

SALMON CONNECTIONS

Students view a summary about salmon in Pacific Northwest environment, commerce, and culture and how everyone has a role in habitat stewardship.

LEARNING OBJECTIVES

- Gain a basic understanding of the central role that salmon play in the Pacific Northwest and how students and salmon are connected.
- Begin to link their behaviors to sustainability of this iconic species.
- Begin to understand their participation in rearing salmon at their school.

GRADES
2nd - 6th

NEXT GENERATION
LS1-B, LS2-C, LS4-D

COMMON CORE
EARL 2, EARL 4

TIME
40 - 50 minutes










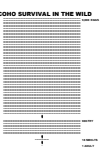
PREPARATION

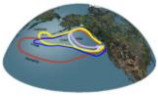
1. Copy the Salmon Connections PowerPoint to a flash drive and print the script OR invite your area Salmon in the Schools coordinator to present this lesson.
2. Become familiar with the script and make enhancements as you see fit; add where students will be releasing their fry.
3. Check that the flash drive works in your projecting equipment.

WHAT TO DO

1. Introduce the presentation by emphasizing that it is an overview. Students will learn more as their salmon project unfolds.
2. Take questions during the presentation as time permits. For later exploration, note which topics draw the most student interest.
3. Point out that they will be hearing more very soon about care and monitoring assignments.

SALMON CONNECTIONS

SLIDE	TALKING POINTS
	<p>In this lesson, we'll learn how you are connected to salmon. We'll explore their history, life cycle, and importance here in the Pacific Northwest - and what you will be doing to help keep them strong.</p>
	<p>The oldest salmon fossil comes from 50 million years ago, long before people walked the earth but well after the dinosaurs went extinct.</p>
	<p>5 to 6 million years ago, salmon could be 10 feet long and weigh 500 pounds. They also had impressive teeth, so today we call them "sabretooth salmon."</p>
	<p>Five different kinds of salmon live in the Pacific Ocean and the rivers, streams, and lakes that feed into the Pacific. By contrast, the Atlantic Ocean supports only one salmon species.</p>
	<p>This map gives you an idea of where Pacific salmon live.</p>
	<p>Just like people, salmon have a life cycle. (<i>Go around circle.</i>) How long they spend at each life stage varies by species but we'll look at coho.</p>
	<p>When spawners return to a creek, river, or lake, they leave fertilized eggs buried in loose gravel so predators won't see them. When eggs hatch into alevin, the tiny fish stay in the gravel. When they grow into fry, they leave the gravel and start swimming freely, looking for food. During nearly a year in freshwater, they grow into fingerlings, then into smolts ready to migrate to saltwater. They reach their full size there and stay for two years before returning as spawners to repeat the cycle.</p>
	<p>The challenge to rearing salmon in a tank is to create a habitat that provides the six things baby salmon need to survive in the wild. The first three have to do with the water where they live. (<i>compare</i>)</p>
	<p>Now let's look at three more. (<i>compare</i>)</p>
	<p>Survival numbers vary but this illustration gives you an idea of why spawners must leave thousands of eggs for the species to continue. In the wild, about 1 out of 10 coho eggs survives to become a fry. Roughly 900 fry are required to result in one adult.</p>



Salmon that survive their time in freshwater could have a long journey ahead of them. If they find enough food in Puget Sound, they will stay here. If not, they will go into the open ocean. In recent years, warm water off the coast (where the arrows come together) has caused massive die-offs of prey fish - what salmon need to survive.



Predators are one reason survival is so low. Lots of larger animals depend on salmon for lunch. But predators aren't their only concern. Rain can pick up chemicals from streets, parking lots, and landscapes. If these chemicals don't kill salmon outright, they can rob them of their ability to spawn.

Loss of habitat is a third major reason so many salmon die early. Houses and other buildings next to the water push out plants that keep the water cold for salmon. Stripping hillsides of trees can cause such erosion during heavy rains that salmon can't see food or predators in muddy water. They also can't breathe.



Habitat isn't just where salmon live. They also help make it a healthy place of other things in the ecosystem. After spawners die, their bodies feed the water insects that young salmon will need to eat. They also feed many other animals that are part of the web of life.

Salmon are also the reason we have such lush forests in the Pacific Northwest. Their bodies feed plants near the water and, thanks to birds and other predators, they also feed trees and bushes away from the water.



Salmon connect to even more in the Pacific Northwest. How many of you know someone who makes money fishing for salmon? Many people work to bring salmon to our tables and others make a living from all the people who go salmon fishing for the fun of it.



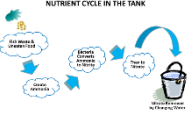



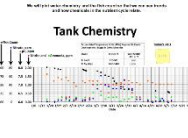



Salmon are also at the heart of a strong and deeply rooted culture here. For centuries, Native American art, stories, and ceremonies have reminded people to take care of the earth and the water that gives us so much life.



Here are things that you and your family might do to protect the water and habitat that salmon need:

- Bike, walk, or take the bus whenever you can. Chemicals from cars make salmon sick.
- Share what you learn with your family. When your mom asks you what you did in school today, tell her!
- Convince your family to visit one of Seattle's many parks or join a work party to restore habitat.

	<p>Summarize the calendar.</p>
	<p>Explain what happens in moving water.</p>
	<p>Explain chemical changes in simple terms</p>
	<p>Point out each tank feature.</p>
	<p>Summarize assignments.</p>
	<p>Explain daily charting.</p>
	<p>Explain charting of water chemistry.</p>
	<p>By monitoring, testing, charting, and feeding, you'll learn a lot about science and help your salmon beat the survival odds when you release them into the wild this spring.</p>