Grade Level: 7
Subject: SCI

# Salmon Lifecycle

## ESSENTIAL UNDERSTANDINGS

- Lifeways
- Sovereignty
- Language

## LEARNING OUTCOMES

- Students will be able to describe the connection between salmon and the Indigenous Peoples of the Pacific Northwest.
- Students will be able to explain and demonstrate the life cycle of a salmon.

## CULTURALLY RESPONSIVE PRACTICES

- Connecting to the lives of students
- Proximity
- Higher level thinking: organize
- Preserving and honoring cultural history

## ASSESSMENT

Students will be assessed on their participation in classroom discussions, completion of the Life Cycle Matching Activity, and completion of the comprehension questions.

## Overview

For thousands of years, salmon have been an essential food source to many Native American tribes in the pacific northwest. In this lesson, students will learn about the intricate lifecycle of salmon and how they still contribute to the lives of Native peoples today.

## MATERIALS

- Salmon Presentation
- Salmon Life Cycle Matching Activity
- Salmon Comprehension Questions

## LOGISTICS

- Where does this activity take place?
  **Classroom**

- How are the students organized?

  **Whole Class** Teams: 3-5

  Pairs **Individually**

## TIME REQUIRED

**45-60 minutes**

## STANDARDS

**Next Generation Science Standards**
**MS-ESS3-3.** Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.
**MS-LS2-1.** Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.
**MS-LS2-2.** Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
**MS-LS2-3.** Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
**MS-LS2-4.** Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
**MS-LS2-5.** Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

## Background for Teachers

Tribe celebrates return of this year's first salmon

Tribal Government Day honors Native First Foods

Coho salmon return to Agency Creek

Grand Ronde returns to the Willamette Falls fishing platform

The First Fish Celebration

nsayka munk-smuk kʰapa k'wənat (We Smoke Salmon)

Coyote Builds Willamette Falls and the Magic Fish Trap

Coyote and the Fish Trap Recorded in Chinuk Wawa

CTGR Wildlife Management Plan - See pages 21-30 for salmon information

Grand Ronde tribes call on Congress to help lift Oregon hunting and fishing restrictions

Tribal member Sara Thompson, the Tribe's only female ceremonial fisher, speaks to the consent decree

NPS: The Salmon Life Cycle

## VOCABULARY

- **Spawn**- to deposit or fertilize eggs
- **Fry (Redds)** - small salmon that are just beginning to come out of their gravel nest
- **Parr** - young salmon, names for the regularly spaced dark marks on their sides. Parr are also often called fingerlings. They are about as long as a finger.
- **Smolt** - a young salmon, about two years old, that is at the stage of development when it assumes the silvery color of the adult and is ready to migrate to the sea
- **Anadromous Fish** - fish born in freshwater who spend most of their lives in saltwater and return to freshwater to spawn
- **Migrate** - move from one region or habitat to another according to the seasons
- **Ecosystem** - all of the interacting parts of a biological community, including biotic and abiotic factors

## Opening

Begin the lesson by showing the video:

The First Fish Celebration - Smoke Signals Video

Discuss the video with the students;

- How many students have tried salmon?
- How did they eat it?
- How many students have heard about a First Fish Celebration?
- What questions/wonders do they have about the First Fish Celebration?

Explain to students that they will be learning about the life cycle of salmon, as Bobby Mercier briefly discusses in the video, and the importance salmon hold to the Native peoples of the Confederated Tribes of Grand Ronde.

## Activity

1. Begin the Salmon Presentation
    a. Slide 2: Ask students to attempt identifying each salmon image, using the list to the right. What are some key identifying features for each salmon? (Top to Bottom: Coho, Chinook, Chum, Pink, Sockeye)
    b. Slide 3: Photos on left are from First Salmon Ceremonies, watch a short video using the hyperlink at the bottom of the page.
    c. Slide 4: Underlined words are included in vocabulary definitions. Discuss with students:
        i. What are some benefits of this “circle of life”
    d. Slide 5/6: Review the Salmon Life Cycle with students. Encourage students to take notes as needed.
    e. Slide 7: Review length of time each species spend in the ocean.
2. Pass out the Salmon Life Cycle Matching Activity
    a. NOTE: teachers will need to print off a set for each student or pair of students. Students can cut out the cards on their own or the teacher can cut them ahead of time.
    b. For the matching cards activity, students will need to match two sets of cards:
        i. Salmon Image with Length of Time in Ocean
        ii. Salmon LIfe Cycle Stage with Life Cycle Details
3. Once students have completed both sets of matching cards, pass out the Salmon Comprehension Questions. Students can complete this on their own or with a partner.

## Closure

To close the activity, show students the video:

Tribal member Sara Thompson, the Tribe’s only female ceremonial fisher, speaks to the consent decree

Have students answer the question:

What damage could be caused by removing hunting and fishing rights for Native peoples? What implications could this have for the Tribal people? For the environment?

## Differentiation

- Students can complete the Matching Activity individually or in pairs.
- Teachers can provide the comprehension questions to students during the Salmon Presentation and allow them to complete it during the presentation.
- The questions posed in the closing activity can be completed verbally or written on an exit ticket.
- Teachers can print out the Salmon Presentation and allow students to work independently during that portion of the lessons. If this differentiation is used, students will need access to the Fish Fish Ceremony video linked on slide 3.

## Extension

- This lesson can be paired with the lesson 7.SCI.Salmon Population Monitoring to create a small unit.
- Teachers can assign a species of salmon to each student. Have students complete a Salmon Life Cycle Diagram using more specific details for their species of salmon. (For example: dates of spawning season, specific time in ocean, common locations for spawning grounds within Oregon, etc.)

## Notes/Other

Jan Michael Looking Wolf's or Grand Ronde Canoe Family audio tracks can be played as background music while students are working. These audio tracks can be found on Spotify or Apple Music.

Jan Michael Looking Wolf: Spotify and Apple Music
Grand Ronde Canoe Family: Spotify and Apple Music

## Appendix

- Salmon Presentation:
  https://drive.google.com/file/d/1C7GAYnzWib27ETzkZ0KHl5hbrLST5XRO/view?usp=share_link

- Salmon Life Cycle Matching Activity:
  https://drive.google.com/file/d/1xCqOpcjcPQzlroII1fhK29YS2g4co27T/view?usp=share_link

- Salmon Comprehension Questions:
  https://drive.google.com/file/d/1cSiOD6Fz-hU3PCX-LHL-9im2ciQ73TaL/view?usp=share_link

- Salmon Comprehension Questions KEY:
  https://drive.google.com/file/d/1ApY1898yDmkLmbZw6HFLxoC1cwEfe158/view?usp=share_link