Theme:

This ten lesson, 15 hour unit, focuses on the unique life of the salmon. Students will examine both salmon habitats (fresh water and salt water), the life cycle of the salmon, and how humans have impacted the salmon reproduction and population. Students will also work on conservation projects aimed at helping maintaining the salmon habitat and population. Finally, students will take a brief look at how salmon shaped and affected the Indian culture.

Focus

The focus of this unit is the complex life cycle of the salmon and the varying habitats in which it lives.

Objectives Students will:

*understand that salmon have a complex life cycle that takes them thousands of miles from fresh water to the ocean and back again.

*know that salmon are faced with many hazards to their survival during their life cycle.

*know that of the thousands of eggs have been laid only a very small number will complete the life cycle.

*understand that people have caused major problems for the salmon.

*be able to describe the salmon freshwater habitat.

*understand that many fish species migrate seasonally for reproduction.

*know that while each f ish is capable of producing large numbers of offspring many factors reduce the change that an individual fish will reproduce and that its offspring will live.

*understand that mortality in anadromous fish populations may be due to natural causes or may be caused by human actions.

*interpret and make inferences about fluctuations in fish populations from actual data.

*analyze the effects of human use and habitat changes on a fish population.

Standards

The standards addressed in this unit are:

Grade Four Mathematics 1.0 Students understand the place value of whole numbers and decimals to two decimal places and how whole numbers and decimals relate to simple fractions.

1.1 Read and write whole numbers in the millions.

1.2 Order and compare whole numbers and decimals to two decimal places.

1.3 Round whole numbers through the millions to the nearest ten, hundred, thousand, ten thousand, or hundred thousand.

2.O Students use two dimensional coordinate grids to represent points and
Graph lines and simple figures.

Life Sciences

2. All organisms need energy and matter to live and grow. As a basis for
Understanding this concept:

a. Students know plants are the primary source of matter and energy
Entering most food chains.

b. Students know producers and consumers (herbivores, carnivores,
Omnivores, and decomposers) are related in food chains and food Webs and may compete with each other for resources in an ecosystem.

3. Living organisms depend on one another and on their environment for
Survivial . As a basis for understanding this concept:

a. Students know ecosystems can be characterized by their living and
Nonliving components.

b. Students know that in any particular environment, some kinds of
Plants and animals survive well, some survive less well, and some cannot survive at all.

c. Students know many plants depend on animals for pollination and
Seed dispersal, and animals depend on plants for food and shelter.

Investigation and Experimentation

6. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands students should develop their own questions and perform investigations. Students will:

a. Differentiate observation from inference (interpretation) and know scientists' explanations come partly from what they observe and partly from how they interpret their observations.

b. Measure and estimate the weight, length, or volume of objects.

c. Formulate and justify predictions based on cause-and-effect relationships.

d. Construct and interpret graphs from measurement.
e. Follow a set of written instructions for a scientif is investigation.

Grade Five Mathematics

Statistics, Data Analysis, and Probability

1.0 Students display, analyze, compare, and interpret different data sets, including data sets of different sizes:

1.1 Know the concepts of mean, median, and mode; compute and compare simple examples to show that they may differ.

1.2 Organize and display single -variable data in appropriate graphs and representations (e.g., histogram, circle graphs) and explain which types of graphs are appropriate for various data sets.

1.3 Use fractions and percentages to compare data sets of dif ferent sizes.

Life Sciences

2. Plants and animals have structures for respiration, digestion, waste disposal, and transport of materials. As a basis for understanding this concept:

a. Students know may multicellular organisms have specialized structures to support the transport of materials.

b. Students know how blood circulates through the heart chambers, lungs, and body and how carbon dioxide and oxygen are exchanged in the lungs and tissues.

c. Students know the sequential steps of digestion and the roles of teeth and the mouth, esophagus, stomach, small intestine, large intestine, and colon in the function of the digestive system.

d. Students know the role of the kidney in removing cellular waste from blood and converting it into urine, which is stored in the bladder.

Investigation and Experimentation

6. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:

a. Classify objects (e.g., rocks, plants, leaves) in accordance with appropriate criteria.

b. Develop a testable question.

c. Plan and conduct a simple investigation based on a student-developed question and write instructions others can follow to carry out the procedure.

d. Identify the dependent and controlled variables in an investigation.

e. Identify a single independent variable in a scientific investigation and explain how this variable can be used to collect information to answer a question about the results of the experiment.

f. Select appropriate tools (e.g., thermometers, meter sticks, balances, and graduated cylinders) and make quantitative observations.

g. Record data by using appropriate graphic representations (including charts, graphs, and labeled diagrams) and make inferences based on those data.

h. Draw conclusions from scientific evidence and indicate whether further information is needed to support a specific conclusion.

Materials

Salmon Stream by Carol Reed-Jones
Come Back Salmon by Molly Cone
Chart paper
Markers
Graph
paper
Crayons
Paper
plates Glue
Fish Die
Construction paper
Yarn
Stopwatches Rope
Cones

Cardboard boxes
(2) 100 tokens jump
rope

LESSON ONE
SALMON

Objective

Students will list the things they know about fish.

Students will be able to find similarities between fish and human organs.

Standards:

Life Sciences (grade 5)

a. Students know many multi-cellular organisms have specialized structures to support the transport of materials.
b. Students know how blood circulates through the heart chambers, lungs, and body and how carbon dioxide and oxygen are exchanged in the lungs and tissues.
c. Students know the sequential steps of digestion and the roles of teeth and the mouth, esophagus, stomach, small intestine, large intestine, and colon in the function of the digestive system.
d. Students know the role of the kidney in removing cellular waste from the blood and converting it into urine, which is stored in the bladder.

INTRODUCTION:

Teacher begins lesson by asking students what they know about fish. Teacher should post all ideas students give on a chart paper labeled "KNOW" to be hung in the room for students to refer to.

LESSON

Teacher passes out fish to groups of four students. Students work in groups to label "observations" about their first fish. After 10 - 15 minutes teacher should rotate the fish so students may make observations about another "species" of fish. After another 10 - 15 minutes teacher should rotate fish species again.

After students have had an opportunity to list observations about the different fish, teacher should open it up to discussion. A chart paper divided in two and labeled similarities and differences should be used for

the teacher to document the observations students have made about the various species of fish.

CONCLUSION:

After the discussion teacher should pass out envelopes with about 12 different fish species enclosed. Again, students will work in groups to divide the fish into different categories. After about 15 minutes the teacher should discuss the categories with the students and discuss which fish they placed in each category.

BEYOND:Students should be able to write a three - five page paper documenting the similarities and differences they found our about their fish.

LESSON 2 SALMON

OBJECTIVES:

Students will be able to find similarities and differences between fish and human organs and functions.

Standards:

Life Sciences (grade 5)

a. Students know many multi-cellular organisms have specialized structures to support the transport of materials.
b. Students know how blood circulates through the heart chambers, lungs, and body and how carbon dioxide and oxygen are exchanged in the lungs and tissues.
c. Students know the sequential steps of digestion and the roles of teeth and the mouth, esophagus, stomach, small intestine, large intestine, and colon in the function of the digestive system.
d. Students know the role of the kidney in removing cellular waste from the blood and converting it into urine, which is stored in the bladder.

Introduction:

Teacher should review with students the human organs and their functions. Perhaps for better understanding the teacher should bring in a human body model or pictures of the organs for clarification.

Lesson:

Teacher will pass out paper plates, crayons, scissors, and glue to students. Either with the teacher directing the lesson, or independently, students will construct two different models of the fish organs.

Conclusion:

After students have completed the models the teacher will discuss the similarities and differences between the human body and the fish. Teacher will explain why these differences exist.

Beyond:Students should be able to write a four paragraph paper discussing the similarities and differences between the human organs and the fish organs.

LESSON THREE
SALMON

Ob jectives:

Students will be able to explain what makes a salmon unique from other fish. Students will be able to describe both habitats of the salmon. Students will be able to explain the life cycle of the salmon.

Standards:

Life Sciences (grade four)

2.0 All organisms need energy and matter to live and grow.

b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

3.0 Living organisms depend on one another and on their environment for survival.

a. Students know ecosystems can be characterized by their living and nonliving components.

b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

Introduction:

Teacher will review with the students what we already KNOW about fish. Teacher should be sure to address the life cycle of fish, where do fish live, what do they eat?

Lesson:

Teacher will read aloud to the class Salmon Stream, by Carol Reed-Jones. While reading teacher should point out and discuss the following:

*What kind of water do we f i nd i n a stream?

*What kinds of animals depend on the stream for their habitat?
*Where does the salmon lay its eggs?
*What else might we find in the rocky gravel?

*Who is the salmon's first predator?

*Do you think he has to eat a little, or a lot?
*Who is the trout's predator?
*Does this mean that the osprey is also a predator to the salmon?
*The tiny fish turn into what?
*What tells them when to leave and where do they go?
*What kinds of obstacles do the smolt encounter?
*What is an estuary?
*What does the author mean when she writes, "the homing urge"?
*How do the salmon look and feel after their trip home? Why?

ConclusionAfter the story the teacher and students should discuss the ways in which salmon are different from other fish. Using a Venn diagram as a class fill out the similarities and differences.

LESSON FOUR
SALMON

Objectives:

Students will be able to explain why some fish migrate for reproduction.
Students will be able to explain that while some fish are capable of producing many offspring, many factors reduce the chance that an individual fish will reproduce and its offspring will survive.
Students will be able to list various causes, both natural and man made, that affect a fish's mortality.
Students will be able to explain that a fish's mortality varies with age and location.

Standards:

Life Sciences (grade four)

2.0 All organisms need energy and matter to live and grow.

b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

3.0 Living organisms depend on one another and on their environment for survival.

a. Students know ecosystems can be characterized by their living and nonliving components.

b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all

Introduction:

Teacher will review with students the concepts learned from the story, Salmon Stream. Teacher should use this opportunity to discuss with the

students certain vocabulary that has been encountered in the story that will again show up. These words include, but are not limited to: migration, spawn, estuary, and anadromous.

Teacher should also use this time to review what we learned about the salmon lifecycle. Where does its life start? Where does it go from here? Who are the salmon's predators? What are some obstacles the salmon encounters during its migration? Are they natural, or man made?

Lesson:

This complete lesson is Activity 27 from Living in Water, published by the National Aquarium of Baltimore. (pg 191)

Teacher should pass out completed board games and playing cards to students in groups of four. In addition, teacher should pass out data sheet - pg. 217 - one to each student.

Explain with the students how to play the game and give a brief demonstration. Teacher should also use this time to explain the proper way to fill out the data sheet.

Allow 30 - 45 minutes for students to play game. If they finish before the end of the class period they may get another data sheet and play the game again. They can then later compare the two sets of data.

Conclusion:

There is no conclusion at the end of this lesson as the lesson will be resumed the following period.

LESSON FIVE
SALMON

Objectives

Students will be able to explain why some fish migrate for reproduction. Students will be able to explain that while some fish are capable of producing many offspring, many factors reduce the chance that an individual fish will reproduce and its offspring will survive.
Students will be able to list various causes, both natural and man made, that affect a fish's mortality.
Students will be able to explain that a fish's mortality varies with age and location.

Standards:

Life Sciences (grade four)

2.0 All organisms need energy and matter to live and grow.

b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

3.0 Living organisms depend on one another and on their environment for survival.

a. Students know ecosystems can be characterized by their living and nonliving components.

b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

Introduction:

Teacher should use the first 5 - 10 minutes of class to review the story, what they have learned about salmon so far, and what activity they completed in the prior lesson.

Lesson:

Students should take out their fish data table - pg 219. Teacher will at this time pass out Activity 27 summary sheet. Teacher will demonstrate how the table on page 217 is to be filled out by the group. Independently, students will answer number 4 on their sheet.
After sufficient time has been given the teacher should use a larger piece of graph paper to compare the different data tables from the different groups. Then, as a class discuss the different answers students came up with for question number 4.

Teacher should then pass out graph paper and should demonstrate how to graph the various data.**

Conclusion:

After all data has been recorded and graphed students should be able to answer the questions on page 218. Give students sufficient time to complete the questions and then discuss the answers as a class.

** If you have time for an extended project students can graph their data on the computer.

LESSON SIX

SALMON "THE LONG WET JOURNEY: MOVING bOWNSTREAM"

Objectives:

Students will have a better understanding of the complex life cycle of the salmon that takes them thousands of miles from fresh water and back again.
Students will be able to list the numerous hazards salmon face for survival during their life cycle.
Students will understand that from the thousands of eggs that are laid, a very small number actually complete their life cycle.
Students will have a better understanding of how people have caused problems for the salmon and what we are now doing to correct these problems.

Standards:

Life Sciences (grade four)

2.0 All organisms need energy and matter to live and grow.

b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

3.0 Living organisms depend on one another and on their environment for survival.

a. Students know ecosystems can be characterized by their living and nonliving components.

b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

Introduction:

Explain to the students that the activity that you completed in the previous two lessons looked at the life cycle of herring. Tell them that we are now going to do an activity that takes a closer look at the life cycle of the salmon and their migration patterns.

This is also a good time to revisit the word migration and review some animals that we know that migrate - birds, whales, etc. Also discuss the distances these animals migrate. From where to where?

Lessons:

Pass out student pages of "The Long Wet Journey: Moving Downstream" pages 1- 9. As a class work through pages 1- 9 together. Read as a class and work problems and information as a class.

NOTE This part of the lesson will probably take two class periods to complete.

Conclusion:

Students should be able to answer questions a - f on page 8 independently.

LESSON SEVEN
SALMON "THE LONG WET JOURNEY: RACE TO THE REDD"

Objectives:

Students will have a better understanding of the complex life cycle of the salmon that takes them thousands of miles from fresh water and back again.
Students will be able to list the numerous hazards salmon face for survival during their life cycle.
Students will understand that from the thousands of eggs that are laid, a very small number actually complete their life cycle.
Students will have a better understanding of how people have caused problems for the salmon and what we are now doing to correct these problems.

Standards:

Life Sciences (grade four)

2.0 All organisms need energy and matter to live and grow.

b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

3.0 Living organisms depend on one another and on their environment for survival.

a. Students know ecosystems can be characterized by their living and nonliving components.

b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

Introduction:

Review with the class what we learned about Tyee's life cycle from the last lesson. Have the students discuss what happened to Tyee when we ended the lesson. Where is she in her life cycle? What have learned about her so far?

Explain that we are going to continue Tyee's life cycle with a story and a game similar to the one we played previously.

Lesson:

Pass out student pages 1- 5 to the students (Race to the Redd). Read with the students pages 1- 4 and complete the necessary information as a class. Explain the directions for the board game with the students.

Pass out materials for the board game to the students. Have students complete the game and many times as they can during the allotted 20 - 40 minutes depending on your time frame.***

Conclusion:

When the class has had a sufficient amount of time to complete the game at least once, stop the class and discuss what things they saw in their game. What has happened to Tyee? How is this similar to the herring game played earlier?

***Due to the amount of literature and the data required to complete it, this lesson may take two class periods. One to do the literature end of the lessons and another to allow the students time to play the game.

LESSON EIGHT
SALMON "HOOKS AND LADDERS"

Ob jectives:

Students will be able to explain how migration is part of the salmon's life.
Students will be able to name the many hazards facing the Pacific salmon as they travel through their migration route.
Students will be able to name the different ways humans are attempting to control some of the limiting factors of the salmon.
Students will be able to extend this to a broader idea and know that limiting factors control populations of all living things.

Standards:

Life Sciences (grade four)

2.0 All organisms need energy and matter to live and grow.

b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

3.0 Living organisms depend on one another and on their environment for survival.

a. Students know ecosystems can be characterized by their living and nonliving components.

b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

Introduction:

Discuss with the students what we have been examining about fish in the past lessons (fish that migrate). Ask them if they know any other fish that migrate - see page 160 of teachers guide. Ask the students what they have learned so far about this migrating pattern.

Lesson:

Explain that the migrating process is an extremely physical process. Ask the students how we know this. Have them refer to the story we read at the

beginning of the unit and the things we have learned from playing the two board games.

Take the students outside and play the Hooks and Ladders game.

Conclusion:

Discuss with the students the following:

*What is the apparent survival-mortality ration of salmon? *What are their feelings toward this activity? *What was the role of the barriers?

*What was the role of the predatory wildlife and the people fishing? *Where were the losses the greatest and the least?

*What would be the consequences if ALL the eggs deposited made it to adulthood and completed the journey?
*What was realistic about the activity and what was not?

LESSON NINE

SALMON "INVESTIGATING A DECLINING RESOURCE: SALMON OF THE COLUMBIA"

Objectives:

Students will understand that salmon have a complex life cycle that depends on good quality habitat for successful completion.
Students will be able to name factors that contribute to the decline of the salmon in the Columbia River watershed.
Students will understand that humans can do things that contribute positively to the recovery of the Columbia River salmon.

Standards:

Life Sciences (grade four)

2.0 All organisms need energy and matter to live and grow.

b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

3.0 Living organisms depend on one another and on their environment for survival.

a. Students know ecosystems can be characterized by their living and nonliving components.

b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

Introduction:

Have students discuss things they have learned about the salmon and why they are declining in numbers. What things influence their numbers? Of these things which can we control? How bad is the situation?

Lesson:

Have the students get into groups of 8. (You need a total of 4 groups). Pass out the cards to the groups.
Have the students work together to answer the following questions:

*What problems can they find in the clue cards that could be important to the decline of the Columbia River Salmon?
*Which problem do they think is the most important?

*What solutions do they think might work to solve the problem?

Conclusion:

At the end of the class session discuss the answers the students had to the following questions.

LESSON TEN
SALMON "WHERE HAVE ALL THE SALMON GONE?"

Ob jectives:

Students will understand that salmon have a complex life cycle that depends on good quality habitat for successful completion.
Students will be able to name factors that contribute to the decline of the salmon in the Columbia River watershed.
Students will understand that humans can do things that contribute positively to the recovery of the Columbia River salmon.

Standards:

Life Sciences (grade four)

2.0 All organisms need energy and matter to live and grow.

b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

3.0 Living organisms depend on one another and on their environment for survival.

a. Students know ecosystems can be characterized by their living and nonliving components.

b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

Introduction:

Ask the students what they learned from the previous activity about the Columbia salmon and the declining populations? Tell the students that they are going to use their math skills to plot data and their scientific skills to read the data and explain just how drastic the problem has become.

Lesson:

Pass out data sheets to the students and graph paper. Help the students by completing the first few plots with them. Then allow about 30 - 40 minutes for students to finish graphing the data.

Conclusion:

When the students have finished graphing the data discuss with them what trends we see in the populations and ask them what this tells us about the salmon population and the evens effecting them. Why do we see dips at certain places and why do we see jumps at others?
Have students complete the questions and discuss the timeline.

LESSON ELEVEN
SALMON "COME BACK, SALMON"

Objectives:

Students will understand that salmon have a complex life cycle that depends on good quality habitat for successful completion.
Students will be able to name factors that contribute to the decline of the salmon in the Columbia River watershed.
Students will understand that humans can do things that contribute positively to the recovery of the Columbia River salmon.

Standards:

Life Sciences (grade four)

2.0 All organisms need energy and matter to live and grow.

b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

3.0 Living organisms depend on one another and on their environment for survival.

a. Students know ecosystems can be characterized by their living and nonliving components.

b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

Introduction:

Discuss with the students things humans have done to hurt the salmon population. Ask why this is a problem? Ask why this is serious. Ask the students what we should do about this. Should we do anything? What exactly is our responsibility to the problem?

Lesson:

Begin reading to the class Come Back, Salmon, by Molly Cone. While reading the story ask the students:

*What started the concern?

*What was the role of humans in this story?

*Was the role a positive or negative one? *Was it both?
*Who participated in the solution?

*Who is responsible for the solution now? *Was their idea a good one?
*Do you think they will make a difference?

Conclusion:

Have the students brainstorm ways in which we can take responsibility and help the s

LESSON TWELVE
SALMON "HOW CAN WE MAKE A DIFFERENCE?"

Objectives:

Students will be able to demonstrate how to make a positive change in their environment.
Students will be able to list different ways they can make positive changes to their environment.
Students will be able to write a business letter in which they will persuade the community to take action.

Standards:

Life Sciences (grade four)

2.0 All organisms need energy and matter to live and grow.

b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

3.0 Living organisms depend on one another and on their environment for survival.

a. Students know ecosystems can be characterized by their living and nonliving components.

b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

Introduction:

The teacher should review with the students different ways in which humans negatively impact the life of the salmon. Make list on a T chart on what things we have done to destroy their habitat and endanger their lives. On the other side of the list the teacher should ask the students to list ways in which we can help the salmon. What things can we do to reverse the effects of the past and help repopulate the salmon?

Lesson:

As a class the students will write a business letter to a major organization (see back of Salmon Stream book) to ask for information on how we can help

to replenish our salmon. The students will take the letter through the entire writing process in class.

Conclusion:

After the letter is completed the teacher will send the letters to the organization.

LESSON THIRTEEN
SALMON - THE LIFE CYCLE

Objectives:

Students will be able to demonstrate that they have a complete understanding of the lifecycle of the salmon.
Students will be able to give a complete explanation of the different forms the salmon goes through during their life.
Students will be able to explain how the salmon's habitat changes over time.

Standards:

Life Sciences (grade four)

2.0 All organisms need energy and matter to live and grow.

b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

3.0 Living organisms depend on one another and on their environment for survival.

a. **Students know ecosystems can be characterized by their living and nonliving components.**

b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

Introduction:

Teacher should take this opportunity to fill in the LEARNED part of the KWL chart that was started at the beginning of the lesson. A special effort should be made to point out specific unique characteristics about the salmon that separate it from other fish.

Lesson.

Using the print out from the FOR SEAS curriculum that demonstrates the lifecycle of the salmon, the teacher should make enough copies for each students and then cut them up and place them in an envelope without the labels on them. Each student should receive and envelope and a piece of white construction paper. Students should color the paper appropriately and then place the pieces on the construction paper in the correct order and

label appropriately. They should also use the background of the white paper to appropriately color the habit of the salmon.

Conclusion:

The teacher should collect the papers and display them on a board in the room. Students may also write a brief paragraph on what they have learned about the salmon habitat.

LESSON FOURTEEN
SALMON "LEGENDS ANb STORIES"

Objectives:

Students will be able to understand the different roles salmon have played in the history of the American Indians.
Students will be able to understand how hope is expressed in stories. Students will see how stories can be used to help solve problems.

Introduction:

The students and teacher will review the different ways we depend on our natural resources.
The students and teacher will review and discuss the different was we can solve problems about endangering our animals.
Ask the students if they have ever read a story that made them change the way they thought about things like natural resources.

Lesson:

Pass out "Columbia River Salmon: Legends and Stories of the Twenty-third Century." As a class read the story aloud having different people act out the different parts of the play.

As the story progresses ask students various comprehension and thought provoking questions.

Conclusion:

Have the students make masks from the various different animals in the play.

LESSON FIFTEEN
SALMON - CULMINATING ACTIVITY

Objectives

Students will demonstrate that they have a basic understanding of the salmon life cycle.
Students will demonstrate that they have a basic understanding of the habitat of the salmon.
Students will show they understand the relationship between the various animals in the salmon habitat.

Standards:

Life Sciences (grade four)

2.0 All organisms need energy and matter to live and grow.

b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

3.0 Living organisms depend on one another and on their environment for survival.

a. Students know ecosystems can be characterized by their living and nonliving components.

b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

For a culminating activity students will use a project display board to make a 5 - 10 minute presentation about the salmon. They can focus on any one area that we already addressed as a class or all areas. They may also choose to focus on conservation efforts. Students may work in pairs or groups of three, as well as, individually.

Give the students one week to complete the assignment. Then they should be responsible to give a 5 minute presentation about their projects.