

# Xáat

# Salmon II

**Grade Level 2-3**



A series of elementary level thematic units featuring Tlingit language, culture, history, and the local environments that Tlingit people call home were developed in Juneau, Alaska in 2004 – 8. The project was funded by several grants awarded by the U. S. Department of Education to the Juneau School District (Building on Excellence grant #S356AD30001 and Expanding on Excellence, grant #S356AD60056) and the Sealaska Heritage Institute (Boosting Academic Achievement: Tlingit Language Immersion Program grant (#92 – 0081844).

Lessons, units and teacher resource materials were written by a team of teachers and specialists including Juneau teachers Kitty Eddy, Shgen George, Kathy Nielson, Rocky Eddy, Paula Savikko, and Jennifer Thompson. A Tlingit language team of translators, reviewers and recorders included Jessica Chester, Yarrow Varra, Linda Belarde, David Katzeek, Mary Foletti, John Marks, June Pegues and Nora Dauenhauer. Nancy Douglas, Cultural Resource Specialist was often the team leader. Curriculum consultants Julie Folta and Toni Mallott assisted, and Annie Calkins edited the lessons and units.

Lessons were field tested in Juneau classrooms.

All units are available online at [sealaskaheritage.org](http://sealaskaheritage.org).



## **Tlingit Cultural Significance**

Salmon play a prominent role in Tlingit life, both as a source of food and as a spiritual symbol. Salmon are always treated with respect in Tlingit culture. Different species of salmon are used as crests for clans. These clan designs can be found on clan houses, totem poles, regalia and other objects across the region.

## **Elder/Culture Bearer role**

If an Elder belonging to one of the salmon clans is available he/she would be able to share a clan's history, stories, songs, and regalia, all of which show the significance of salmon in Tlingit culture. A Culture Bearer who has experience subsistence fishing and preserving would also be an important guest to share knowledge with students.

## **Overview**

In this unit students explore the connection between salmon and Tlingit people in both traditional and modern times.

## **Lesson#1 – Salmon is a part of Tlingit life**

In Lesson 1 students learn the importance of respecting salmon through experiences with the *Salmon Boy* story, published by Sealaska Heritage Institute. They learn about salmon as food source and how it is used as a crest for some clans.

## **Lesson #2 – Salmon life cycle**

Lesson 2 explores the salmon life cycle and how to tell how old a salmon is by looking at its scales.

## **Lesson #3 – Salmon food web**

The salmon's link to other animals in the ocean is looked at through a food web in Lesson 3. Students read *There Was an Old Woman Who Married a Trout* in these activities.



## **Lesson #4 - Salmon species**

In Lesson 4 students do an in-depth study of the five species of salmon they have identified.

## **Lesson #5 - Salmon body parts**

The names for salmon body parts—both internal and external—are learned, in both English and Lingít through the dissection of a real salmon in this lesson.

## **Lesson #6- Salmon eggs**

Students collect the eggs from a dissected salmon to measure volume in this lesson.

## **Lesson #7 – Skeletal Systems**

In Lesson 7, after boiling a salmon the skeletal system is compared and contrasted to a human skeleton.

## **Lesson #8 – Salmon Feast**

In the final lesson students have a salmon feast and take data from their families from a taste test of salmon. They make a collaborative cookbook to share with their families.

## **Alaska State Standards**

### **English Language Arts**

B. 3. Relate what students view, read and hear to practical purposes in their lives, the world outside and to other texts and experiences

### **Science**

A. 14. Understand the interdependence between living things and their environments

A.15. Use science to understand and describe local environment

B.1. Use the processes of science including observing, classifying, measuring, interpreting data, predicting and experimenting

B.2. Design and conduct scientific investigations using appropriate instruments

### **Math**

A.1. Understand and use numeration including numbers, number systems, counting numbers, whole numbers

A.2. Select and use appropriate systems, units and tools of measurement, including estimation

A.4. Represent mathematical patterns, relations, using graphs

B. 2. Use problem solving to investigate and understand mathematical content

B.3 Formulate mathematical problems that arise from everyday situations

### **World Languages**

B.5. Apply knowledge of the functions of one language to the study of another language



## Cultural Standards

- A. Students are well grounded in the cultural heritage and traditions of their community, and practice traditional responsibilities to the surrounding environment.
- B. Students build on knowledge and skills of the local cultural community.
- C.1. Students perform subsistence activities in ways that are appropriate to local cultural traditions.
- D. Students engage effectively in learning activities based on traditional ways of knowing and learning.
- E.1. Students understand ecology and geography of the bioregion they inhabit.

## Lesson 1

# Salmon is a part of Tlingit life

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### Objectives

Students:

- Learn why salmon are important to Tlingit people
- Know the ways salmon is used as food
- Learn about salmon crests and clans
- Describe how to treat a salmon respectfully

### Time

4 hours

- *Salmon Boy* book - 45 minutes
- *Salmon Boy* retelling - 60 minutes
- Salmon as a primary food source - 45 minutes
- Salmon as crests - 45 minutes
- Salmon design coloring - 30 minutes

### Materials

- *Salmon Boy*
- *Salmon Boy* story board pieces for coloring
- Southeast Alaska map with clan houses
- Crayons
- Scissors
- *Shanyaak'utlaax* book and CD
- *Shanyaak'utlaax* retelling pieces
- Photo cards of salmon regalia
- Salmon coloring design
- Assessment sheet



- Salmon – in jars or dried, contributed by parents or families

## English Vocabulary

- salmon
- respect
- crest
- clan

## Lingít Vocabulary

<i>xáat</i>	salmon
<i>Át yaa awunéi</i>	respect
<i>at.óow</i> (owned property)	crest
<i>Naa</i>	clan
<i>L'uknax.ádi</i>	A clan that uses the coho as a main crest
<i>Lukaax.ádi</i>	A clan that uses the sockeye as a main crest
<i>L'eeneidí</i>	A clan that uses the dog salmon as a main crest
<i>Kwaashk'i Kwáan</i>	A clan that uses the humpy as a main crest

## Lingít Phrases

\_\_\_\_\_ -x *xat sitee*.  
\_\_\_\_\_ -x *sitee*.  
\_\_\_\_\_ -x *isitee*.

I am of the \_\_\_\_\_ clan.  
She/he is of the \_\_\_\_\_ clan.  
You are of the \_\_\_\_\_ clan.

## Teacher Background information

Salmon are important to Tlingit people on many levels. One way is as a food source. When salmon are harvested and preserved they must always be treated with respect. Salmon are also used as a cultural symbol. Salmon designs are displayed on many clan items such as house fronts, totem poles and regalia.

## Activities

### Activity #1 Salmon Boy

1. Have a class discussion about what salmon are and why they are important to Tlingit people. Ask students why salmon might need to be treated with respect and in what ways people could show respect to the salmon. Note students responses, on the board or on a chart.
2. Read the story *Salmon Boy* aloud to the class or have an Elder read or tell it in Lingít. Use the Lingít CD if it is available.
3. Discuss what happened at the beginning, middle and end of the story.
4. Discuss why the salmon people took Shanyaak'utlaax - he was disrespectful toward the salmon he had to eat.
5. Discuss ways people should show respect toward salmon and talk about reasons why. *This would be a discussion an Elder could have with the class.*

### Activity #2 Retelling Salmon Boy

1. Review the story by flipping through the pages and retelling the story with the class, possibly letting students take turns telling about each page.
2. Hand out Salmon Boy story board pieces for students to color and cut out.
3. With a partner, direct students to retell the story to each other, using the pieces.



4. As a class, decide on the number of parts for the story. For example, if there are 24 students in the class, make 12 parts of the story so that each set of partners gets the chance to share.
5. Make a list of things that happen in the story, dividing the list by partner sets.
6. Assign each partner group one of the parts to draw a background and glue the appropriate story pieces on to create a particular scene.
7. Each partner group should then write a summary of their scene.
8. When everyone has completed their retelling scene, students line up in order to read and share their part of the story.
9. Bind all scenes and summaries to create a class book. Make copies for each student to take home and share with their families. Give one copy to the class library and school library, if appropriate.

## Activity #3

### Salmon as a food source

1. Ask students if they have ever eaten salmon. Ask them to tell how it was prepared. Record responses on chart paper, to form a list of ways they have eaten salmon.
2. Ask students if there might be other parts of a salmon that we haven't eaten, such as the eggs. Record responses on the chart. *This would be a good time to ask an Elder share traditional ways of preparing and eating salmon.*
3. Eat salmon. Ask students to bring in jarred or other types of salmon to share with the class. Eat it with crackers.

## Activity #4

### Salmon as Crests

1. Show pictures of regalia depicting salmon.
2. Discuss with the class what a crest is in Tlingit culture. Then tell them there are 4 clans that use salmon as a main crest:

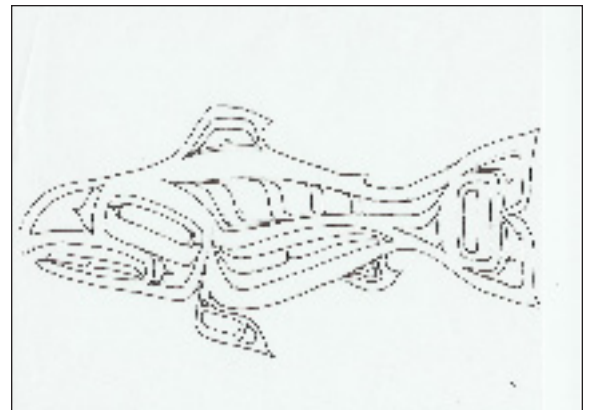
*L'uknaḡ.ádi, Lukaax.ádi, L'eeneidí, and the Kwaashk'i Kwáan.*

3. If possible, ask students or parents who from these clans to show their regalia or ask an Elder or other person in the community to share regalia and stories from their clan(s). Ask for permission to take pictures for a class bulletin board and post the photos along with their clan names in Lingít.

## Activity #5

### Salmon Designs

1. Look at salmon regalia to study the designs on it. Point out to students that salmon designs do not have ears or teeth; they have a rounded nose; they have tails and fins, and any other details that you/they notice.







2. Show students a salmon design they will color. Show the Tlingit colors: black, red, and turquoise.
3. Point out that the main lines, called form lines, are colored black.
4. Point out that the shapes inside the form lines, s-shapes and split-u's, are colored red.
5. Turquoise is also used; in this design it is used to fill in around ovoids.
6. As students color circulate, reinforcing the names of the various shapes and lines in the design.

### Assessment

Ask students to write 2 – 3 paragraphs about the disrespectful thing Shanyaak'utlaax did and why it was disrespectful. (eg: He was rude to the salmon. We have to respect salmon because it is a food source and we use them as crests.)

### Optional Extension Activities

- Read *The Girl Who Swam with the Fish* by Michelle Renner and discuss how to treat salmon with respect.
- Use the *I Am Salmon* curriculum resources to plan additional related activities. (Sealaska Heritage Institute in Juneau has copies if your school library does not)
- Read other salmon stories.
- Write stories about how to treat salmon with respect.
- Visit a museum to look at Tlingit artifacts that have salmon designs on them.
- Make lists of other things that should be treated with respect and ways to show respect to these things.
- Make paper salmon, paint with watercolor, cut out, and hang in the classroom.





## Lesson #2

### Salmon life cycle

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#### Objectives

Students:

- Identify the stages of the life cycle of salmon
- Identify various environments in which salmon live
- Age a salmon by looking at scales

#### Time

6.5 hours

- Reading *Salmon Creek* - 45 minutes
- Life cycle wheel - 120 minutes
- Environment diagram - 90 minutes
- How old are salmon? - 45 minutes
- Large salmon with scales - 45 minutes

#### Materials

- *Salmon Creek* by Annette LeBox and Karen Reczuch
- Life cycle worksheet
- Assessment sheet
- Photos of salmon scales and tree cross sections
- Poster board
- Brad fasteners
- Markers or crayons
- Plain paper
- Glue
- Real salmon, or pictures of salmon scales (see Teacher Resources)
- Tweezers
- Magnifying glasses
- Photo or drawing of a cross section of a tree

#### English Vocabulary

- life cycle
- egg
- alevin
- yolk sack
- fry
- smolt
- adult
- spawn
- environment
- scale

#### Lingít Vocabulary



<i>Xáat kusteeyí</i>	salmon life cycle
<i>A kaháagu</i>	Its eggs
<i>A tuséik'u</i>	yolk sack
<i>Xáat yátx'i</i>	fry (salmon children)
<i>Xáat</i>	adult
<i>Yaa andal'úx'</i>	spawn
<i>Xáat aaní</i>	environment (salmon territory)
<i>A kajeigí</i>	Its scales

## Activities

### Activity #1

#### Reading *Salmon Creek*

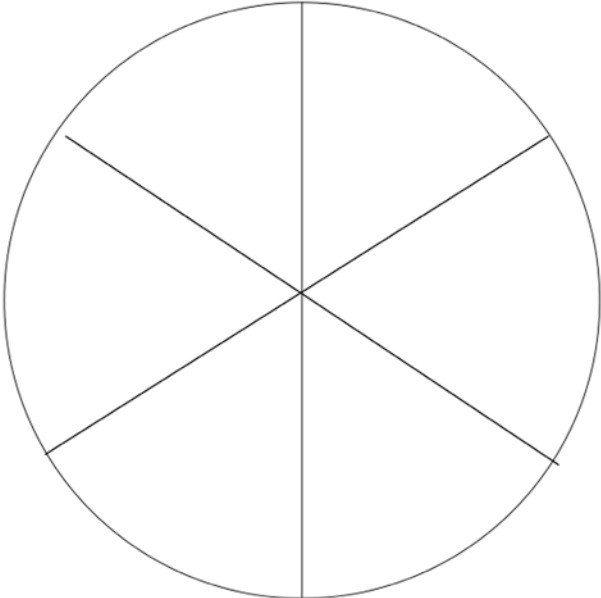
1. Read the book *Salmon Creek* by Annette LeBox and Karen Reczuch to the class.
2. When finished, ask students how Sumi changed throughout the story.
3. As students answer, write responses on chart paper. Title it: The Stages of a Salmon's Life and make sure to include egg, alevin, fry, smolt, adult, spawning adult, death.
4. Direct students to individually fill in the Salmon Life Cycle worksheet with drawings and labels in both English and Lingít. (as many as possible)

### Activity #2

Name \_\_\_\_\_ Date \_\_\_\_\_

Fill in the spaces with the stages of a salmon's life cycle.

Word Bank:      alevin      spawning      eggs  
                         smolt      death      fry



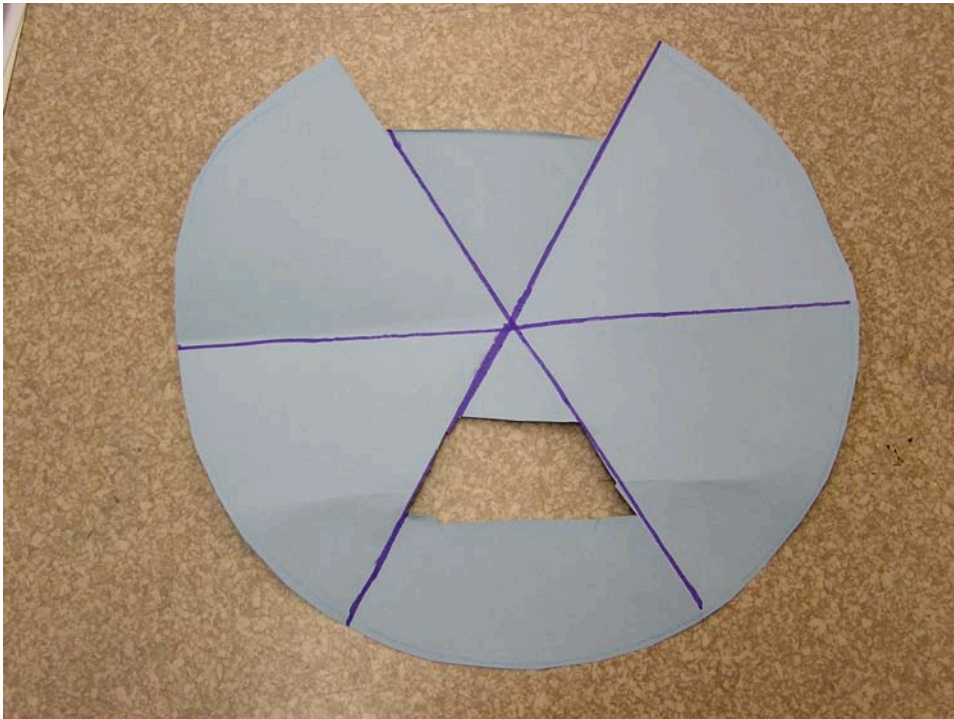




## Salmon Life Cycle Wheel

1. Revisit *Salmon Creek* as a class, noticing that the book begins and ends in the same way. Reread the parts that are similar if needed.
2. Using the worksheet completed in Activity #1, tell students to write descriptions of each stage of the life cycle.
3. Discuss how a life cycle is like a circle; it happens again and again without a beginning or ending.
4. Using poster board, have each student cut out two large poster board circles. They then decide which one will be the top or cover, and which one will be the bottom.
5. On one piece, draw lines dividing it into 6 sections, like a pie or pizza, just like the life cycle worksheet.
6. On the other circle, do the same sectioning. Then cut out a space to create an opening on the edge and opening toward the center on the opposite:

*(this is the underside if the top circle)*

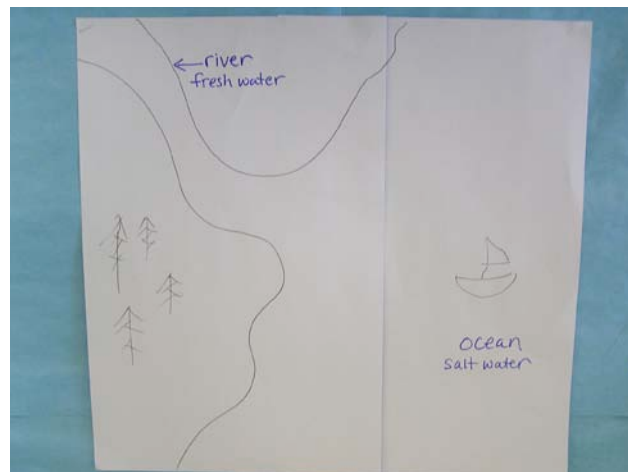


7. Using a brad in the center, attach the top piece, lines side down, with the window sections cut out to the solid bottom piece.
8. Choosing a space to begin, draw a picture of eggs on the river bottom on the back circle so it shows through the outer window. Then without moving the wheel, students should write a sentence that goes with the picture in the inner window.
9. Move the wheel windows to the next space and do the same for alevin.
10. Continue on for each life cycle stage, one per space, turning the top circle counter clock-wise to reach each new space.



### Activity #3 Salmon environment

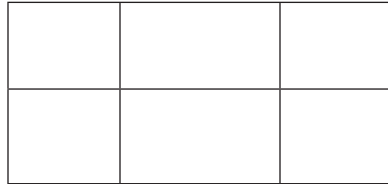
1. Refer again to *Salmon Creek* and point out where Sumi is during each stage of her life; in the river, traveling out to the ocean, in the ocean, and traveling back up the river.
2. Draw a diagram of a river, leading to an ocean. Label the river and ocean and where salmon live during each stage.



3. After modeling the drawing, ask pairs of students to draw and label a similar diagram, on large construction paper.

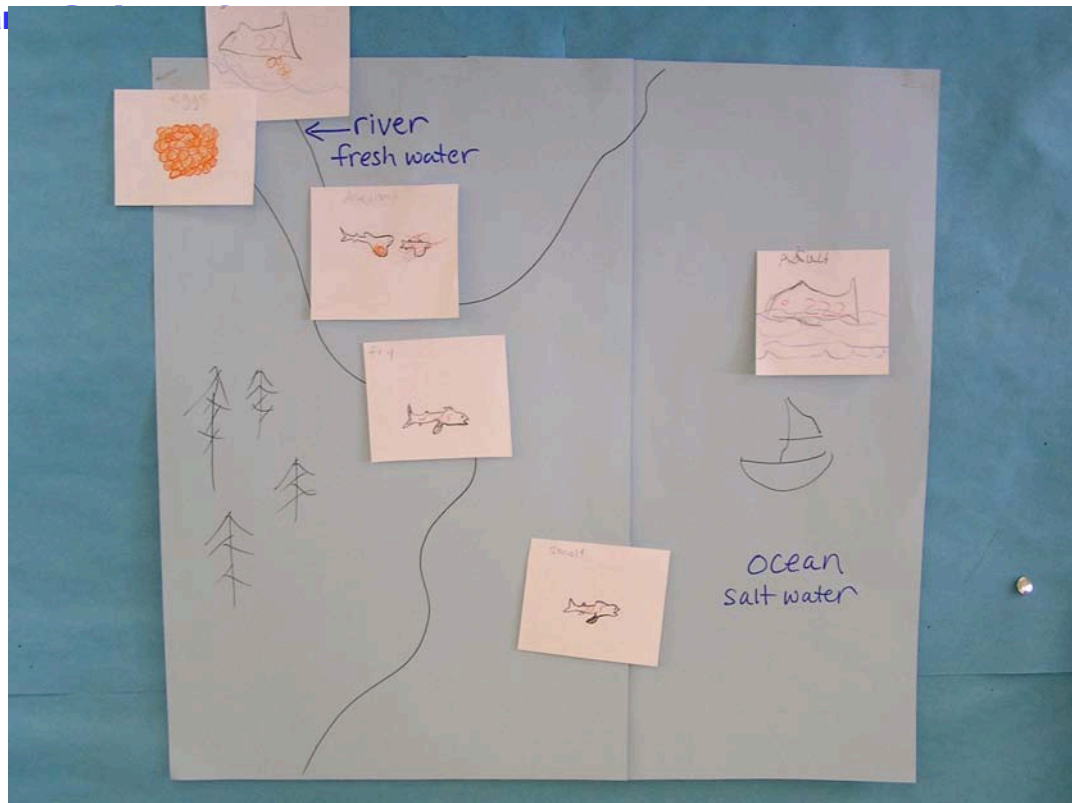


4. After the pairs have finished their drawings, gather the class together again. Using a plain piece of paper, fold it in half both directions and unfold. Fold the two short edges to meet in the middle and unfold to form 6 sections.



5. Direct students to draw salmon at each stage of their life cycle in each section and then cut the sections apart.
6. They then glue the life cycle drawings to the river/ocean diagram, on the correct environmental area, to create a poster.
7. Students should then title their posters and display them.
8. Use these diagrams to start a discussion with an Elder about clan ownership of salmon streams.

## Activity #4 How Old are







1. Show students pictures of cross sections of cut trees. Ask students to describe what they see and to guess what this tells them about the tree.
2. Discuss that each ring represents one year growth and by counting the rings, we can tell how old the tree is.
3. Explain that salmon scales can tell us about the life of a salmon.
4. Using a real salmon, students take turns using magnifying glasses to look at the salmon scales. Ask them to notice how scales overlap and have rings.



5. Show actual scales or pictures of individual salmon scales (See Resources). Using tweezers, pull out individual scales for each student to look at them with a magnifying glass.

6. Discuss with the class:





together and some farther apart)

7. Discuss that during the summer salmon eat more and therefore grow more than in the winter. Each time rings have larger spaces between them, a salmon grew more. Each time rings are closer together, the salmon was eating less (during the winter) and therefore growing less. To age a salmon count each dark band of closely spaced rings as one year.
8. Students are now ready to complete "Salmon Scales" worksheet.

## Activity #5 Large salmon with scales

Name \_\_\_\_\_ Date \_\_\_\_\_

How old is this tree? \_\_\_\_\_ How do you know? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Put an X on the ring when the tree grew the least.  
Put a O on the ring when the tree grew the most.

How is the salmon scale similar to the tree? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

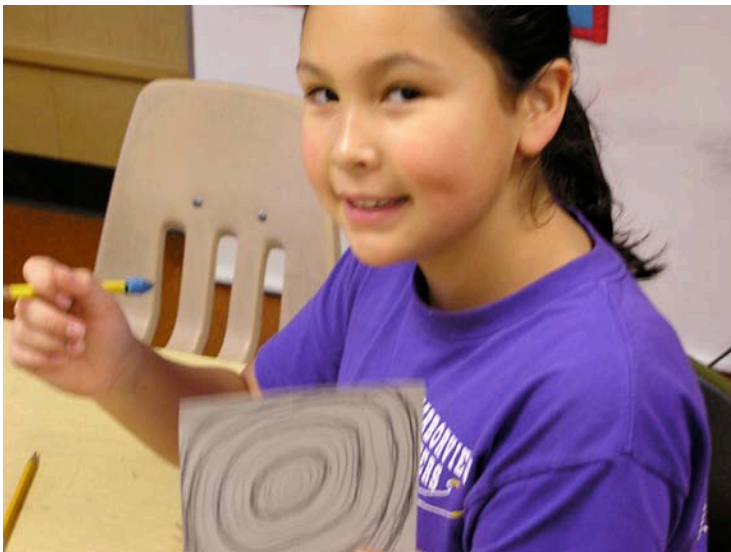
Color in the areas where the rings show the salmon grew fast.  
How old is the salmon that this scale came from? \_\_\_\_\_



## Teacher Preparation

Using a salmon template on an overhead, make two 4 foot salmon on butcher paper and cut them out. Then cut out a number of 6x5 inch rectangles from gray construction paper.

1. Explain to the class that you created a 4 foot salmon that is 4 years old and that they will make the scales for it.
2. On each gray rectangle students should make a scale shaped oval, using the full rectangle for one scale.
3. Fill in the scale shape with rings like on a salmon, making sure to have 4 rings farther apart and 4 closer together, to show the passing of the years. Then cut them out to make a scale shape.



into the large salmon, overlapping them like real







5. Staple the two salmon shapes (with the scales glued on) together and fill it in with scrap paper. Hang it in the class or library.



## Assessment

- Using a blank sheet of paper students draw and label the salmon life cycle. For each stage of the life cycle, students indicate if the salmon is in fresh or salt water.
- When given pictures of salmon scales, students tell how old the salmon is.

## Optional Extension Activities

- Read other life cycle books
- Compare the salmon life cycle to other animals
- Visit the website: <http://www.oneworldjourneys.com>

## Lesson #3



## Salmon Food Web

### Objective

Students describe the salmon food web

### Time

2 hours

- What's a food web – 60 minutes
- Salmon flip up book – 60 minutes
- Tlingit animal names – 30 minutes

### Materials

- *There Was an Old Lady Who Swallowed a Trout* by Teri Sloat
- 10 – 3 1/2 x 4 1/2 green pieces of paper/student
- 9 – 3 1/2 x 4 1/2 white pieces of paper/student
- 9– 3 1/2 x 4 1/2 blue pieces of paper/student
- Construction paper
- Stapler
- Crayons
- Lingít pocket chart cards

### English Vocabulary

- |             |               |
|-------------|---------------|
| • puffin    | • eagle       |
| • duck      | • wolf        |
| • sea otter | • sea gull    |
| • trout     | • brown bear  |
| • shark     | • black bear  |
| • sea lion  | • predator    |
| • seal      | • prey        |
| • orca      | • salt water  |
| • whale     | • fresh water |

### Lingít Vocabulary

<i>Lugán</i>	Puffin
<i>Gáaxw</i>	Duck
<i>Yáxwch'</i>	Sea otter
<i>Aashát</i>	Steelhead trout
<i>Tóos'</i>	Shark
<i>Taan</i>	Sea lion
<i>Tsaa</i>	Seal
<i>Kéet</i>	Orca
<i>Yáay</i>	Whale
<i>Ch'áak'</i>	Eagle
<i>Gooch</i>	Wolf
<i>Kéidladi</i>	Sea gull
<i>Xóots</i>	Brown bear
<i>S'EEK</i>	Black bear
<i>Kaadaa.ádi</i>	Predator
<i>Atxá</i>	Prey (food)
<i>Éil'</i>	Salt water
<i>Héen</i>	Fresh water

### Lingít Phrases

\_\_\_\_\_ *xaatéen*.

I see \_\_\_\_\_.



*Xáat axá wé tsaa.*  
*Xáat akgwaxáa wé tsaa.*  
 \_\_\_\_\_ akgwaxáa wé \_\_\_\_\_.

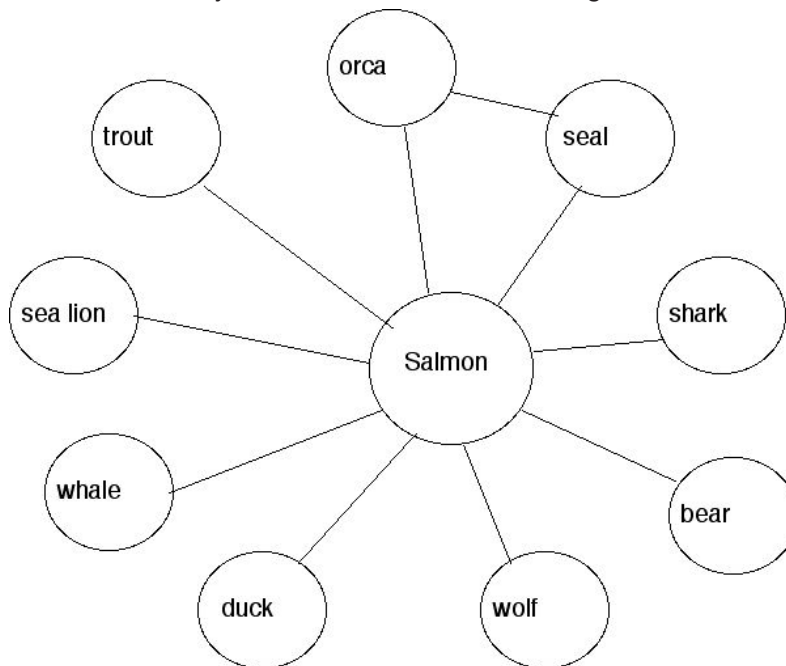
A seal is eating a salmon.  
 The seal will eat a salmon.  
 The \_\_\_\_\_ will eat \_\_\_\_\_.

## Activities

### Activity #1

#### What's A Food Web?

1. Read *There Was an Old Lady Who Swallowed a Trout* by Teri Sloat. Discuss that the book depicts a food chain with one animal eating another and then that animal eats a different animal and so on. Discuss that a food web isn't a line. For example, several animals might eat the same type of animal and other animals might eat that type of animal.
2. On the board or chart paper, draw a food web for a salmon, similar to the one below. Fill in the spaces with student suggestions. (Encourage students to think of animals that eat meat.)
3. Discuss how the orca is linked to both the seal and salmon because the seal and the orca eat the salmon, but the orca also eats the seal. This type of relationship is what makes it a web and not a chain. Other circles and lines could be added to the shark or bear to show other things that they eat such as berries, herring, etc.
4. Ask students to make their own food web and fill it in with animals to expand the web made by the class - such as trout eating insects or bear



eating berries.

## Activity #2

### Mix and Match Book



## Teacher Preparation

Before this activity prepare 3 1/2 x 4 1/2 inch pieces of white, blue, and green paper. Each student should have 10 green, 9 white, and 9 blue. Each student will also need a piece of 9x12 construction paper.

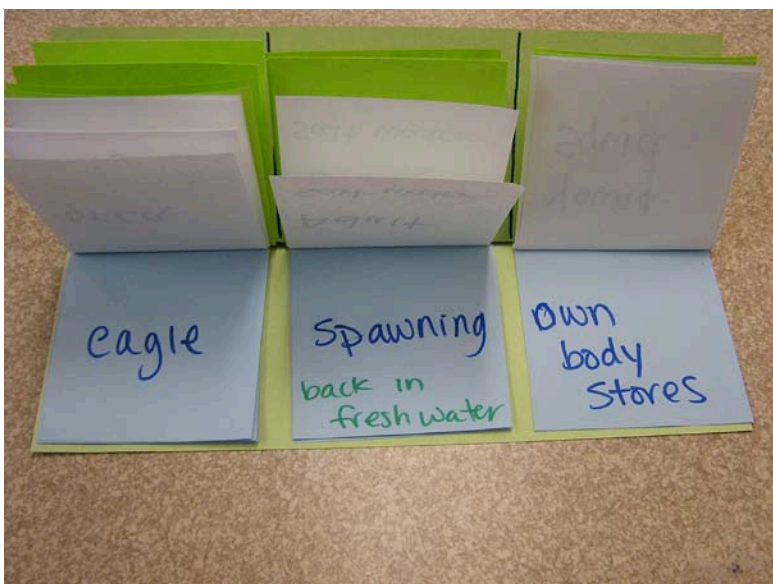
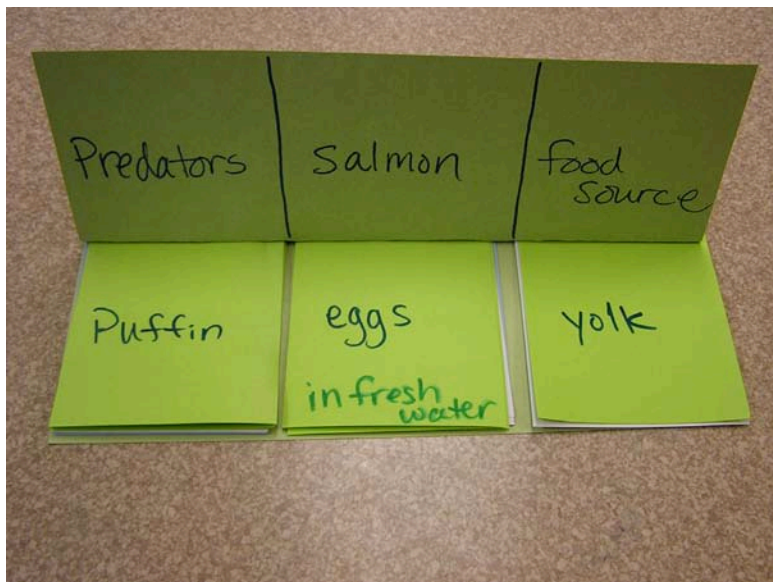


1. Give students the pieces of paper and tell them that the green papers represent fresh water when salmon are born, the white paper represents salt water in the ocean, and the blue paper represents fresh water when the salmon return to spawn.
2. On three pieces of green paper students draw and label the 3 stages of the life cycle of salmon in fresh water: eggs, alevins, and fry.
3. On four pieces of green paper draw and label 4 predators that eat young salmon in fresh water: puffin, duck, sea otter, and trout.
4. On the remaining three green cards, draw and label where young salmon get their food: nutrients in the egg, yolk sack, and insects.
5. Keep the cards in 3 separate piles: predators, salmon, and food source.
6. Using two of the white cards, draw and label the stages salmon are in while in salt water: smolt and adult salmon.
7. Use the next 5 white cards to draw and label salmon predators in the ocean: whales, seals, sea lions, sharks, and orcas.
8. On the remaining three white cards draw and label what salmon eat while in the ocean: herring, young squid, other smaller fish.
9. Repeat the process for the blue cards:
  - a. Salmon stages: spawning adults and death





- b. Salmon predators: eagles, wolves, sea gulls, brown bears, and black bears.
  - c. Food source: own body stores
10. Making sure the cards in the right order and in three stacks, staple them in between a folded piece of construction paper. (See illustration below)
11. Draw lines on the inside cover showing the three sections and label them: Salmon predators, Salmon life cycle stages, and Salmon food sources.



12. Title the book and share it with peers or students from another class.
13. Students can then be asked questions like,



“At what stage are salmon when they live in salt water?”

“What eats a salmon while they live in salt water?”

“What do salmon eat when they are in the alevin stage?”

Students answer the questions by showing evidence in their books.

### Activity #3 Tlingit Animal Names

1. Using vocabulary wall cards, introduce students to the correct pronunciation of each animal. *This would be a good place for an Elder to participate.*
2. Introduce the Lingít phrase, “A \_\_\_\_\_ eats a \_\_\_\_\_”.
3. Using pocket chart cards students practice the Lingít phrase by moving different animals into the blanks.

### Assessment

- When given photos of different animals, students glue them on a food web sheet.
- Students correctly say Lingít names for animals.





## Lesson 4

### Salmon species

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#### Objectives

Students:

- Name 5 salmon species in English and Lingít
- Tell the length range of the 5 salmon species
- Know how a salmon's body changes when it returns to fresh water to spawn
- Recognize salmon by different physical characteristics

#### Time

5.5 hours

- Classroom salmon chart - 60 minutes
- Life size posters of the 5 types of salmon - 60 minutes
- Salmon shaped facts book - 90 minutes
- Matching game with adult salmon and spawning salmon - 60 minutes
- "Aadei yaan too aat" - 45 minutes

#### Materials

- Prince and the Salmon People* by Clair Rudolf Murphy
- Alaska's Wild Salmon* by the Department of Fish and Game or another book that shows the colors of salmon
- Transparencies
- Butcher paper
- Markers
- Crayons
- Construction paper
- Scissors
- Popsicle sticks
- Tape or glue
- Black line transparencies of salmon
- Salmon book cover
- Photos for popsicle sticks
- Poster with words to song
- CD with song

#### English Vocabulary

- spawn
- coho – silver
- sockeye – red
- king salmon - chinook
- humpy – pink
- dog salmon – chum

#### Lingít Vocabulary

<i>T'á</i>	King salmon
<i>L'ook</i>	Coho
<i>Cháas'</i>	Pink
<i>Gaat</i>	Sockeye
<i>Téel'</i>	Dog salmon



## Lingít Phrases

\_\_\_\_\_ *xaatéen*.  
*Yáadu* \_\_\_\_\_.

I see \_\_\_\_\_.  
 Here is a \_\_\_\_\_.

## Activities

### Activity #1

#### Wall chart of salmon species

1. Read story *Prince and the Salmon People* by Clair Rudolf Murphy
2. After reading the story ask students what different kinds of salmon people were mentioned in the story. Ask them about the different names salmon can have. Can they have more than one name?
3. Make a chart that is 6 spaces across and 4 spaces down. Label the first row Salmon photos; the second Salmon names; the third row Sizes; and the fourth, Physical Descriptions. Post pictures of salmon across the top row similar to the one below.

<b>Salmon photos</b>					
<b>Names</b>	King, Chinook, Blackmouth, <i>T'á</i>	Chum, Dog, <i>Téel'</i> , Keta	Silver, Coho, <i>L'ook</i>	Sockeye, Red, <i>Gaat</i>	Pink, Humpy, <i>Cháas'</i>
<b>Sizes</b>	30"-58"	24"-32"	24"-30"	18"-24"	15"-24"
<b>Physical Descriptions</b>	Greenish blue w/ black spots, silver sides, black mouth	Green/blue w/ black specks on back, silver sides w/ light pink stripes	Blue/black w/ silver sides, black spots on back an upper tail	Green/ blue w/ silver sides	Bright steely blue back, silver sides

6. As a class, fill in all the names for each salmon in the second row.
7. Fill in the next row with the lengths for each type of salmon.
8. Fill in the bottom row with physical descriptions or adult salmon.

### Activity #2

#### Life size posters

1. Using a yardstick, show the class the size range for each type of adult salmon and determine the middle length. For example, a king salmon would be between 30"- 58" so the middle length is about 44".
2. Tape butcher paper to a wall and use the transparency of the king salmon to project the image onto the butcher paper. Adjust the image until it is at the middle length for the type of salmon and trace it on the paper.



3. Repeat for each type of salmon.
4. Using photos of salmon or a book that shows the color of salmon, direct students to work in groups to color or paint each salmon poster.
5. Label the posters and hang them in the classroom or library.



### Activity #3 Salmon shaped facts book

1. Tell students that they are going to make a salmon fact book. Review the information on the chart created in Activity #2.
2. Give each student a copy of the salmon book cover. They each create a title and write it on their books.
3. Students then cut out the outline of a salmon and trace it onto 5 sheets of plain paper. Cut out each one.
4. They should staple all 6 pages together across the top to form a book.
4. Using pencils students write facts about each type of salmon, such as the different names and size ranges. When their information has been checked for accuracy, students trace over their writing with a marker.
5. Using crayons or markers, students then color the salmon so that each salmon looks like one listed.





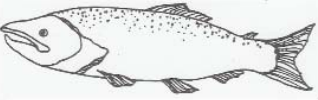


## Activity #4 A Salmon's body changes

1. Revisit the book *Salmon Creek* by Annette LeBox and Karen Reczuch.
2. Discuss how, at the end of the book, Sumi's body changed when she returned to fresh water. Look through the book again, noticing how Sumi changed when she went to the salt water and when she laid her eggs.
3. Look at the photos of the different types of salmon on the class chart made in Activity #9. Show corresponding photos of spawning. Notice how the salmon bodies have changed.
4. Give students small black sheets of paper to draw each type of salmon, both in salt water and in fresh water.
5. Tell each student to take the pieces and partner up with another student.
6. Direct them to combine the cards and play "Memory," matching salt water salmon and fresh water salmon of the same species.

Name \_\_\_\_\_ Date \_\_\_\_\_

Match the English and Tlingit names to the salmon.

L'ook		Coho
Cháas'		Dog
Gaat		Sockeye
T'á		King
Téel'		Pink

## Activity #5 Aadei yaan too.aat

1. Give students photos (See Resources) of different salmon species and have them label them in Lingít, using pocket chart cards as guides.
2. Students then cut them out and glue photos on to popsicle sticks.
3. Sing the salmon song on the CD as a whole group.

### Assessment

Students match the Lingít and English names of salmon to the pictures.

### Optional Extension Activities

- Go to a hatchery to observe different types of salmon.
- Invite a fisherman in to tell about different types of salmon and how, when, and where to fish for them.
- Students visit the web site:

[http://salmonnation.com/fish/meet\\_species.html](http://salmonnation.com/fish/meet_species.html)



## Lesson #5 Salmon Anatomy

### Objectives

Students:

- Learn names for the external body parts of a salmon in English and Lingít
- Describe the functions of the external body parts of a salmon
- Learn names for the internal body parts of a salmon in English and Lingít.

### Time

4 hours

- External body parts poster - 120 minutes
- How many scales are there on a salmon? – 45 minutes
- Dissection of a salmon – 60 minutes
- Internal body parts felt board - 20 minutes

### Materials

- Book *Swimming Salmon* By Kathleen Marin-James
- Butcher paper
- Student photos of salmon body parts
- Index cards
- Clear tape
- Glue
- Markers
- Salmon transparencies
- Overhead projector
- Real salmon
- Knife
- Piece of cardboard and large trash bag
- Photo cards for flip up labels
- English/Lingít labels for flip up labels
- Salmon scales worksheet
- Felt board salmon piece

### English Vocabulary

- scales
- gills
- liver

### Lingít Vocabulary

<i>Xáat Daa Aádi Saayí</i>	parts of fish
<i>a díx't'aawú</i>	Its anterior dorsal fin
<i>a t'aawú</i>	Its pectoral fin
<i>A daas'aagí</i>	Its pelvic fin
<i>a daat'aawú</i>	Its fins (of fish)
<i>A koowú</i>	Its tail (of bird or fish)
<i>A tl'óogu</i>	Its liver
<i>A sheiyí</i>	Its blood
<i>Xáat kaháagu</i>	salmon roe/eggs
<i>Xáat kajeigí</i>	salmon scales
<i>A s'aagí</i>	Its bones
<i>A ooxú</i>	Its teeth
<i>A waagí</i>	Its eyes
<i>A x'éiyi</i>	Its mouth
<i>a sháayi</i>	Its head
<i>A wáshi</i>	Its cheek
<i>A x'éix'u</i>	Its gills
<i>A yik.ádi</i>	Its guts
<i>A xáas'i</i>	Its skin
<i>A yoowú</i>	stomach
<i>A téix'i</i>	heart

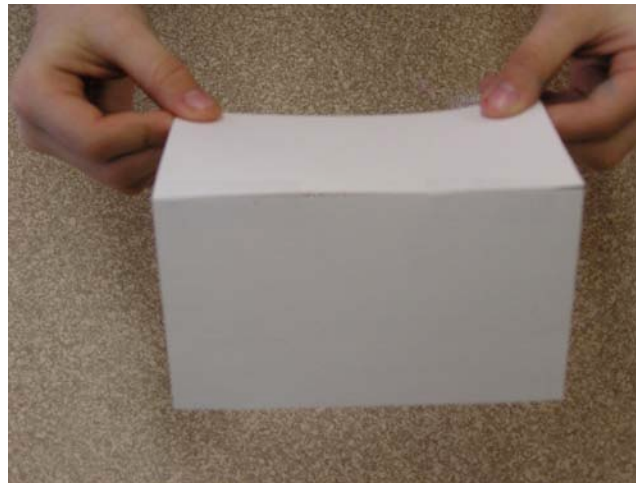


## Activities

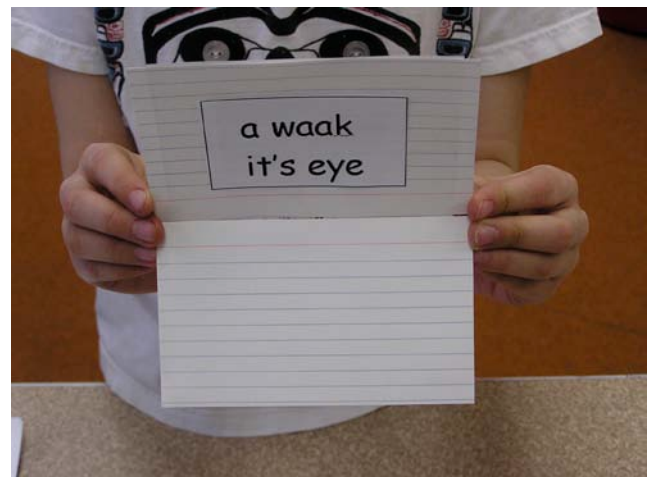
### Activity #1

#### Salmon external body parts poster

1. Read *Swimming Salmon* By Kathleen Marin-James, noticing the salmon body parts and their purposes.
2. Use the Lingít vocabulary wall cards of the parts of a salmon to practice the Lingít names for parts of a fish. *An Elder's help with this activity is very useful.*
3. Hand out the sheet of body part cards for each student to cut out.
4. Hand out index cards, 2 cards per body part.
5. Show students how to tape together two cards along the top edge, with the lines facing each other on the inside.



6. Glue the salmon parts to the outside of the top card and the label to the inside of the same card.







7. Tell students to write sentences about the functions of each external body part on the inside bottom section.
8. While some students are working on their cards, other students can take turns choosing a salmon transparency and tracing it onto butcher paper.
9. They then color the traced salmon.
10. When both actions are done, students should glue the cards onto the poster, and draw arrows to the appropriate body part of the traced salmon.



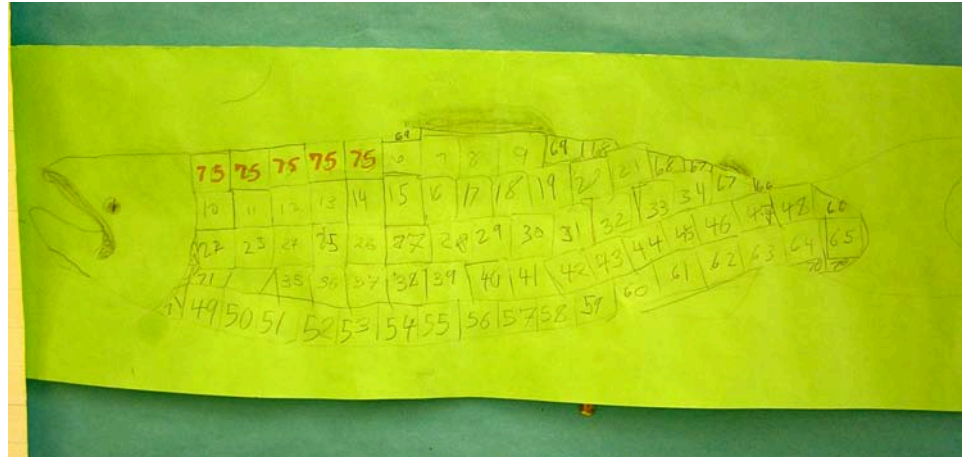
11. Give the poster a title.
12. In small groups, students take turns presenting their posters to each other, parents, or another class.



## Activity #2

### How many scales are there on a salmon?

1. Using a real salmon that will be dissected later, trace the outline of it onto butcher paper.
2. Using the tracing and a 1 inch tile square direct students to calculate how many square inches there are on one side of the salmon.



3. Discuss how to figure out how many square inches on both sides of the salmon. Explain that this is called "area".
4. Using the real salmon, have students count how many scales are on 1 square inch.
5. Estimate how many scales are on the whole salmon, based on what they know to be the area.
6. Explain that there are no scales on the head or tail. Rfigure the area and the total scale count.
7. Ask students to complete the salmon scales worksheet as homework or later, in class.

Name \_\_\_\_\_ Date \_\_\_\_\_

What is the area of the salmon's scale covered area in square inches? \_\_\_\_\_

How many scales are there in one square inch? \_\_\_\_\_

Show your work on the back of the paper.

How many scales do you think there are on one side of the salmon?  
\_\_\_\_\_

How many scales do you think there are on the whole salmon?  
\_\_\_\_\_



## Activity #3 Salmon dissection

1. Gather students in a group and discuss cutting a salmon in order to look at the internal organs.
2. Using chart paper, have the class brainstorm a list of internal organs that students already know.
3. Use the Lingít vocabulary cards to practice saying the names of the internal organs.
4. Discuss ways to be respectful of the salmon when it is being cut - not to say “yuck” or “gross”, to handle the organs gently, to keep things clean. Talk about how if you were at a stream cutting salmon you would make sure the head was facing upstream as you cut salmon. This is the direction salmon would be facing as they swim upstream to spawn.
5. Use the information provided at <http://www.sf.adfg.state.ak.us/region2/ie/sicc/dissectn.cfm> to dissect the salmon.

*\*\* Save any salmon eggs for Lesson #6*

## Activity #4 Felt board salmon

1. Using the copies of salmon internal body parts attach hook side of hook and loop (Velcro) tape to the back of the paper labels and internal body parts. Create a felt salmon large enough to accommodate all the parts. Students practice placing the body parts correctly, saying the names in both Lingít and English and, if desired, attaching Lingít or English labels to the body parts.

Name \_\_\_\_\_ Date \_\_\_\_\_

Label the internal fish parts.

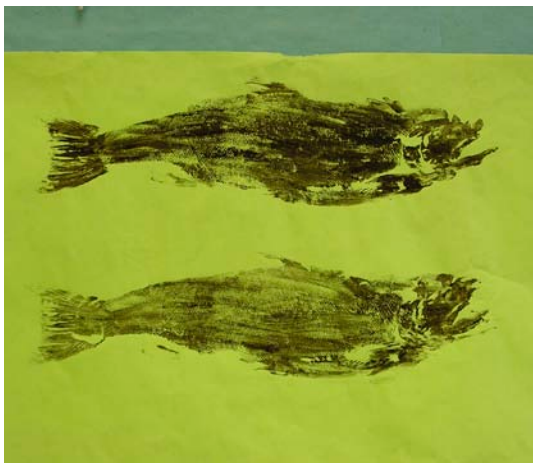
**Word Bank**  
liver gills stomach eggs heart brain

What do the gills do? \_\_\_\_\_

Is this salmon male or female? How do you know? \_\_\_\_\_

Why are salmon important to us? \_\_\_\_\_

## Assessment



When given a diagram of a salmon, with external and internal body parts included, students match the correct name to the part. This may be done with both Lingít and English names.

### Optional Extension Activity

- Make a salmon print, using the real salmon and watercolor paints.
- Write poems about salmon after making a print.



## Lesson 6 Salmon Eggs

### Objective

Students estimate a total amount of salmon eggs when given an amount for a portion

### Time

45 minutes

### Materials

- Real salmon eggs
- Paper plates
- Plastic spoons
- Measuring containers, one large and one small
- Chart paper
- Salmon Eggs worksheet
- Salmon Eggs assessment

### English Vocabulary

- Roe

### Lingít Vocabulary

*Xáat kaháagu* salmon eggs

### Lingít Phrase

*X'oon sá yatee wé xáat kaháagu?*

How many salmon eggs are there?

### Activities

#### Activity #1

#### Counting salmon eggs

1. Using eggs from the previously dissected salmon,



put the eggs in a container that measures in ml.





2. On chart paper, record student guess for the number of eggs in the container.
3. Divide the eggs into equal portions and distribute to students on paper plates.



4. Students use plastic spoons to help count the eggs in their portion. They need to be careful not to pop eggs as they move them while counting.







- When all students have finished counting eggs, record the number counted by each student on chart paper.
- When all amounts are recorded, find the highest number and circle it.
- Repeat for lowest number.
- Tell the students that these numbers show the range.
- Ask students if adding all the amounts counted by all the students to find the total might be hard. (*they should say yes*).
- Tell them that an easier way to get an estimate of the total is to find the middle number and add that number the same number of times as there are containers.
- To find the middle number, ask what the highest number of eggs was, and cross it out.
- Ask what the lowest number of eggs was, and cross it out.
- Continue back and forth until you end up with the middle number.
- Use repeated addition or multiply that middle number by the number of students in the class. This would be the estimate for the total number of eggs in the salmon.
- Have students use the Salmon Eggs Worksheet as additional practice or homework.



We divided our salmon eggs into 15 groups.

If there are 120 eggs in each group how many eggs are there all together? \_\_\_\_\_

Show your work.

### Assessment

Students find the range of a given set of numbers, find the middle number, and estimate the total using that number. Use the assessment worksheet.



## Lesson #7 Skeletal System

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### Objectives

Students:

- Learn the main bones in the human body
- Use a Venn diagram to compare salmon and human skeletal systems

### Time

Approximately 3 hours

- Boiling a salmon – 60 minutes
- Observing a salmon's skeleton – 30 minutes
- Compare a salmon and human skeleton – 30 minutes
- Body posters – 90 minutes

### Materials

- Real salmon
- Large electric frying pan
- Knife and fork
- Sketching paper
- Pencils
- Erasers
- Human skeletal system diagram
- Large butcher paper
- Markers
- Plain paper
- Assessment sheet
- Salmon bone diagram (See Resources)

### English Vocabulary

- Skeletal system
- Bone names:
  - skull
  - jaw
  - vertebrate
  - ribs
  - sternum
  - clavical
  - humerus
  - radius
  - ulna
  - pelvis
  - femer
  - tibia
  - fibula
  - phelangies
  - patella

### Lingít Vocabulary

*A s'aagí* Its bone  
*A dix'kas'aagí* Its back bone

### Activities



## Activity #1 Salmon skeleton

1. Using the salmon from the dissection or another salmon, clean the salmon and rinse in clean water.
2. Put the salmon in an electric frying pan. Fill the pan half way with water.
3. Cook the salmon for about 60 minutes, or longer if needed to make sure it is cooked through. The skin and meat should fall off the bone when rubbed with a fork or knife. Be careful not to overcook; the bones will get too soft.
4. Carefully remove the salmon from the frying pan or drain the pan, if the salmon is too fragile to lift.
5. Carefully scrape the skin and meat off the skeleton. Be especially careful around the fins - they have a bone inside them but it separates from the body very easily.
6. Lay the skeleton out to dry.



## Activity #2 Drawing a salmon skeleton

1. Gather students around the salmon skeleton and discuss what students see. Ask the students to name any bones they already know.
2. Set the skeleton in a space where all students can gather around it, to make drawing of it. Encourage students to add as much detail as possible, to keep observing it and noting small things. Point out the fineness of the ribs and the transparency of the fins.
3. When the drawings are finished have students label the skull, ribs, spine, vertebrate, fin, and jaw.

## Activity #3



## Making Venn diagrams of skeletons

1. Using a diagram of the human body identify different bones. Students should then label the diagram; provide a word bank of human bones if needed so they have names and labels for a number of bones.
2. On a large blank sheet of paper show students how to make a Venn diagram with 2 large overlapping circles. Label one “salmon” and the other “human” and the overlapping section “both”.
3. As students identify bones, they then write them in the correct space on the Venn diagram.
  - skull, ribs, and vertebrate - in the center
  - fins, and tail bones - on the salmon side
  - arm, leg, finger, and pelvis bones - on the human side

## Activity #4

### Body posters

1. Using large butcher paper, tell students to work in pairs, to trace one student’s outline on the paper.
2. Using the salmon template provided, students should then trace a salmon’s body outline on the poster. Make it look like the student might be holding the salmon by the gills, as if they had just caught it while out fishing.
3. Using a human skeleton diagram, students should draw the bones on the human body, inside the body outline.
4. Do the same for the salmon body.
5. Label the skeleton bones, writing bones that we have in common only once and drawing a line to both the human and salmon bones, such as the ribs. Write the labels for other bones in one color for human and different color for salmon, to draw attention the common and different bones.
6. Title the posters and hang it up in a prominent place.

### Assessment

Given a Venn diagram, students label 3 bones that humans and salmon have in common, 4 bones only humans have and 2 bones only salmon have.

### Optional Extension Activities

- Enlarge a human skeletal system, and have students glue bones onto their body outlines.
- A great resource for a bone diagram is from:  
*Field Guide to the Pacific Salmon* by Robert Steelquist from the Adopt-A-Stream Foundation



## Lesson #8 Salmon Feast

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### Objectives

Students:

- Compare the volume of different containers
- Collect and record data

### Time

6 hours

- Measuring containers – 120 minutes
- Salmon strips – 60 minutes
- Salmon spread taste test - 90 minutes
- Salmon Festival – 90 minutes
- Cook book production – 60 minutes

### Materials

- Different containers for measuring
- 2 containers that hold about the same amount but are different shapes
- Linking cubes
- Real salmon
- Pint mason jars
- Lids and rings
- Olive oil
- Pressure cooker
- Hot plate

### English Vocabulary

- volume
- unit
- data table
- graph
- accurate

### Lingít Vocabulary

<i>Xáat kaxashtí</i>	salmon strips
<i>Atxá</i>	food
<i>Gáatl</i>	pilot bread (crackers)

### Lingít Phrases

*X'oon sá yatee wé xáat kaxashtí?*

*Gaxtooxáa.*

*Ax x'éit yak'éi.*

\_\_\_\_\_ *ax tuwáa sigoo.*

How many salmon strips are there?

We will eat.

It tastes good.

I like \_\_\_\_\_.

### Activities





## Activity #1

### How much can a container hold?

1. Bring in jars of salmon strips and talk about how Tlingit people have used jars to store salmon for winter use for many years. Other people do the same thing. Ask students what size of jar they would need to feed their family. Larger families would need larger jars, smaller families would need smaller jars, or they might not finish a jar when they open it.
2. Show students the two containers - one tall and skinny and one short and wide. Ask them which container will hold more.
3. Using linking cubes, fill each container and then count how many cubes each jar held.
4. The number of cubes should be close to the same number. Students should notice that you can't always tell how much a container will hold just by looking at its height.
5. Explain that how much a container holds is called volume. Discuss the two types of volume; sound volume and area volume.
6. Discuss the concept of "fair" or "accurate" measurement. If you want to compare how much different containers hold you need to measure each one accurately. Each container needs to be level, not overflowing, not dipping in.
7. Given 3 different containers, students work in pairs to measure the volume in linking cubes of each. Students complete in the data table and answer the questions.

**Next day:**

### Teacher Preparation

Get 2 containers, one large and one small. Before showing the class, measure the large container using linking cubes. Measure the smaller container using a smaller cube such a base ten cube. The amount of cubes for the smaller container should be more than the amount for the larger container. Make a data table similar to the one below showing the volume of the two containers. Label the containers: the large one is A, the smaller one is B. Cover the labels.

T Type of container	# Number of cubes
A	(smaller # of larger cubes)
B	(larger #of smaller cubes)

8. Present the completed data table and the two containers with the labels A



and B covered to the class. Ask students to use the data to predict which container is A and which container is B.

Uncover the labels on the containers and ask students if they think the data table is correct. (They should say “no” because the larger container should hold more cubes.)

9. Use the two types of cubes to fill the containers and show students that the data table is correct.
10. Discuss the concept of “fair” or “accurate” again. What about this measurement wasn’t “fair”? Explain that to compare containers, the measurement tool needs to be the same.
11. Students re-measure the volume of the containers, using a unit of their choice such as beans, marbles, pattern blocks, or what ever else is available in the classroom.

## Activity #2 Making salmon strips

1. Invite an Elder or someone who knows how to make jarred salmon to demonstrate the process of jarring to the class.
2. Cut salmon into strips so that they are long or short enough to fit in to the pint size jars.
3. Students can help put the strips into the jars. While they are working,





ask students about the volume of the jars, using fish strips as the unit of measurement. How many strips fit in each jar? If we can fit \_\_\_ jars in the pressure cooker, how many strips is that altogether? If we cooked 3 batches of jars how many jars would that be? How many strips would that be?



4. Add a tablespoon of olive oil to each jar.
5. Follow directions on your pressure cooker to cook the salmon in jars. You may need to do two batches, depending on the size of your class.
6. As the salmon is cooking, direct students to complete the worksheet. (See Resources)

## Activity

Xáat - Salmon  
Lesson 8 - Activity 2



These are pint jars filled with salmon strips.

How many jars are there? \_\_\_\_\_

If there are about 9 strips in each jar, how many strips are there all together? \_\_\_\_\_

Show how you know.



## Making salmon spread

1. Using the salmon that was made in Activity #2, students now make 3 types of salmon spread. Begin by opening jars and emptying the salmon strips into a large bowl.
2. Add mayonnaise to the salmon and mix. Label this spread as “Spread A”
3. Make a second batch of salmon mix in the same way with the addition of sour cream to the mayonnaise mixture. Label this spread as “Spread B”
4. Make a third batch of salmon mix with in the same way as the first with the addition of pickle relish along with the mayonnaise. Label this spread as “Spread C”
5. Label sample cups as A, B, and C. Into each cup place the appropriate sample of each salmon spread, making sure to keep track of which spread is which.
6. Invite another class or parents in for a taste test.
7. Have each person/visitor try all three of the spreads, and select one as his/her favorite. They should record their answer on a wall chart or individual record sheet.
8. Collect all the choice sheets and mark a data table with the results.

Type of Spread	# of people
Spread A	
Spread B	
Spread C	

9. Students use the information on the data table to make a graph and to answer questions about the data.

## Activity #4 Salmon Festival

Invite parents and families to a Salmon Festival. Share the posters, projects, and other items students have produced. Have students use Lingít words whenever they can, to describe the parts of a salmon etc.

\*\* When you invite them, ask parents to bring a salmon dish to share and the recipe which will be added to a class salmon cookbook.

## Activity #5 Class cookbook

Using the recipes parents provided at the Salmon Festival, students re-copy each recipe onto a new piece of paper and decorate it.

Each student should create a cover for the book, either by using a salmon template, a Tlingit salmon design or other salmon related artwork.

Xerox the pages and bind them to make a recipe book for everyone to take home.

## Assessment

Students use information on the graph included in Resources (Lesson #8 – assessment) to draw conclusions, answer questions, and make predictions.





# Xáat Salmon II

**Grade Levels 2-3**

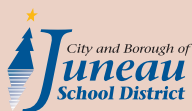
## TEACHER RESOURCES

A series of elementary level thematic units featuring Tlingit language, culture and history were developed in Juneau, Alaska in 2004-6. The project was funded by two grants from the U.S. Department of Education, awarded to the Sealaska Heritage Institute (Boosting Academic Achievement: Tlingit Language Immersion Program, grant #92-0081844) and the Juneau School District (Building on Excellence, grant #S356AD30001).

Lessons and units were written by a team of teachers and specialists led by Nancy Douglas, Elementary Cultural Curriculum Coordinator, Juneau School District. The team included Juneau teachers Kitty Eddy, Shgen George, Kathy Nielson, Hans Chester and Rocky Eddy, and SHI language team members Linda Belarde, Yarrow Vaara, David Katzeek, John Marks, Mary Foletti, Rose Natkong and Jessica Chester. Curriculum consultants Julie Folta and Toni Mallott assisted and Annie Calkins edited the lessons and units.

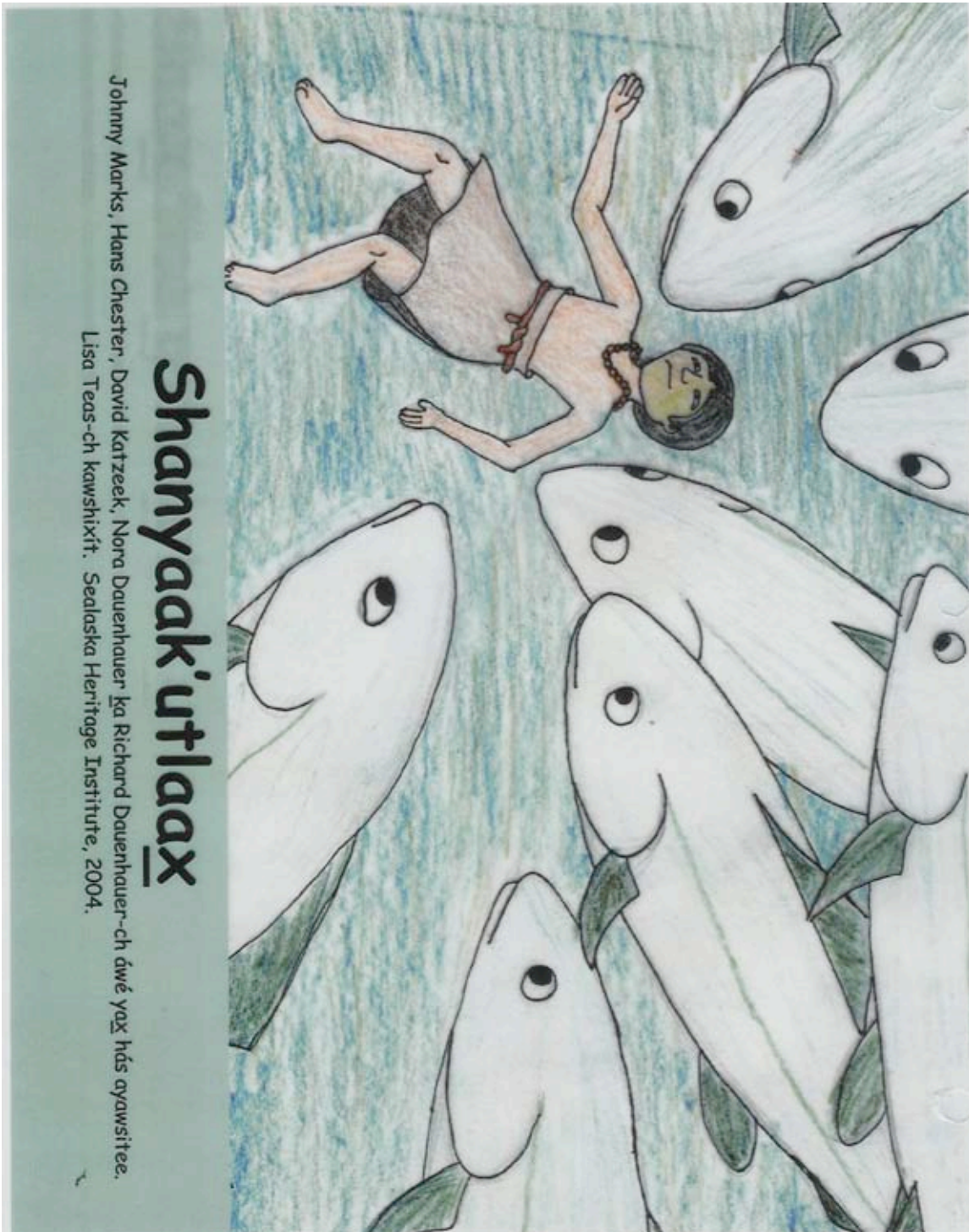
Lessons were field tested in Juneau classrooms in 2005-6.

All units are available online at [sealaskaheritage.org](http://sealaskaheritage.org).



The contents of this curriculum were developed under the Tlingit Language Immersion Program (2004) and Building on Excellence (2005) grants from the U.S. Department of Education. However, the contents do not necessarily represent the policy of the Dept. of Education and you should not assume endorsement by the Federal Government







Ch'áakw áwé haa een has akawlineek yóo Kiks.ádi atk'átstk'u daat, wé kéidladi  
akawa. áakw awooldáasi. "Atléé, a<sub>x</sub> éet yaan uwaháa!" Yéi áwé kei uwa.íx'.  
"At<sub>x</sub>á a<sub>x</sub> jeet yéi sanéi!"

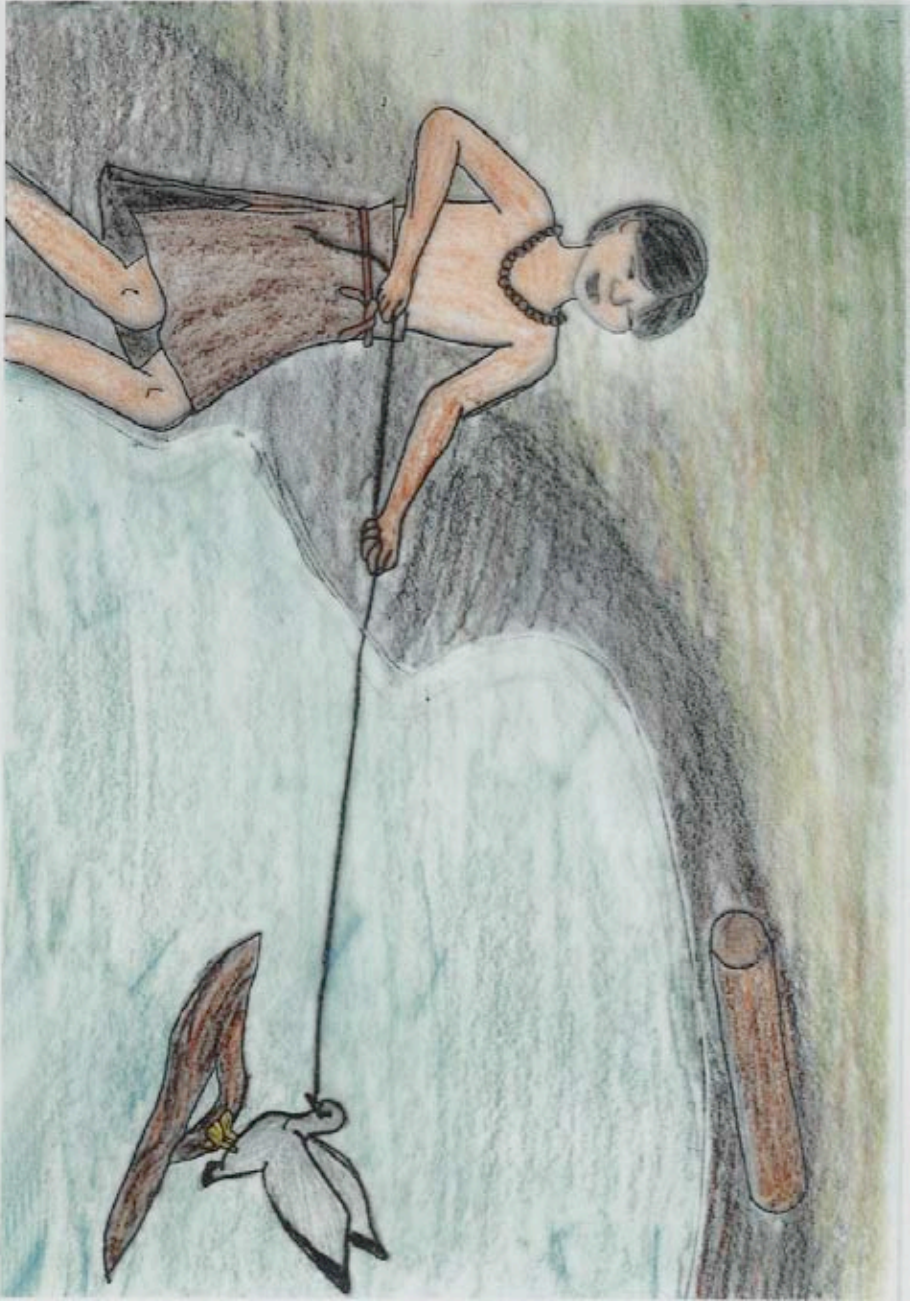
Long ago, they told us a story about a Kiks.ádi boy who was trying to snare sea gulls. "I'm hungry, mom," he yelled to his mother. Give  
me something to eat!"





**Wuditháxi xáat shanyaa áwé du jéet aawatee wé atk'átsk'u. Kei aawagix' wé xáat shanyaa x'áan tin. "Ch'a thákw áwé wuditháxi xáat ax jeet eetéych."**  
**Áx X'ayáa Koowdligát.**

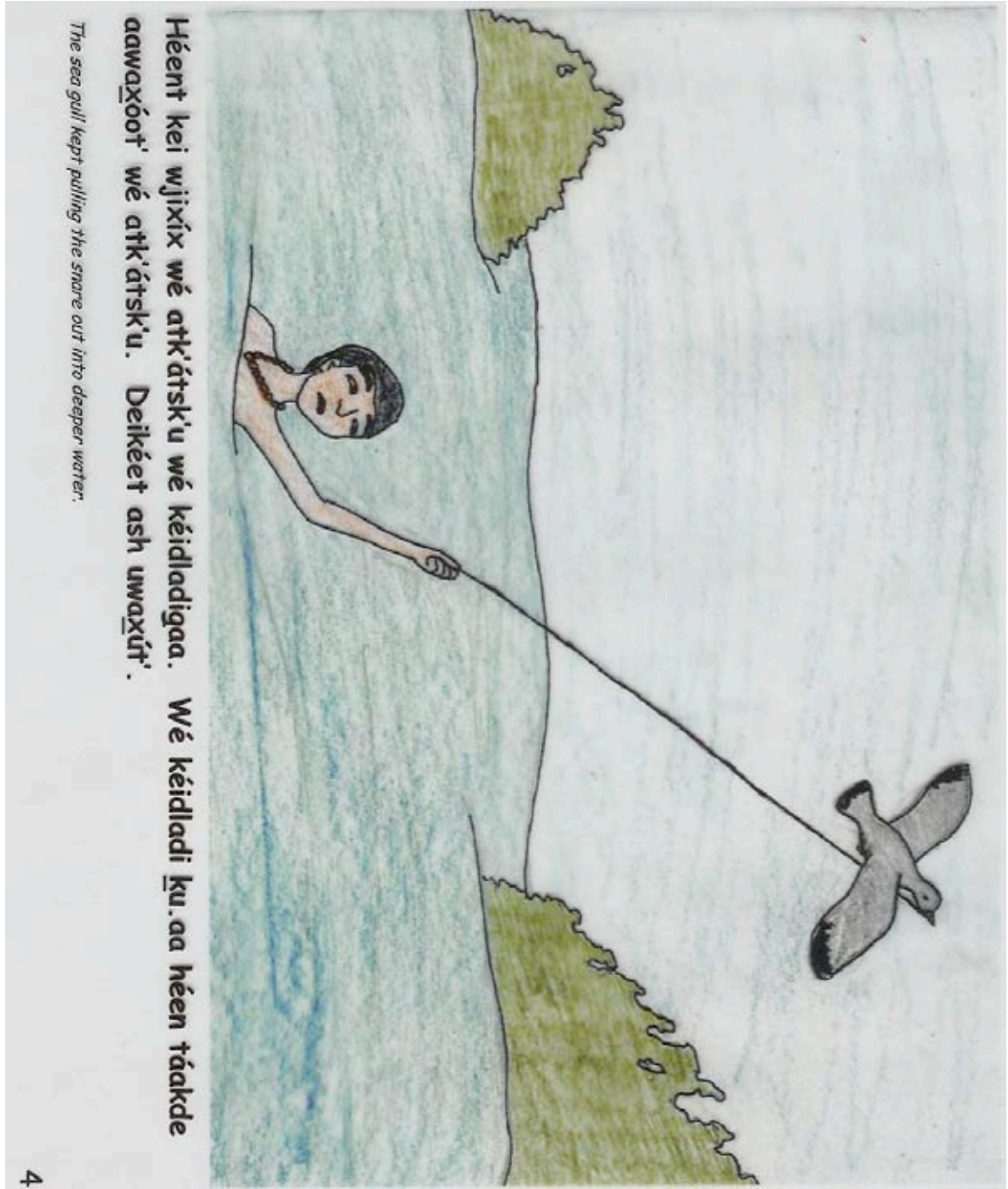
*She gave him the bony shoulder piece of a dried salmon with mold on the end. The boy flung it away in disgust, saying "You always give me the moldy pieces." This is a taboo.*



**Aagáa áwé kéidladi aawasháat du dáas'aayi een.**

*Just then, a sea gull was trapped in his snare. The boy ran down into the water to pull in the sea gull.*





Héent kei wjixí wé atk'átsku wé kéidladi<sup>ga</sup>. Wé kéidladi ku.aa héen táakde  
aawaxóot' wé atk'átsku. Deikéet ash uwaxíí'.

*The sea gull kept pulling the snare out into deeper water.*





Héen táade wdzigeet wé atk'átsk'u. Áx' áwé has aawasháat wé Xáat kwáanich ku.aa. Aadei yawakayí yéich áwé Shanyaak'utlaax yéi wduwasáa wé Xáat kwáanich.

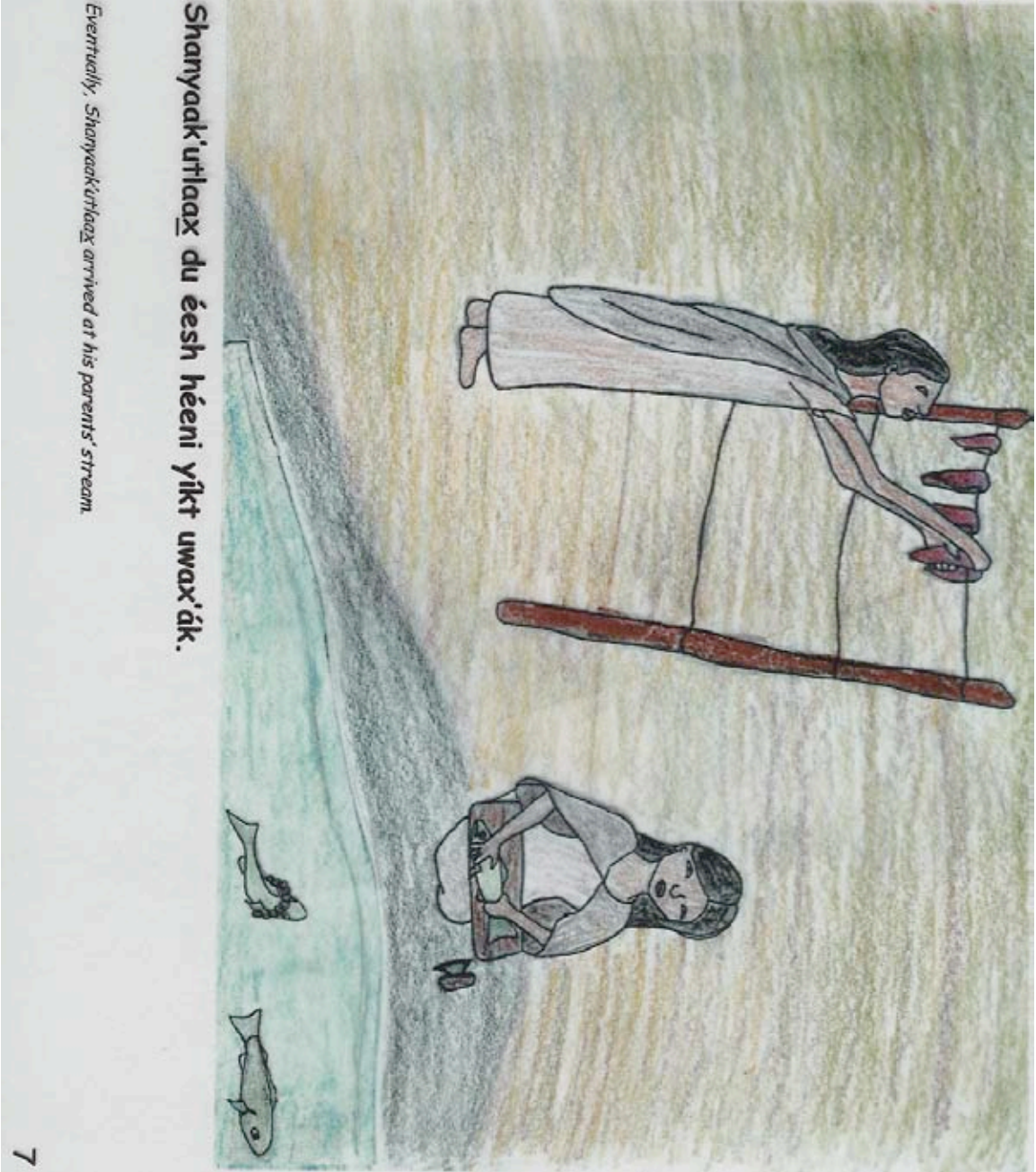
*The boy was swept under the deep water where he was brought into the world of the Salmon People. They named him Shanyaak'utlaax, or "Moldy End", because they were offended by his disrespect.*



Daax'oon táakw áwé xáat kwáani xóox' yéi wootee wé atk'átski'u. Át áwé kuwahaa aa has wudixeedi yé yéide has yakwgwa.áa.

*The boy had been with the Salmon People for 4 or 5 years when one day they began moving toward the streams of their birth.*





**Shanyaak'utlaax du éesh héeni yíkt uwax'ák.**

*Eventually, Shanyaak'utlaax arrived at his parents' stream.*



**Du éshch áwé uwak'èx'. Aaddáx du tíaa jeet awsitaa.**

*His father speared him and gave him to his mother.*





**Du tháach gugaxaashi wé xáat, ayaawatín du yéet seidí. Ách áyá tiél awuxaash wé xáat.**

*As she was trying to cut the fish, she saw her son's necklace. This is why she didn't cut the salmon.*





X'ow̄ k̄a x'wáal' k̄a yan has awsitáa.

*His father wrapped Shanvaak'utlaax in a blanket.*



A itdaḡ áwé Shanyaak'urthaḡ kúḡ wudigút. Wé atk'átsk'u du naaḡ satee een akawaneék xáat daat sh kalneek. Aagáa áwé wé xáatrch du jeet uwateeyi saa "Aak'wtaatseen"

*After a while, Shanyaak'urthaḡ appeared as a young man and told his family his story. Then they named him "Aak'wtaatseen".*





Yéi áwé wududzikóo xáat kwáanich wusneixí. Atk'átskooch tlél ayáx  
ayawuskáa wé xáat. Áx x'ayáa koowilgaadích áwé, xáat kwáanich wusneixí.

*He became known as the boy who was captured by the Salmon People for insulting the Salmon People and the food that comes from them.*

Shanyaak'urthaax

Johnny Marks, Hans Chester, David Katzeek, Nora Dauenhauer ka Richard Dauenhauer-ch áwé yox hás ayawsitee.  
Lisa Teas-ch kawshixít.

**Moldy End**

Edited by Johnny Marks, Hans Chester, David Katzeek, Nora Dauenhauer, and Richard Dauenhauer.

Illustrated by Lisa Teas.

This story is recognized as a Kiks.ádi story. The version presented here is a rewrite of the 'Salmon Boy Legend' taken from the Juneau Indian Studies Program, 1986. Please note the purpose of this publication is to support Tlingit language immersion programs. This is a much abbreviated version of the actual story. To read the story in its entirety, as told by Deikeenákw in 1904, go to: <http://pec.jun.alaska.edu:16080/salmon/graphics/swanton.pdf>

Keri Edwards, Project Coordinator, SHI

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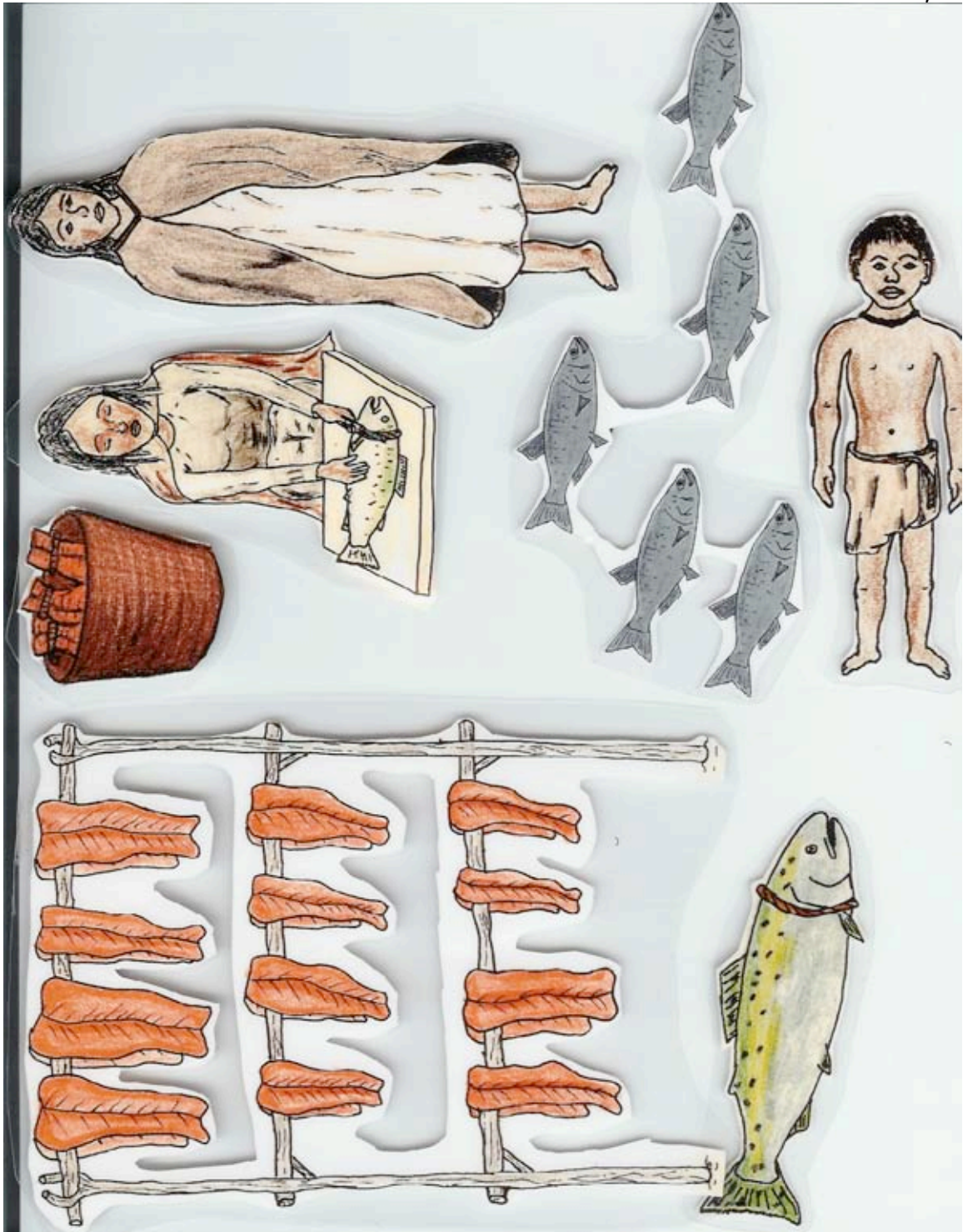
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Xáat- Salmon  
Lesson 1 - Activity 2



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What is Shanyaak'utlaax doing in this picture?

Is it disrespectful? Why?



Alaska State Museum II-B-1962: button robe – Tlingit – cloth; wool; cotton; mother-of-pearl; glass beads; string; cotton; sewn – salmon – Juneau

**Object Name:** button robe

**Accession Number:** 89-12-107

**Description:** cloth; wool; cotton; mother-of-pearl; glass beads; string; cotton; sewn

**Descriptive Narrative:** Button robe made from dark blue wool cloth (Hudson's Bay Blanket). Robe has 14 cm wide red cloth border along sides and a 16 cm red cloth border along top, interrupted in center by 11 cm gap; 1.5 cm diameter buttons parallel the red borders; two red appliqué salmon (37.5 x 14 cm) face inward on upper half of robe, salmon outlined in beads with button and bead detailing of eyes, gill slits, hooked upper jaws; dozens of holes (insect damage?) of blue blanket and red borders.





**Alaska State Museum II-B-1587:** hat – Tlingit – spruce root; wood; paint; silk; leather; felt; woven; painted; decorated – salmon – Angoon

**Description:** spruce root; wood; paint; silk; leather; felt; woven; painted; decorated

**Descriptive Narrative:** "Tlingit spruce root hat with wooden carved and painted representation of sockeye salmon affixed to the top. The sockeye is painted maroon with black ribs and fins, 13" l x 4.5" h. Painted on tail fin in green and orange is a stylized human face. 2 eye-shaped designs on each side; salmon's eye is painted silver. The hat is twined, natural color with painted designs in black, green, and orange. Two large faces appear, one on each side of the hat--the face in front has two sockeye salmon looking toward each other in place of the mouth. Story represented is Basket Bay. Eight green designs along the bottom of the hat. Inside of hat is a black silk hat band with 2 leather thongs coming down from it (to be tied under the chin). A piece of felt is on the inside of the crest of the hat. Diameter: 15.5" at the widest point; 12" tall (including sockeye)."





**Alaska State Museum II-B-1921:** headdress – Tlingit – headdress; wool cloth; navy blue; red; glass beads; beaded; leather – killer whale; salmon

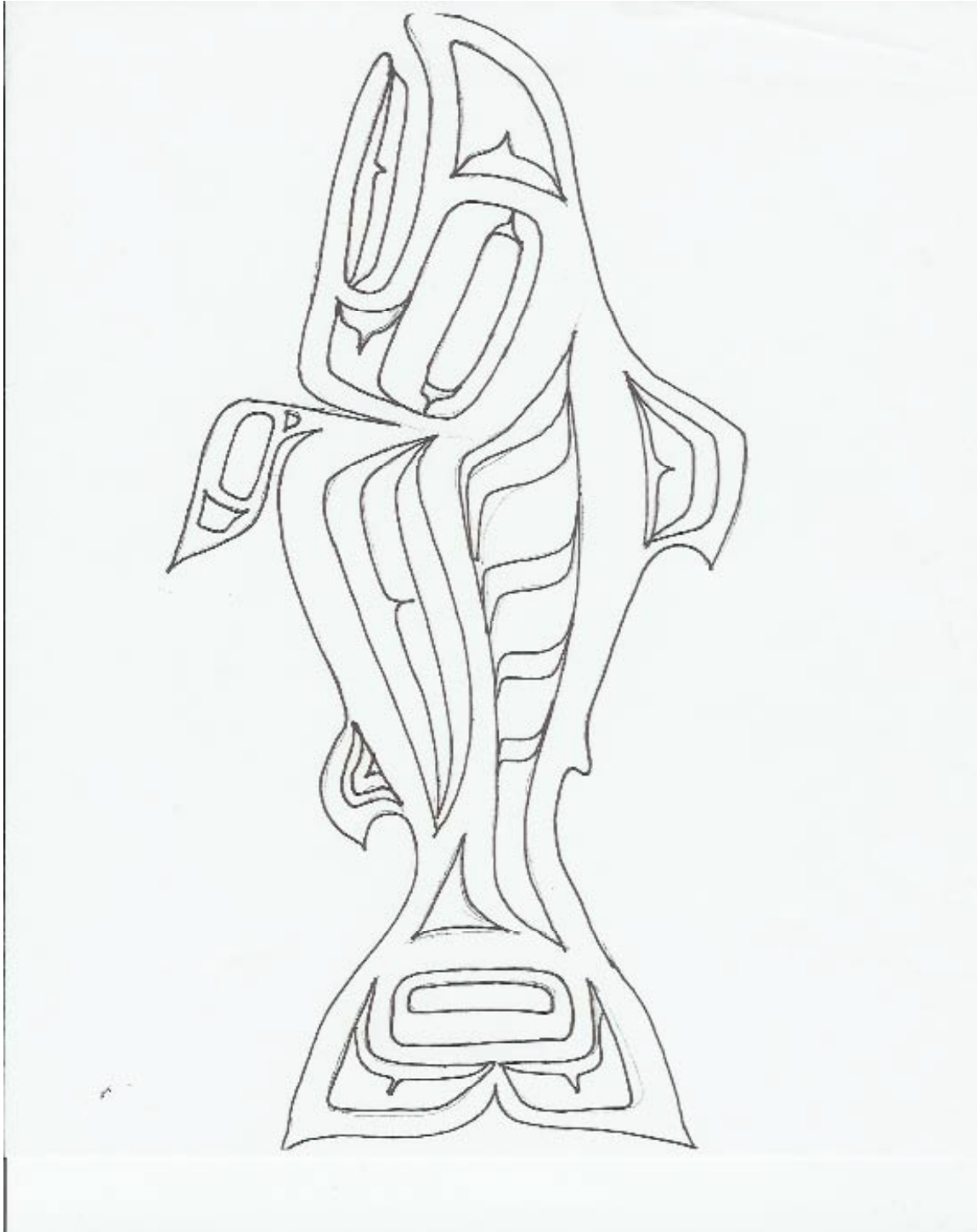
**Accession Number:** 89-12-39

**Description:** headdress; wool cloth; navy blue; red; glass beads; beaded; leather

**Descriptive Narrative:** Beaded ceremonial headdress of red and blue wool cloth, 2 leather ties. Navy wool cloth in 1 rectangular panel, folded in half along length and hand sewn along one long side and short sides. Red wool trim 1-5/8" wide along top and bottom edges, with white beaded edge adjacent to blue wool. Front seam and back seam also trimmed in red wool and white beading. One large beaded fish design in purple, gold, white, light blue and clear beads appears swimming behind one smaller fish (killer whale?) of gold, purple, light blue, clear, and pearl-like beads. Patterns are mirror images on each side. Inside is unlined, exposing bead threadwork. Holes in red and blue cloth.

**Subject:** killer whale; salmon

Xáat - Salmon  
Lesson 1 - Activity 5



Student coloring example

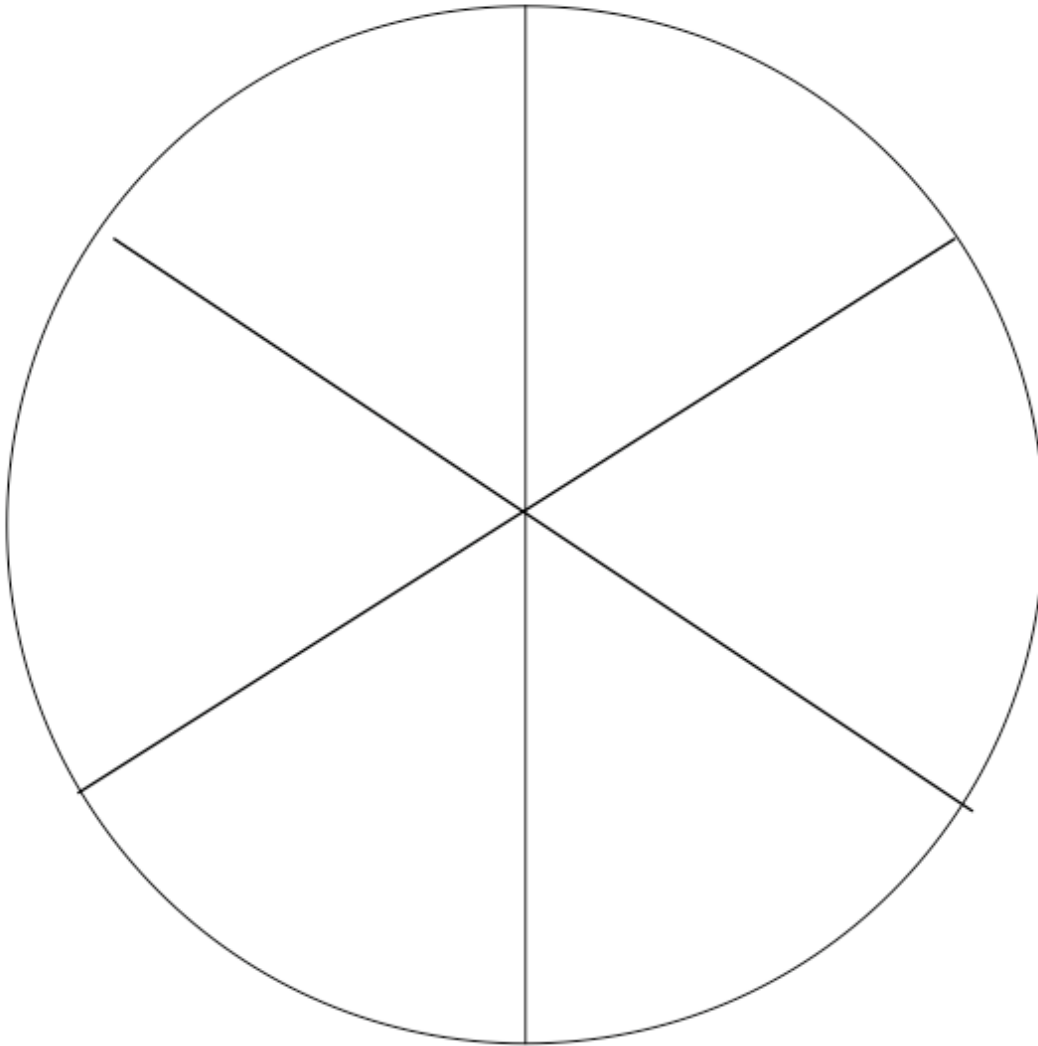


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Name \_\_\_\_\_ Date \_\_\_\_\_

Fill in the spaces with the stages of a salmon's life cycle.

Word Bank:      alevin      spawning      eggs  
                     smolt      death      fry





Xáat - Salmon  
Lesson 2 - Activity #4



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Name \_\_\_\_\_ Date \_\_\_\_\_



How old is this tree? \_\_\_\_\_ How do you know? \_\_\_\_\_

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

Put an X on the ring when the tree grew the least.

Put a O on the ring when the tree grew the most.

How is the salmon scale similar to the tree? \_\_\_\_\_

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

Color in the areas where the rings show the salmon grew fast.

How old is the salmon that this scale came from? \_\_\_\_\_

**xáat**

**lugan**

**gaaxw**

**yaxwch'**



**aashat**

**taan**

**toos'**

**tsaa**

**ch'aak**

**gooch**

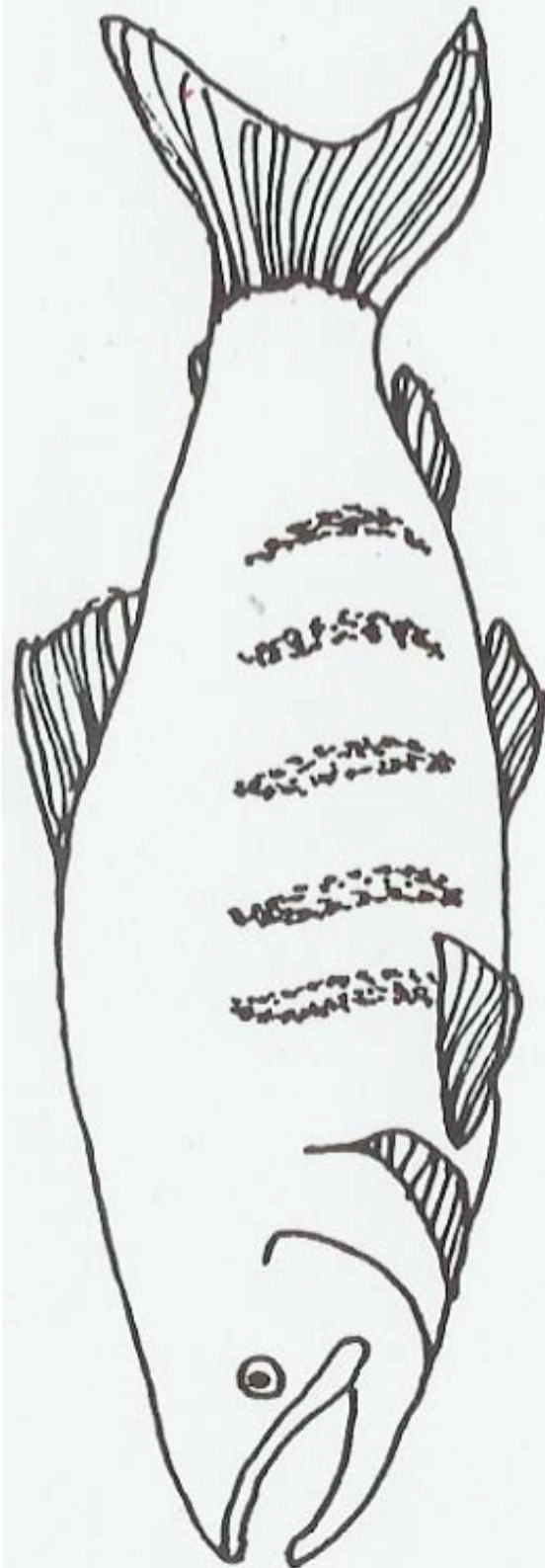
***keikladi***

***xoots***



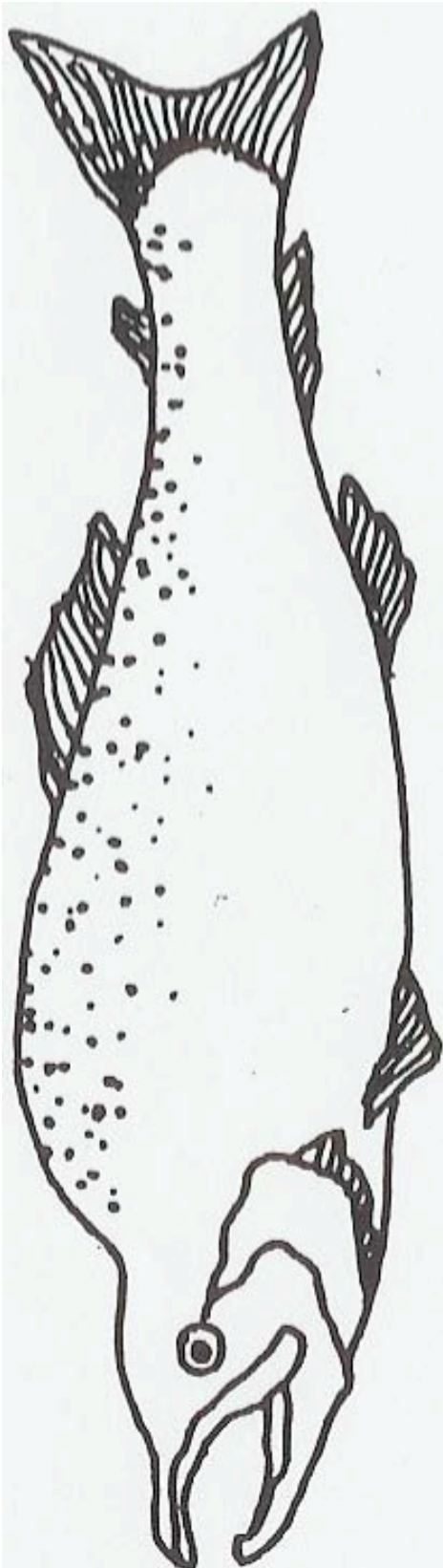
**A**

**eats a**



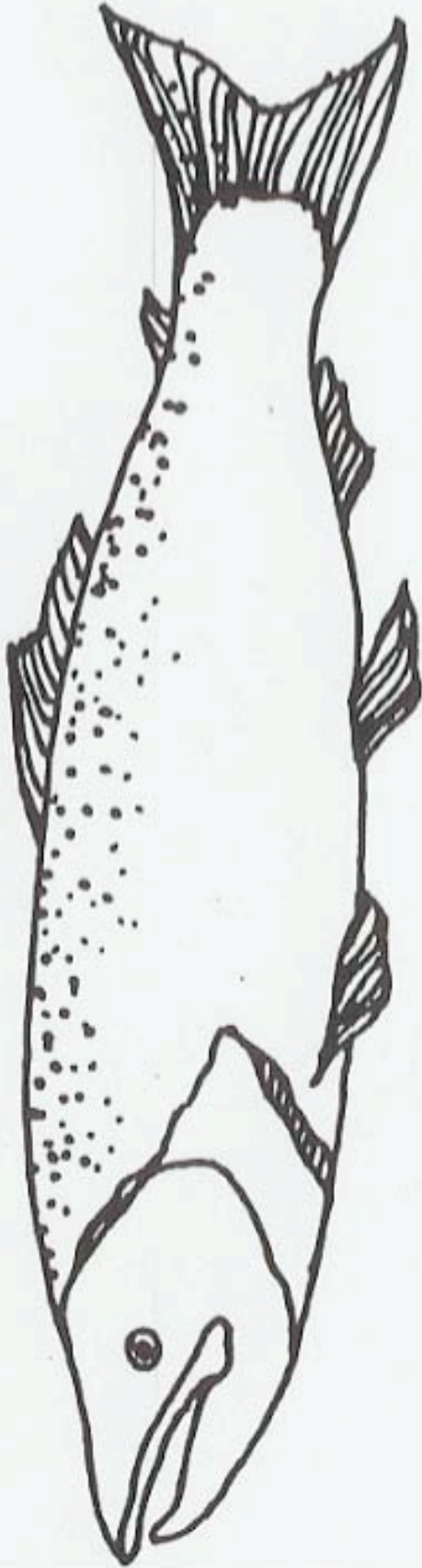
Téel'

Dog Salmon



*Cháás'*

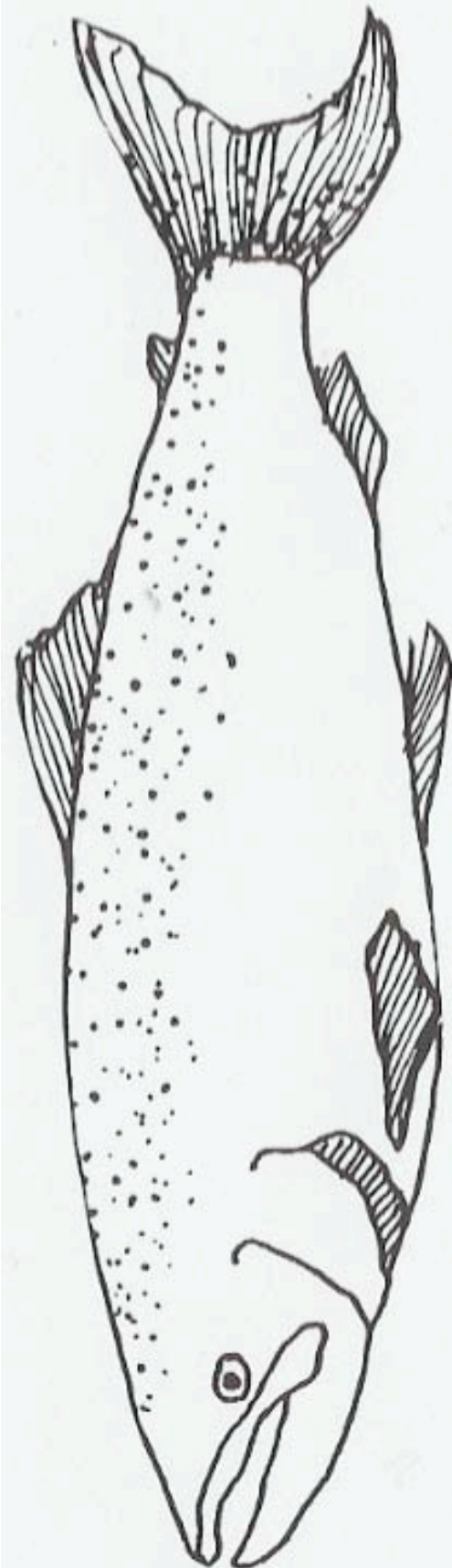
Pink/Humpy Salmon



*qaat*

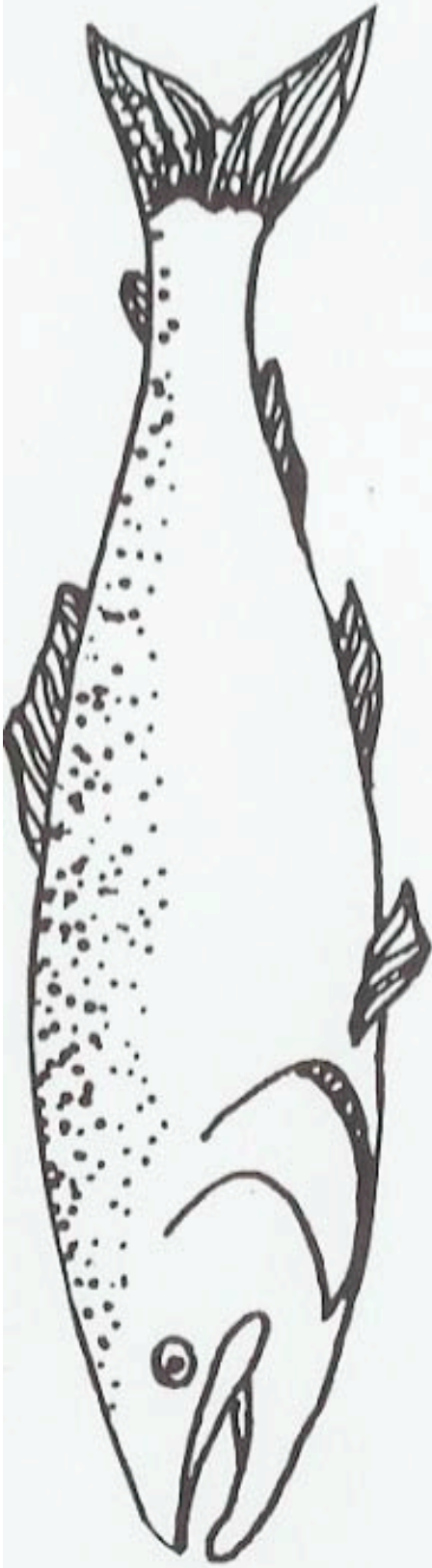
Sockeye Salmon





T'á

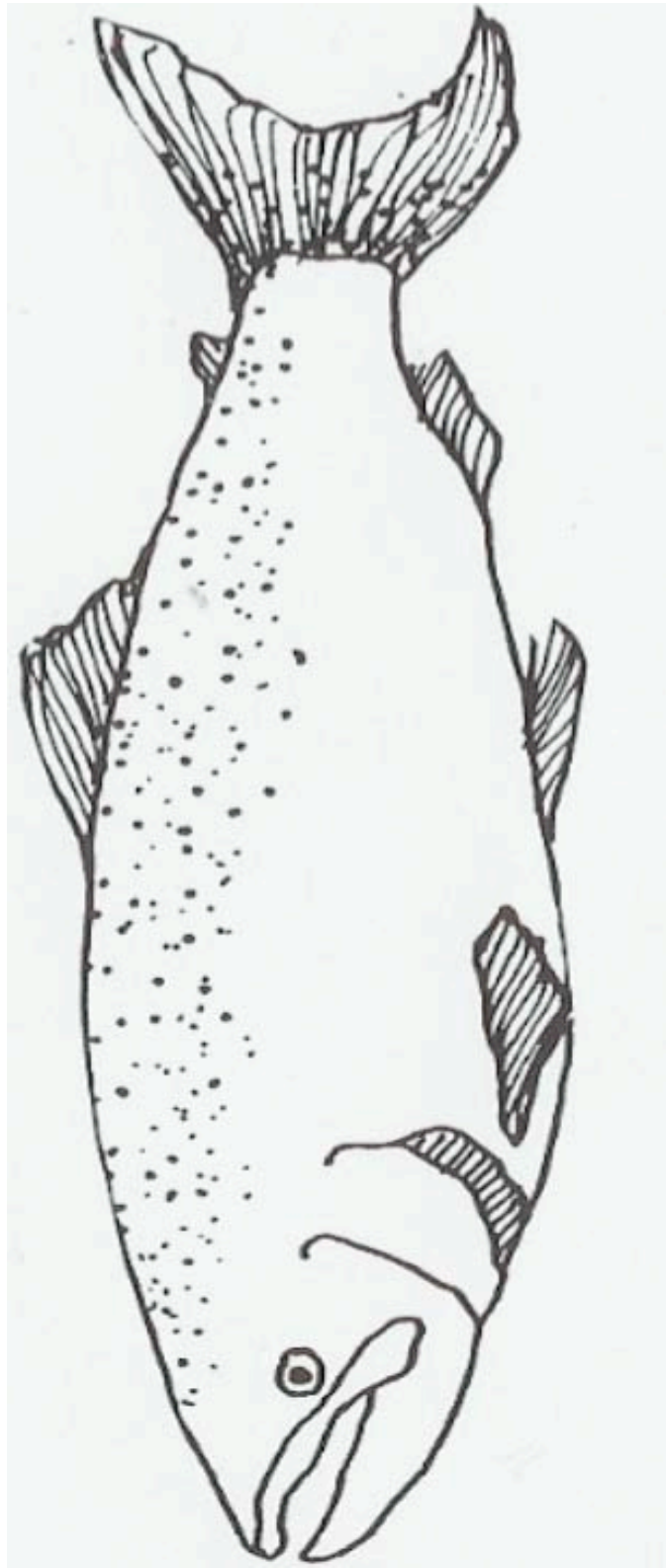
King Salmon



*L'ook*

**Coho/Silver Salmon**

Xáat - Salmon  
Lesson 4 - Activity #3

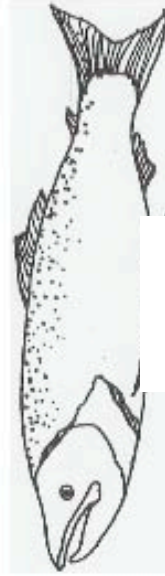


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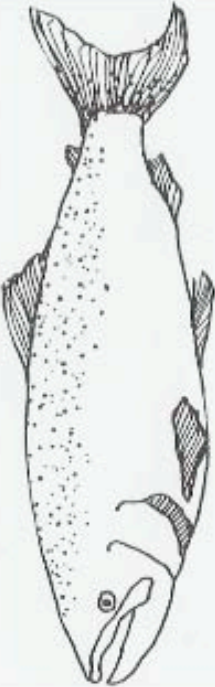
L'ook

Coho/Silver Salmon



qaat

Sockeye Salmon



T'á

King Salmon

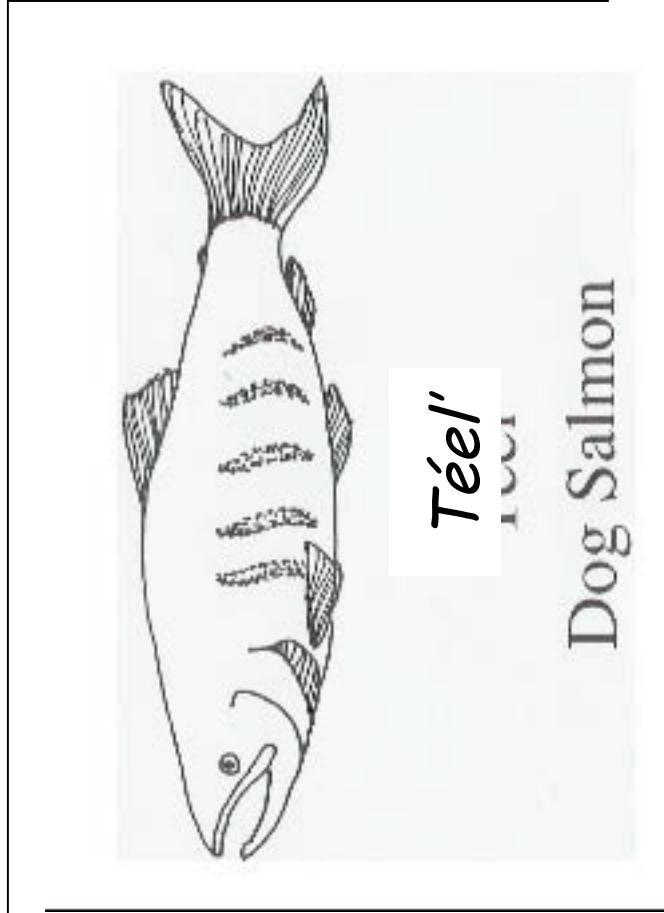


Cháas'

Cháas'

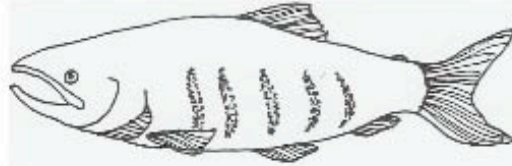
Pink/Humpy Salmon





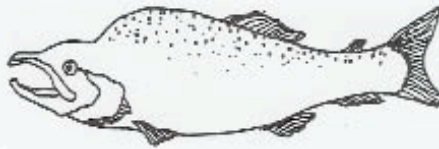
Name \_\_\_\_\_ Date \_\_\_\_\_

Match the English and Tlingit names to the salmon.



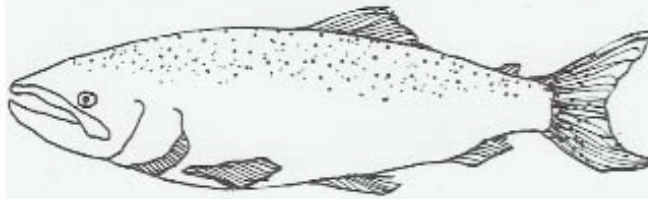
L'ook

Coho



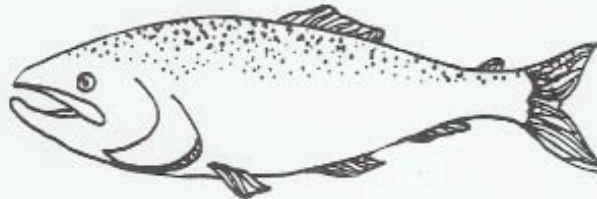
Cháas'

Dog



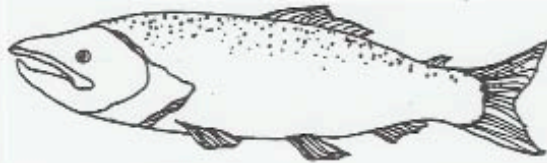
Gaat

Sockeye



T'á

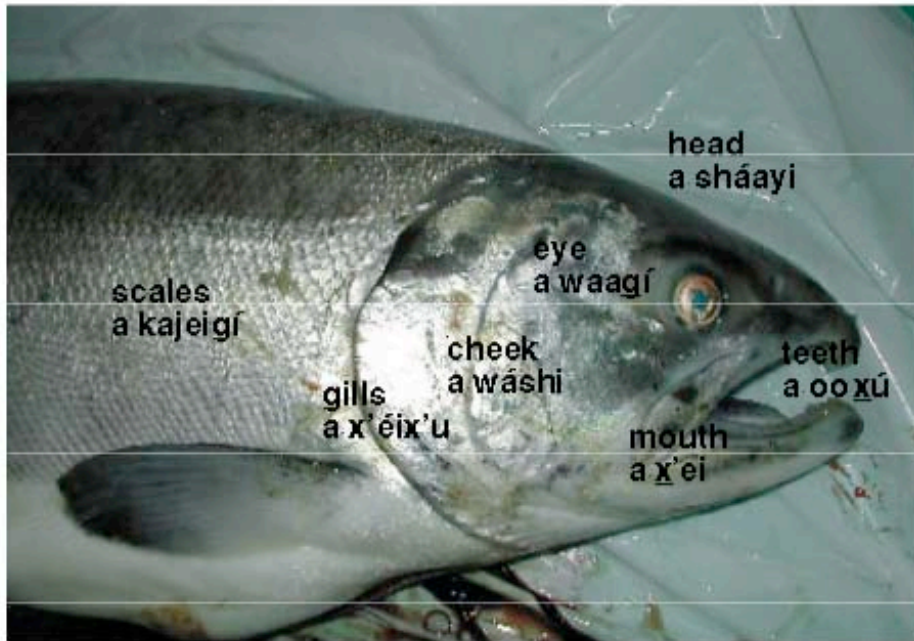
King



Téel'

Pink

Xáat - Salmon  
Lesson 5 - Activity #1



xáat  
salmon



*a sháayi*  
head





*a waagi*  
eye



*a x'ei*  
mouth



*a w'ashi*  
cheek



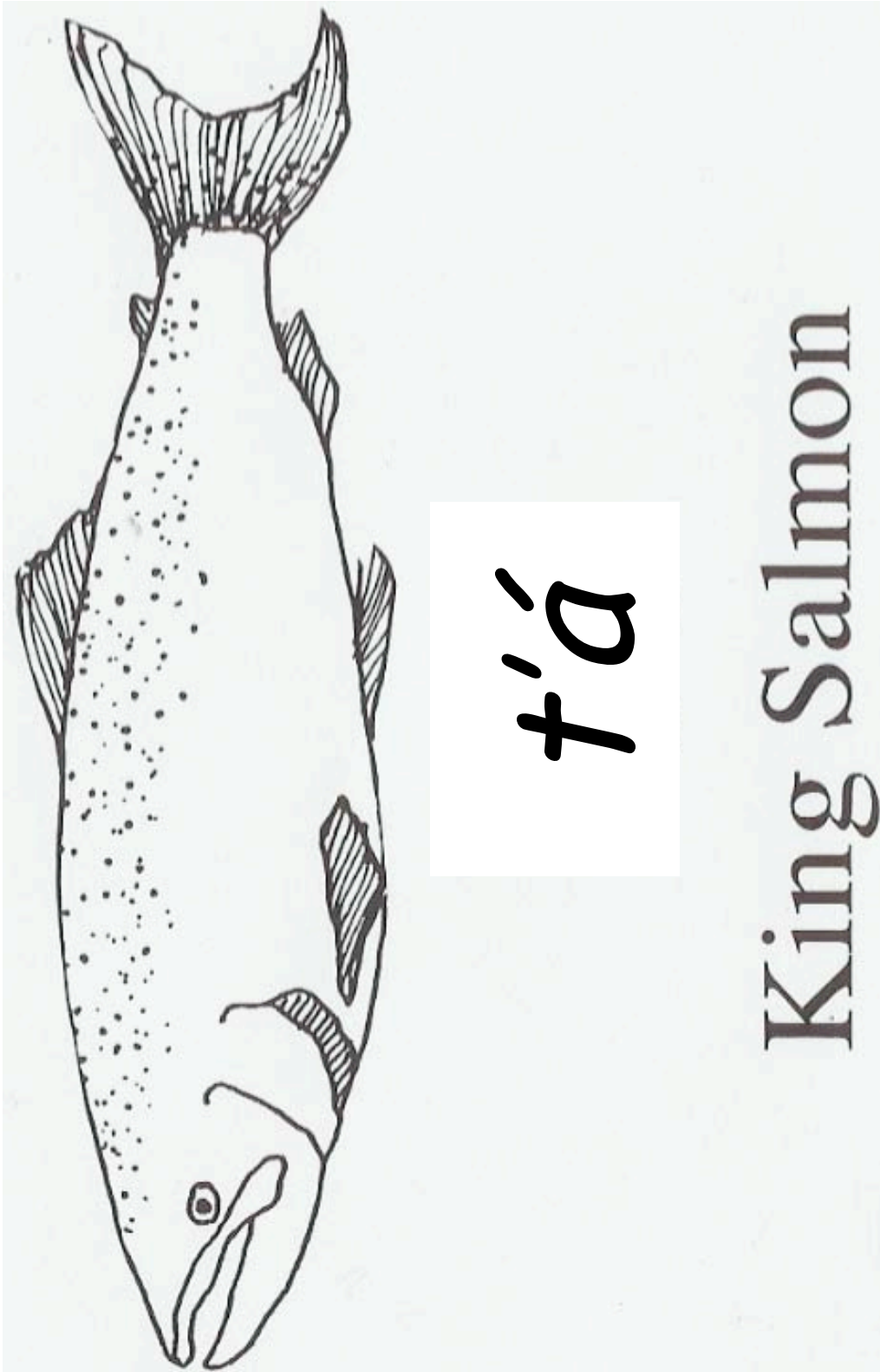
*a kageigí*

scales





*a ooxú*  
teeth



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a kajeigí  
it's scales

a x'éix'u  
it's gills

a x'eiyi  
it's mouth

a ooxu  
it's teeth

a shaayi  
it's head

a koowú  
it's tail

a waak  
it's eye

a x'áгаа  
it's fin



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Name \_\_\_\_\_

Date \_\_\_\_\_

How many square inches are there on one side of the salmon?

How many scales are there in one square inch? \_\_\_\_\_

Show your work on the back of the paper.

How many scales do you think there are on one side of the salmon?

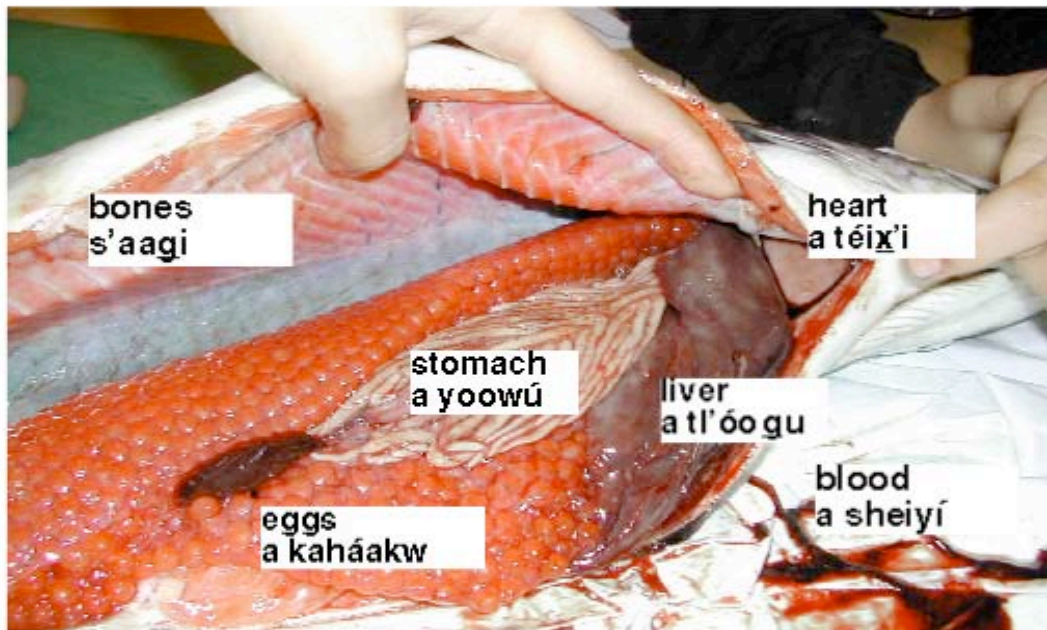
How many scales do you think there are on the whole salmon?



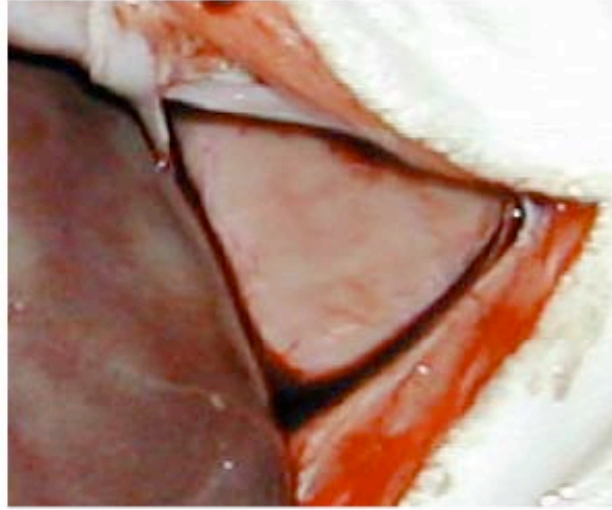
1 square inch of scales



# *s'aagi* bones



# *a sheiyí* blood

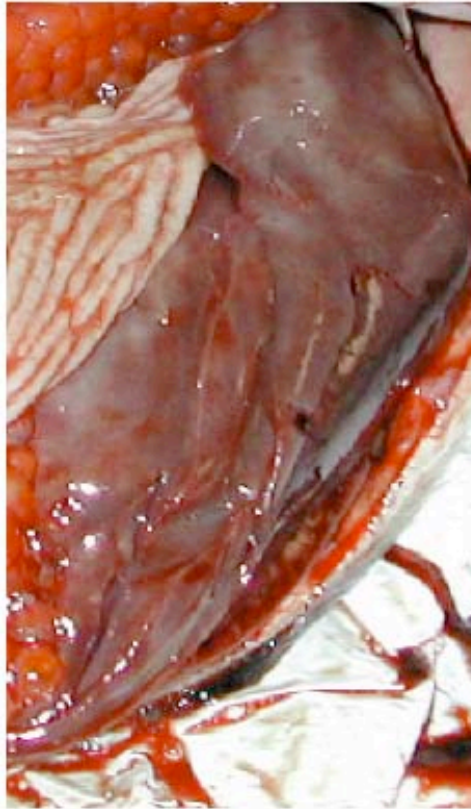


*a téix'i*  
heart





# *a yooowú* stomach



*a t'óogú*  
liver



# *a kaháagu*

eggs



*a x'éix'ú*  
gills



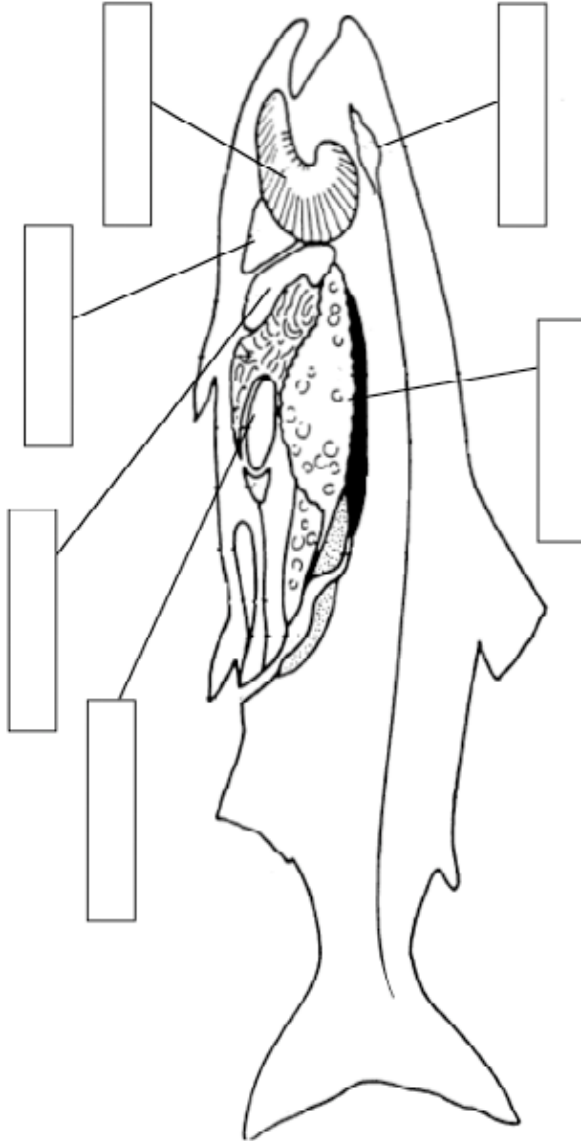
Xáat - Salmon  
Lesson 5 - Assessment

Name \_\_\_\_\_ Date \_\_\_\_\_

Label the internal fish parts.

**Word Bank**

liver    gills    stomach    eggs    heart    brain



What do the gills do? \_\_\_\_\_

Is this salmon male or female? How do you know? \_\_\_\_\_

Why are salmon important to us? \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_



We divided our salmon eggs into 15 groups.

If there are 120 eggs in each group how many eggs are there all together? \_\_\_\_\_

Show your work.

Name \_\_\_\_\_ Date \_\_\_\_\_

Our class harvested salmon eggs from a coho. Each group counted 25 ml of eggs. These are the numbers we got.

Put the numbers in order from least to greatest.

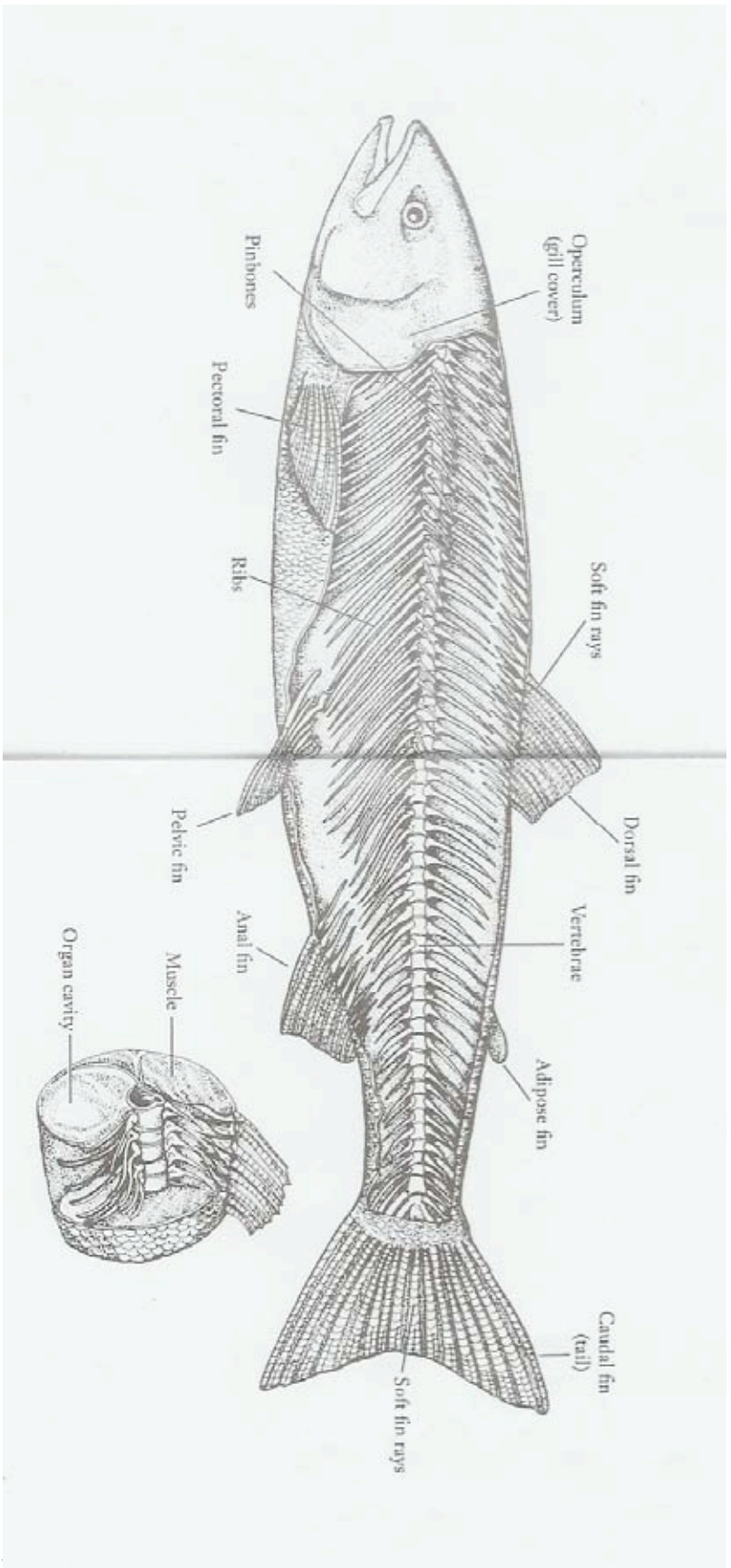
group 1 -	140	_____
group 2-	165	_____
group 3-	123	_____
group 4-	103	_____
group 5-	106	_____
group 6-	202	_____
group 7-	120	_____
group 8-	198	_____
group 9-	185	_____
group 10-	120	_____
group 11-	181	_____

What is the range of numbers?

---

What is the middle number? \_\_\_\_\_

If this number is the median, how many eggs would there be in 4 containers?



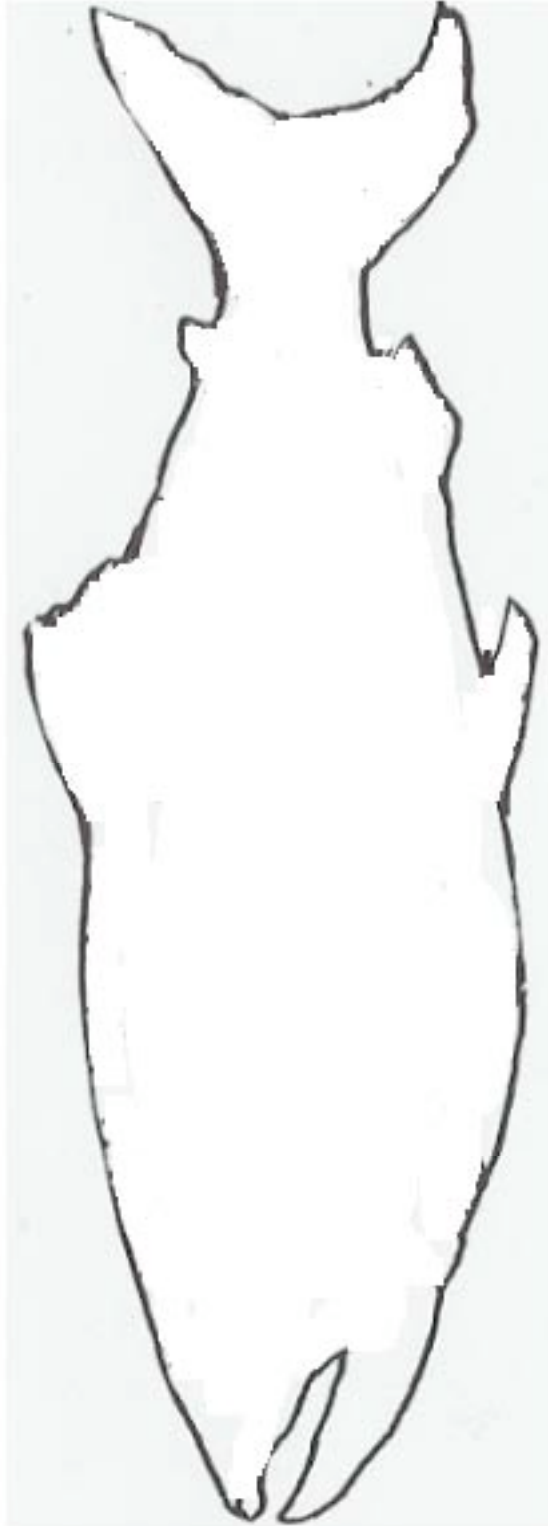
*Field Guide to the Pacific Salmon by Robert Steelquist*

The contents of this curriculum

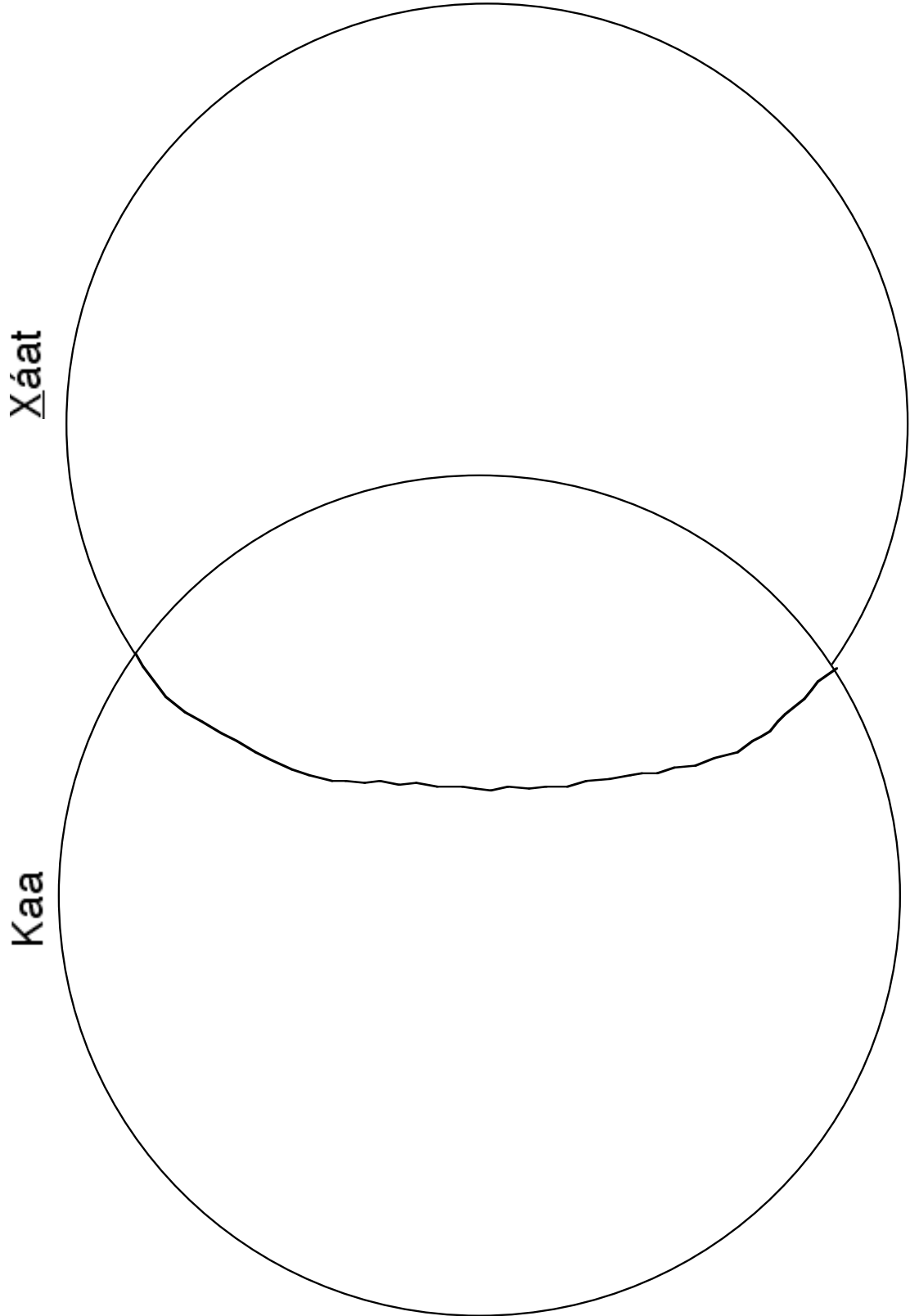
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*Xáat-Salmon*  
Lesson 7 - Activity #4



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Name \_\_\_\_\_ Date \_\_\_\_\_

What is volume? \_\_\_\_\_

Use cubes to measure the volume of each container.

T Type of container	V Volume of container

Which container holds the most?

\_\_\_\_\_

Which container holds the least?

\_\_\_\_\_

What would the total volume be if you had 3 containers that each held the most?

\_\_\_\_\_

Which container would you want to have full of salmon strips and why?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



These are pint jars filled with salmon strips.

How many jars are there? \_\_\_\_\_

If there are about 9 strips in each jar, how many strips are there all together?

\_\_\_\_\_  
Show how you know.



Which salmon spread is your favorite?

- Spread A
- Spread B
- Spread C

Which salmon spread is your favorite?

- Spread A
- Spread B
- Spread C

Which salmon spread is your favorite?

- Spread A
- Spread B
- Spread C



Which type of spread was favored by the most people?

---

Which type was favored by the least amount of people?

---

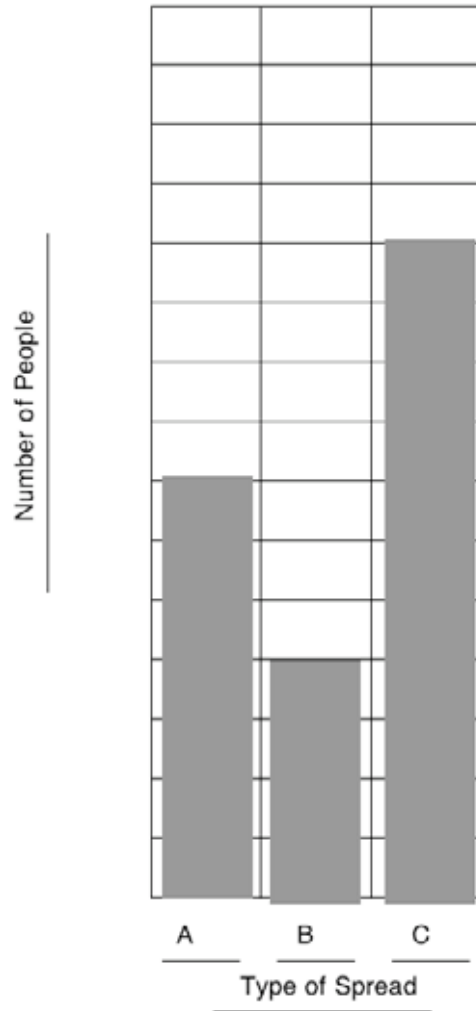
What was the difference between the most favorite and the least favorite?

---

Which spread was your favorite?

---

Use the graph to answer the questions.



How many people liked type B the best?

---

How many more people liked type C than type B?

---

How many people tried the salmon spreads?

---



If 7 more people tried the salmon spreads, how many people have tried the spread would all together?

---

If we tried this survey again tomorrow, which spread do you think would be the most popular?

---

Why?

---

---

---