate the projected number of sockeye eggs based on the sockeye number. (number of adults x 90.3 = eggs)
7. Ask students to reflect on the exercise and on what they learned.

C: Fish Enhancement Jobs

1. Explain students that fish enhancement jobs are available in some of the communities of the Chugach region, as well as in many Alaskan communities.

- Explain that in order to apply for a job with an Enhancement project they have to fill out an application. The application they are working with is for a position at the Nanwalek Fish Enhancement Project through the Nanwalek Indian Reorganization Act Council.
2. Distribute paperwork and review each question with students. Some of the material in this application does not apply to students in 9-12 grades. However, once they graduate, they should be able to fill in all areas of the paperwork.
 3. Instruct students to complete as many questions as they can on the application. Once they are finished ask them which questions they were not able to answer. Discuss the incomplete questions with students and ask them to share their ideas on the information needed for that particular question.

Nanwalek IRA Council
 100 Nikita Street
 PO Box 8028
 Nanwalek, AK 99603

EMPLOYMENT APPLICATION

Equal access to programs, services, and employment is available to all persons without regard to race, religion, sex, age, national origin, color, disability, veteran status, or any other status or classification protected by applicable state or federal law. Those applications requiring reasonable accommodation to the application and/or interview process should notify the Tribal Administrator.

Please print:

_____ Title of Position Applying For

Name: _____ Phone: _____

Address: _____

Are you known by any other name? Yes No If yes, by what name? _____

Are you a military veteran? Yes No Branch of Service _____ Type of Discharge _____

Available for following types of positions:

Full Time Temporary Seasonal Part Time

U.S. Citizen? Yes No

EDUCATION

Highest Grade Completed (Circle) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
 Elementary High School College

Name and Address of High School: _____

Did you graduate? Yes No Year Graduated _____

High School Equivalency (GED) State: _____ Number: _____ Date: _____

List colleges, Universities, Graduate Schools, Trade Schools, and other attended

Name and Address	From	To	Credits	Degree/Year	Major

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

EMPLOYMENT EXPERIENCE

Provide the following information for your past and current employees, assignments, or volunteer activities, starting with the most recent (use additional sheets if necessary). Explain any gaps in employment in comments section.

Name and Address of Employer	Dates Employed		Average Hours per Week	Number of Employees you supervised
	From:	To:		
Phone:	Salary or earnings Starting \$ Per Ending \$ Per		Reason for leaving:	
May we contact references? Yes <input type="checkbox"/> No <input type="checkbox"/> Later <input type="checkbox"/>	Supervisor's Name and Title:		Title of Your Position:	
Summarize the type of work performed and job responsibilities:				
Name and Address of Employer	Dates Employed		Average Hours per Week	Number of Employees you supervised
	From:	To:		
Phone:	Salary or earnings Starting \$ Per Ending \$ Per		Reason for leaving:	
May we contact references? Yes <input type="checkbox"/> No <input type="checkbox"/> Later <input type="checkbox"/>	Supervisor's Name and Title:		Title of Your Position:	
Summarize the type of work performed and job responsibilities:				
Name and Address of Employer	Dates Employed		Average Hours per Week	Number of Employees you supervised
	From:	To:		
Phone:	Salary or earnings Starting \$ Per Ending \$ Per		Reason for leaving:	
May we contact references? Yes <input type="checkbox"/> No <input type="checkbox"/> Later <input type="checkbox"/>	Supervisor's Name and Title:		Title of Your Position:	
Summarize the type of work performed and job responsibilities:				
Name and Address of Employer	Dates Employed		Average Hours per Week	Number of Employees you supervised
	From:	To:		
Phone:	Salary or earnings Starting \$ Per Ending \$ Per		Reason for leaving:	
May we contact references? Yes <input type="checkbox"/> No <input type="checkbox"/> Later <input type="checkbox"/>	Supervisor's Name and Title:		Title of Your Position:	
Summarize the type of work performed and job responsibilities:				

Comments, including explanation of any gaps in employment: _____

List any additional information you would like us to consider: _____

OTHER QUALIFICATIONS

Registrations, Certificates, and/or Licenses: _____

Languages spoken other than English: _____

Clerical and office skills: Typing _____ wpm

Office Machines and Computer Software skilled in: _____

List types of mechanical equipment, electronic equipment, computers, chain saws, or machinery you are qualified to operate or repair: _____

If this position requires a valid driver’s license, please answer the following:

Valid Drivers License Number: _____ State: _____

Number and type of moving violations in the past three years: _____

Will accept a position requiring travel:

Continuous Remote Area Frequent No Travel Occasional Lower 48 Canada

Are you able and willing to travel for extended periods of stay away from your duty station and home? Yes No

Have you ever been convicted of any criminal offense involving violence against others, taking money or property, or dishonesty?

Yes No

Have you ever been convicted of a Driving Under the Influence (DUI)? Yes No

If you answered yes to any of the above questions please give a brief explanation and dates of your convictions:

BACKGROUND CHECK AUTHORIZATION Yes No

ADDITIONAL REFERENCES

List the names and telephone numbers of three business/work references who are not related to you and are not listed elsewhere in this application. If not applicable, list three school or personal references who are not related to you.

Name	Phone	Years Known

Date you will be available for work _____. Please feel free to attach your resume or letters of reference.

A false statement on any part of your application may be grounds for discontinuing the employment process or for dismissal after you begin work.

I understand that any information I give may be investigated as allowed by law.

I consent to the release of my information about my ability and fitness for employment by employers, schools, law enforcement agencies, and other authorized employees of Nanwalek IRA Council.

I certify that, to the best of my knowledge and belief, all of my statements are true, correct, complete, and made in good faith.

 Signature

 Date

Nanwalek IRA Council
Affirmative Action Voluntary Form

Nanwalek IRA is an equal opportunity employer. Qualified applicants are considered for employment without regard to race, color, religion, national origin, age, sex, marital status, mental or physical ability, veteran status, or any other status or classification protected under applicable state or federal law.

To help us comply with Federal equal opportunity record keeping requirements, please answer the questions on this survey. The information you provide will assist us in insuring that all protected classes are represented in our applicant population.

This data is for government reporting. Completion of this data is VOLUNTARY and will in no way affect employment with Nanwalek IRA. This survey will be separated from the remainder of the application form and maintained in a separate file and will not be reviewed by the individual making the employment decision.

Please print or type

Title of position for which you are applying: _____

Date: _____

Please indicate the appropriate category for your sex and ethnic background:

- Male
- Female

- White
- Black
- Hispanic
- Asian/Pacific Islander
- American Indian/Alaska Native
- Other: _____

Referral Sources:

How did you learn of this job opportunity?

Personal Reference, Friend, or Relative
Name _____

Newspaper or various advertisements
Name of resource _____

Community Service Agency
Name of Organization _____

Business or Professional Referral
Name of Company _____

Other Contact Name _____

Telephone Inquiry

Walk-in Applicant

Applicant Signature

Date

Applicant's Printed Name

Address

Cuumi Iqallugsuucillrat
“Iqalluk”

Old Fishing
“Salmon”

NANWALEK IRA

P.L. 93-638 FORM
ALASKA NATIVE AMERICAN INDIAN PREFERENCE

I request consideration under P.L. 93-638.

Alaska Native and American Indian preference hiring is conducted under P.L. 93-639 (Indian Self-Determination and Education Assistance Act.) If you are eligible, please provide documentation such as:

- Certificate of Indian Blood (CIB)
- Certificate of Tribal Enrollment
- Native Corporation Affiliation
- Regional Corporation: _____
- Village Enrolled in: _____
- Other: _____

Documentation attached? Yes No

Applicant Signature

Date

Applicant's Printed Name

Local Fishing Jobs

Work Page Information

Name: _____

Grade: _____

Personal Use Fishing: “Personal use fishing means the taking, fishing for, or possession of finfish, shellfish, or other fishery resources, by Alaska residents **for personal use** and not for sale or barter, with gill or dip net, seine, fish wheel, long line, or other means defined by the Board of Fisheries (AS 16.05.940[24])” (http://www.adfg.state.ak.us/special/special_fisheries/personal_use.php).

Subsistence Fishing: “The Alaska Department of Fish and Game recognizes the definition of subsistence fishing to mean the taking of, fishing for, or possession of fish, shellfish, or other fisheries resources by a resident of the state for subsistence uses with gill net, seine, fish wheel, long line, or other means defined by the Board of Fisheries” (http://www.adfg.state.ak.us/special/special_fisheries/subsistence.php).

"*Subsistence* uses of wild resources are defined as 'noncommercial, customary and traditional uses' for a variety of purposes. These include: Direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation, for the making and selling of handicraft articles out of nonedible by-products of fish and wildlife resources taken for personal or family consumption, and for the customary trade, barter, or sharing for personal or family consumption (AS 16.05.940[32])” (www.adfg.state.ak.us).

Commercial Fishing: A person engaged in **commercial fishing** is considered a commercial fisherman and must hold a commercial fishing license. Commercial fisherman means an individual who fishes commercially for, takes, or attempts to take fish, shellfish, or other fishery resources of the state by any means, and includes every individual aboard a boat operated for fishing purposes who participates directly or indirectly in the taking of these raw fishery products, whether participation is on shares or as an employee or otherwise; however, this definition does not apply to anyone aboard a licensed vessel as a visitor or guest who does not directly or indirectly participate in the taking; and the term "commercial fisherman" includes the crews of tenders, processors, catcher processors or other floating craft used in transporting fish” (<http://www.admin.adfg.state.ak.us/license/faqlic.html>).

Sport Fishing: “Statewide sport fishing regulations define **sport fishing** as ‘the use of a single line having attached to it not more than one plug, spoon, spinner, or series of

spinners, or two flies, or two hooks. The line must be closely attended.’ (5 AAC 75.020)”
(<http://www.cf.adfg.state.ak.us/region3/pubs/yukon/rir-3a06-09.pdf>).

Local Fishing Jobs

Worksheet for “General provisions for the Taking of Fish”

Name: _____

Grade: _____

1. List 3 areas where you **cannot** take fish for subsistence purposes.

2. In **general**, do you need a license when you are subsistence fishing?

A. Yes / No

B. What are the exceptions? Explain:

3. If you need a permit for subsistence fishing (such as fishing for salmon), where do you have to keep your permit and why? Explain.

5. Imagine that you are a subsistence fisherman who also holds a commercial fishing license. You went fishing and you are on your way from dropping off your salmon at the tender. You kept a couple of fish, which you want to take home to your family for dinner. Can you do that? Explain the regulations pertaining to your situation.

4. Circle **all** methods of fishing that are **legal**:

Longline Spear Explosives Jigging Fish Wheel Dip Net
 Chemicals Beach Seine Handline
Non-indigenous Bait Gillnet over 50 fathoms long

6. Respecting salmon is a traditional part of Sugpiaq life. Wastefulness is also regulated by the Alaska Department of Fish and Game. What are the similarities between these two approaches?

7. True or false:

A. Customary trade is the name given to the traditional exchange of cash for subsistence-harvested fish and wildlife.

True / False

B. Sport Fishermen can legally sell fish parts in the State of Alaska.

True / False

C. You can only take fish within the published open season dates for ceremonial purposes.

True / False

D. You can always use a rod and reel without a permit when subsistence fishing.

True / False

E. You may ask another qualified person to do subsistence fishing for you, if you are not fishing at the same time.

True / False

WRITING A COUPLET POEM ON FISHING/SALMON

Grade: 9-12

Estimated time: 2 hours

Standards: English A1, A2, A4, A5, C1, C2; World Languages A3, B1; Art A1, A2, A4; AK Cultural E4, E8

Focus: By writing a couplet poem on salmon and/or fishing students will experience a new channel for expressing themselves, while reflecting on the newly internalized information. For this reason, students will simultaneously further their language art skills, learn to mediate information through different disciplines and discover Sugpiaq knowledge from a new perspective.

Vocabulary words:

Sugt’stun:

English: Closed Couplet, Heroic Couplet, Enjambed Lines, End-stopped Lines, Iambic Pentameter,

Materials/Resources:

- Couplet Poem Example Page
- Couplet Poem Worksheet
- Pencils
- *Optional:* Access to computer lab with printer
- <http://www.merriam-webster.com/dictionary/couplet> – for teacher’s review
- <http://www.mahalo.com/how-to-write-a-couplet> – for teacher’s review

Teacher Preparation:

- Print out copies of Couplet Example Page (one per students)
- Print out copies Couplet Poem Worksheet (one per students)
- Review websites for information on couplets
- If the students are required to turn in a typed page, arrange for the use of the computer lab – check printer and paper supply
- Review activity procedures

Activity Procedure:

A: Exploring couplets

1. By 9-12 grades, students most likely have a good grasp on the idea of the various type of poetry. However, in order to ascertain the extent of their knowledge, start the unit by brainstorming on poetry in general. What is poetry? What kinds of poems do they know? How are they similar? How are they different? What is

- poetry used for? Have they written a poem before? What kind? What is it that they remember about writing poetry?
2. Continue by introducing/reviewing the idea of couplets. Explain what couplets are, how they are used, what their major characteristics are, etc. Use the information from the websites listed under teacher’s resources. Couplets can be presented either in a very simple overview form, or, if students already have a good base knowledge of poetry, in a more detailed version including different varieties of couplets (e.g. closed couplet, heroic couplet, enjambed lines, end-stopped lines, iambic pentameter, etc.)
 3. Distribute couplet Example Page. Explain students that they are looking for couplets by famous poets/authors, as well as simple couplets by anonym authors. Read the first example out loud stressing the ending of the lines. Ask students to read each poem/ couplet out loud taking turns. Ask them to describe what they notice about the couplets. Direct their attention to the variety of subject couplets / poems can cover.

B: Writing couplet poems

1. Explain students that they will be writing couplets on salmon and/or salmon fishing. Their couplet poem need to be at least 6 lines long, which means they need to write at least 3 couplets.
2. Distribute Couplet Poem Worksheet. Review Worksheet with students explaining each step.
3. Instruct students to proceed with brainstorming and writing. Remind them that their theme is fishing and salmon. Make sure to tell students how much time they have for completing their poem.
4. Give students ample time to finish their poems. Circulate in the classroom and help out with finding rhyming pairs, composing lines, etc.

C: Reviewing poems

1. Once all students are finished, ask students to share their work with each other.
2. Explain students the correct technique of reading a poem including the importance of pronunciation, articulation, standing up, speaking clearly and loud enough for everyone to hear, concentrating on the rhythm of the poem, etc.
3. Discuss poems with students and reflect on their experience.
4. Optional: teachers may require students to present their poems in a typed format. If they wish so, the typed pages can also be mounted on cardboards and hung on the walls and in the hallways.
5. Save all poems to be used in the last Unit (Presentation and Participation in Potluck)

COUPLET POEM ON FISHING/SALMON

Couplet Poem Example Page
from
<http://www.poetryfoundation.org>

Sonnet XVIII – last two lines by William Shakespeare

So long as men can breathe, or eyes can see,
So long lives this, and this gives life to thee.

An Inscription by Ambrose Bierce

For the Statue of Napoleon

A conqueror as provident as brave,
He robbed the cradle to supply the grave.
His reign laid quantities of human dust:
He fell upon the just and the unjust.

At the Sea-Side by Robert Louis Stevenson

When I was down beside the sea
A wooden spade they gave to me
 To dig the sandy shore.
My holes were empty like a cup.
In every hole the sea came up
 Till it could come no more.

Wee Willie Winkie by Anonymous

Wee Willie Winkie runs through the town,
Upstairs and downstairs in his nightgown,
Rapping at the window, crying through the lock,
"Are the children all in bed, for now it's eight o'clock?"

From: www.theteacherscorner.net

Happy Starfish

A delicate, little starfish looking to shine
Knowing that living in the ocean is absolutely sublime.

WRITING A COUPLET POEM ON FISHING/SALMON

Name: _____

Grade: _____

1. A **Couplet** is a pair of successive rhyming lines, usually of the same length. A couplet is “closed” when the lines form a bounded grammatical unit like a sentence (www.poetryfoundation.org/learning/glossary-term.html?term=Couplet).
2. The subject of today’s couplet is **Fishing** and **Salmon**. You may use any information you know on this subject, including Sugt’sun words and expressions, as long, as it fits the format of a couplet.
3. You need to write a couplet poem with 3 stanzas; 6 lines in total. Review and refer to the Couplet Poem Example page for ideas.
4. You can also use the following work page to brainstorm and write your couplet poem.

A. Subject: Salmon and fishing

B. Think about one syllable words on fishing and salmon. Write them down:

C. Look at your words and find pairs that rhyme. List them below:

_____	-	_____	_____	-	_____
_____	-	_____	_____	-	_____
_____	-	_____	_____	-	_____
_____	-	_____	_____	-	_____

PRESENTATION AND PARTICIPATION IN POTLUCK

Grade: 9-12

Estimated time: 1 day

Standards: English A3, A4, A6, C4, C5a,b,c,d,e; World Languages A2, A3, C1; Art A1, A2, A3, A5, A6; B8, D6; AK Cultural A1, A3, A5, D1, D3, D6, E8

Focus: This activity is designed as the closing “ceremony” of the Heritage Kit experience. It can be organized by only by the 9-12 grade group on a smaller scale, or in cooperation with the other grade groups involving the entire community. It is also designed as a full day-long activity, providing ample time for preparation for both the presentations and the potluck. Students will have the opportunity to show their families and community members what they learned about salmon and salmon fishing. Students will also further their cultural awareness and take pleasure in their accomplishments in learning about fishing in the Sugpiaq cultural context by the positive reaction of, and reinforcement from, the community.

Vocabulary words:

Sugt’stun:

English:

Materials/Resources:

- All work produced by students during the Kit experience
- If photographs were taken during the activities, a selection of photos in print version
- Double sided tape, scotch tape, thumbtacks etc. for securing student’s work on walls
- A copies of invitation to Presentation and Potluck, one per student
- Parent sign-up sheet for potluck dishes

Teacher Preparation:

- Gather all materials and objects from the Heritage Kit
- Make copies of the invitations, one per child
- Check with other teachers, if they are willing to cooperate in the presentations and potluck
- Check with principal regarding room assignments, using the cafeteria, or other large room where presentations can be held
- Contact parents regarding sign up for potluck dishes. If the entire school participates, some food will be provided by students in higher grades
- Check with principal whether the school can contribute any dishes to the potluck
- Collect all the art work children produced during the kit experiences
- Print out photographs, if there was any taken during the kit experience

Activity Procedure:

A: Decoration of room

1. Explain students what is expected of them during the presentation. Congratulate them on their accomplishments, and explain that their relatives and community members are interested to see what is it they learned.
2. Ask students to help securing their artwork on the walls of the room where the presentation will take place and to help with arranging the photo display area.

B: Preparation and presentation

1. This section of the activity can be tailored to specific talents, student bodies and situations. Teachers, based on their knowledge of their students can assign tasks to individuals, small groups, or the entire class.
2. Students can practice talking about their experience with salmon species, preparation, learning new Sugt’stun words, practice reading their poems, compose a short overview on each of the activities, explain what they learned about the life cycle of salmon or about cutting fish, compose a short speech explaining how they drew a fishing spear, describe what they learned from oral histories, or about salmon enhancement projects.
3. Provide at least 3 hours for students to practice their performance.
4. If other grades are participating as well, make sure to have at least one practice run in the presentation room with the all the grades present.
5. Arrange for students to work with younger children on preparing a dish for the potluck. This can be a salmon based dish, depending on availability, or a seafood dish available at the time of the potluck (e.g. baidrakis, seafood salad, rice salad, kelp salad, ipuk - snail, aquataq, etc.)

C: Potluck

1. Remind students that they need to be respectful to Elders, and instruct them to go around the room and ask Elders if they needed anything before they get their own food.
2. 9-12 grade students will be responsible for making and offering tea and coffee for Elders, helping Elders to fill plates, helping delivering food before, and taking out the trash after, the event.

Dear Parents and Guardians,

Our _____ grade class participated in the **Cuumi Iqallugsuucillrat “Iqalluk”, Old Fishing “Salmon” Heritage Kit** experience in the past two weeks. Through this curriculum, created by Chugachmiut, students learned about salmon and salmon fishing in a traditional Sugpiaq context.

We would like to invite you to please join us on the _____ of _____, 20____, as our students share their newly acquired knowledge through a presentation, which will be followed by a potluck.

If you wish to contribute a dish, please contact _____

We are looking forward to seeing you at the presentation!

Sincerely,

10. Kit Evaluation

11. Forms

12. Bibliography

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